Vito Calomo
82 Holly Street
Gloucester, MA 01930

October 8, 2014

Office of Coastal Zone Management
251 Causeway Street, Suite 800
Boston MA 02114-2136
Attn: Kathryn Glenn, North Shore Regional Coordinator

Dear Ms. Glenn,

Please accept these comments on the 2014 Draft Gloucester Municipal Harbor Plan. Gloucester's fishing industry is legendary and this maritime heritage is our strength to build upon for our future.

As a former commercial fisherman out of the port of Gloucester, I understand the need for a strong industrial waterfront policy to protect and benefit the industrial land area and associated infrastructure critical to a working waterfront. The need to retain and make investment into the waterfront infrastructure is critical to the Port's survival. The recent DPA review conducted by CZM resulted in a considerable down sizing of the DPA in Gloucester harbor. The remaining DPA is now more critical to the success for the remaining working waterfront.

As the current draft Harbor Plan allows for many regulatory changes which will allow excessive flexibility and incompatible uses to be incorporated into the DPA, I am not in favor of the plan as written. I am proposing the State reject this plan as written and continue to work with the City of Gloucester and the community in an open process to provide education and revisions to this draft plan to better serve and strengthen the water dependent industrial use and supporting areas.

Respectfully submitted,

Vito Calomo

Vito Calomo

Richard Noonan
One Wheelers Point Road
Gloucester, MA 01930

OCT 6 2014
COASTAL ZONE MANAGEMENT

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

As you know, I am the Chair of the Gloucester Harbor Plan Committee (HPC). I appreciate your support and participation during our planning work and am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

For nearly two years, the HPC—comprised of a diverse set of stakeholders—met regularly to develop the Plan. The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

The Plan continues protections of the DPA and appropriate supporting uses while clarifying jurisdiction and will help move investment in the working waterfront forward.

I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Richard Noonan

The Gloucester Daily Times editorial (in support of the draft Harbor Plan) has rather nicely reinforced my own views (grave concerns about the draft).

It is helpful that the editorial has properly identified the draft Plan as resting on an economic development strategy of regulatory "flexibility". That has been my major point. What "flexibility" actually means is that marine industrial property owners are supposed to make money off of non-industrial uses, such as restaurants, shops, galleries, or hotels, as a way to keep their existing businesses afloat. So, as the editorial describes, the Ice Company could open a restaurant at the end of Commercial Street to help pay the bills of the struggling ice business. It should be noted that I have never heard Scott Memhard speak publicly about a restaurant, but rather he has expressed an interest in marine labs or other ocean-related and water-dependent tenants.

In any case, regulatory flexibility is simply awful as an economic development strategy over the long-term. What has largely gone unnoticed in the City is the steady drip-drip of what could be called "chronic disinvestment" in the fishing industry and the Port more generally. For example, marine product development labs at U/Mass-Hodgkins Cove and federal facilities on Emerson Avenue, used to generate fishing-related research and new products and process technologies, such as Gloucester-based Neptune's Harvest fertilizer and Proteus Industries healthy Omega-3 products. When the labs were closed, no effort was made to rebuild this R&D capacity in the Port. When wastewater pre-treatment requirements were imposed and three-quarters of local fish-cutting businesses shut down, no one arranged for satellite wastewater infrastructure that would have allowed many of them to get up and running again or to expand into under-utilized species and new products.

Look. When General Motors and Chrysler teetered on the edge of bankruptcy, did the federal government say something like: oh, we'll let you rezone for casinos, so you can cross-subsidize and keep your outmoded, non-competitive cars rolling off the assembly lines? No. The country recognized that the financial crisis was an opportunity to invest in a modernization and restructuring of both companies and several million high-wage jobs were maintained.

For many years, small farmers have tried to stay afloat by taking second jobs off the farm. But recently, the local food movement is making explosive gains in the share of the food dollar, through community supported agriculture, farmer's markets, contracts with institutional buyers

like hospitals and colleges, and test kitchens for new product development, with early-stage financing and R&D from the federal government and the Commonwealth of Massachusetts.

What the remaining Designated Port Area (DPA) working waterfront from the State Fish Pier to the Fort needs is not more waterfront restaurants, hotels, or shops. Those that we already have struggle to stay afloat, due to the seasonal nature of the business here. And, there is plenty of opportunity now in East Gloucester, most of which has been removed from the DPA, to ramp up on recreational boating and tourism. Rocky Neck now has a cultural district, and that can be a huge draw for both land-based visitors and transient boaters.

What the remaining DPA actually needs is an investment strategy of grants and low-interest loans for repairs to docks and piers, and reinvestment in the basic building blocks of a high-value and adaptive fishing industry, including fisheries research, product development and local seafood system hub services.

One last point about why I have urged the City to take the time to look at the Harbor Plan and see if it is what the community wants, and that is that so far not more than a handful of folks have even read it or grasped its intent and considered the alternatives, such as an investment strategy in the Port.

The editorial states that the Massachusetts CZM has "called for and carried out reduction of the DPA's mandated water-dependent use percentage from 50 to 25 percent." The facts, rather, are these. The state regulatory mandate is for 75% of all DPA areas to be maintained in water dependent industrial use (WDIU). Since there are some properties, such as the State Fish Pier and the Coast Guard station that are considered 100% WDIU, that means that private properties will, as before, be allowed to lower their percentage WDIU to 50%, while still maintaining the overall DPA requirement of 75% (or in our case, by special dispensation, 72%).

However, the draft Plan has only made this calculation for the filled tidelands under Chapter 91 jurisdiction, and removed the 50% requirement from remaining land area under only local marine industrial zoning protection. If, as the editorial suggests, all these areas were converted to the hotels, restaurants, and retail shops that the editorial endorses, well then, by my calculations, the percentage of WDIU in the DPA would potentially fall to as low as 52%, which would be a clear violation of the

DPA requirement of 75%.

My request was that the citizens of Gloucester, and not just a handful of folks who tried to attend all the committee meetings but hadn't even been afforded access to the plan until a few days after the last public meeting, be provided the opportunity to hear about the draft Plan, to have their questions answered, and to weigh in about what they think is the best way forward for their community. To not arrange for a two-week extension before shipping the plan up to the state is neither logical nor democratic.

Valerie Nelson
Sunset Point Road, Lanesville

Ron Gilson's letter of July 31 asserts that "capitalism" is the "American way" for the Port of Gloucester, meaning that private capital and business owners should be allowed to determine the uses of the harbor, removed of regulatory constraints of the DPA and without a public investment strategy that I had suggested was needed. Surprisingly enough, he even opposed the non-profit Ocean Alliance at the Paint Factory, a site that is humming with world class research on whales and that is now working with Olin College of Engineering on marine robots.

The American way, in reality, is a very mixed system of public, non-profit, and private rules and funding streams and activities. And, often participants will oppose public subsidies and investments for some other economic sectors, while willingly taking the hand-out for their own.

And so it is in Gloucester, where those who are not supporting fishing industry investments in the name of free market capitalism are more than willing to support public funding for their own favored projects, such as $7.5 million in infrastructure for the Fort Hotel, $1.2 million for the tourism-based HarborWalk, $200,000 for the Gloucester Marine Genome Initiative, and others. I can't say whether or not Gilson supported those public subsidies, but if he wants to be consistent, he should have opposed them as well.

In spite of the doom and gloom narrative that everything in the fishing industry is "dead", there are some very impressive private companies along the waterfront, including Ocean Crest and Mortillaro's, in particular,

along Commercial Street in the Fort. These companies are all about change and adaptation, opening up international markets, creating new green products, working with Cape Ann Fresh Catch in innovative local seafood markets, including to hospitals and farmer's markets. These companies have very narrow requests for the City, including DPA protections, but also wastewater pretreatment and product development labs and test kitchens, types of public sector activities that have long track records of success.

At the same time, there are struggling private businesses along the waterfront that apparently haven't had the interest or wherewithal to innovate, invest, and move forward in the 21st Century fishing and marine industries, and these businesses have tended to be the most vocal about needing regulatory relief to turn their properties into restaurants, hotels, and shops, and galleries.

Some private businesses earn money by hard work and ingenuity within the marine industrial sector, while others look to benefit from efforts to lift the DPA protections. Government's lack of support for productive businesses vs. regulatory relief to speculative businesses and real estate investors is also, unfortunately, too often the "American way" in recent years, but it isn't pretty.

Most folks in Gloucester who don't spend a lot of time in the working waterfront economy only think they see decline everywhere, when there is actually productive, but gritty, work going on. Recent data from the state has shown that Gloucester's fish processing workers and fishermen have been earning three to four times as much

as restaurant, accommodations, and retail workers.

One final point about Gilson's letter. By my count, about forty percent of the lines in the letter were some variation of a personal attack on me and others who question the apparent tilt and decline of this port into tourism and related businesses, including such suggestions as that we "yell into microphones" or don't know what we're talking about. That kind of effort to win an argument by personal attack should end. Let's stick to the substance. Let's expect of our City that the real facts of the matter be presented in full to the public. And, let's focus all efforts on securing the financial resources from the state and federal government for a full-blown Port economic development strategy.

Valerie Nelson
Sunset Point Road, Lanesville

"Is the Fishing Industry Dead?" -- Letter to the Gloucester Daily Times

Is the fishing industry dead? "Yes", I was told, at a dinner party recently, followed by the typical second line, that "fishermen were the cause" of their own demise. These assertions were made by someone that I know to be far afield from the events and complexities of the fishing industry, so I consider the confident diagnosis to be a sign of the great success of a public relations narrative claiming a disaster in the ocean and blaming fishermen for it.

Really, "dead" is a pretty strong term. Obviously, the fishing industry in Gloucester is showing signs of distress. We look out in the harbor and see old and rusty boats, aging fishermen, more days in port than out fishing, and struggling shoreside processors and support businesses, like the ice company and marine railways. But the word "dead" is clearly premature.

What comes to mind is a medieval deathbed, where "doctors" attach leaches that further weaken the patient, relatives are gathered in an anteroom to divide up the estate while the patient is still breathing, and an assembled crowd outside chants "The man's a sinner. Good riddance!"

In our case, the fishing industry may have arrived in crisis in the emergency room, but take note of our "governing elite" of bureaucrats, fisheries economists, and environmentalists at the bedside. Some are giving the appearance of actually trying to help, but are really not, while others are urging sedation and putting our port "out of its misery".

In the anteroom are the speculative real estate developers who want the waterfront property for hotels and marinas, recreational anglers who want the quota, corporations and investors who want the fish and the profits, and aquaculture, sand and gravel mining, wind, and, in the wings, oil and gas enterprises who want the ocean territory.

And outside the hospital? We're the neighbors and fellow citizens of Gloucester who are idly standing by, feeling no empathy and no responsibility to help, because we've been persuaded by the mythology to think that our "greedy" fishermen are the cause of their own problems and underserving of our time.

There are multiple causes for the crisis in the fishing industry and plenty of blame to go around, with many problems tracing back to unsustainable harvesting pressures on just a few keystone stocks, such as cod, haddock, and yellowtail flounder. We seafood customers have played our part in so heavily favoring these stocks and in losing interest in other fish, such as mackerel, whiting, and others. Water pollution and loss of essential fish habitat, eelgrass beds, whales, and oyster reefs have compromised the productivity of the ocean. Foreign imports have driven prices so far down, that local fishermen can't compete and cover the costs of operation. And, fuel prices have risen.

But, centrally, government and the affiliated elite of economists and environmentalists have grotesquely mismanaged the fisheries for several decades. When foreign factory trawlers were thrown out of the 200-mile zone, government, and not fishermen, drove the domestic industry toward larger and larger boats.

The government took what was a well-funded Saltonstall-Kennedy (S-K) investment strategy in harvesting, processing, and marketing, including both a federal lab on Emerson Avenue and a U/Mass lab in Hodgkins Cove, and redirected nearly all funds to single-species stock assessments and acquisition of large research vessels, none of which adequately predicted or understood the swings in cod stocks.

When fishermen, particularly from the Northeast Seafood Coalition, urged a "point system" for multiple species harvesting and "ecosystem-based management" in the late 2000's, the federal government, at the urging of conservative foundations, chose the path of privatization and quota "markets" for single-species.

Most people don't realize it, but in the last five years, the federal government spent over $125 million for the expenses of conversions to Catch Shares and limited access market-based programs. And if S-K funding had been kept in place, that would have been about another $300 million. Just think what $425 million could have accomplished if investments had been made in collaborative science with fishermen, in pilot projects around multi-species harvesting, in fuel-efficient boat design, in seafood hubs and institutional markets for underutilized species, in oyster reef restoration, in resource recovery from seafood waste, and in diversification into seaweeds and invasive species such as green crab.

What fishermen need to do now, hardy and inventive as they are, is get up off of the sickbed and work with processors, scientists, academics, and progressive environmentalists, and start demanding from government a new era of fisheries management that throws away the "death by their own hands" mythology and that rebuilds a community-based industry to supply us with fresh fish, solid jobs, and a resilient, healthy ocean. And, as citizens of this fishing port, we should reflect on our responsibilities to offer assistance, wherever and whenever we can.

Valerie Nelson
Sunset Point Road, Lanesville

Is Gloucester too "parochial"? Much hinges on the answer to that question.

Echoing through City Hall, Council Chambers, the Chamber of Commerce, the Eastern Point Yacht Club, and breakfast gatherings of Gloucester's old and new governing elite is a strong "yes".

The storyline is simple. Gloucester is stuck in the past, in a fishing industry and port economy that are dying, but people here refuse to look out to the rest of the world for guidance on how to move forward. Typically, this new direction is supposed to be tourism, cultural amenities, recreational marinas, hotels, and a burst of real estate development, as the community becomes a more "attractive" place to live. It wouldn't hurt to bring a few science and technology innovators into town, if we were so lucky.

Parenthetically, this vision is outmoded. It's well understood now that tourism and real estate development cannot provide a strong economic foundation for a diverse and equitable local economy, and there is a danger in turning a community from unself-conscious living and working to polishing and parading an image for visitors, who ironically rather prefer the "authentic" working port. Growth happens from an internal strengthening and diversification, rather than from trying to attract something new.

But nevertheless, this view of Gloucester as provincial and stuck in the past is what gives leaders the license to ignore the critics of an unbridled tourism and real estate development track – change is difficult, but it must be done. Dissent must be silenced and overridden, by any means possible. It's for our own good, if we only understood.

For hundreds of years, Gloucester has been quite cut off from the mainstream. Joe Garland wrote often of the insular, island mentality. Fueled by the riches of the fishing industry, waves of immigrants came to fish, including Yankees, Scandinavians, Portuguese, and Sicilians, and they revitalized and replenished the culture. Workers on the ocean were gritty risk-takers. Along with the sheer beauty of the Cape, this dynamism brought generations of artists, political activists, and thinkers to the neighborhoods.

Other than a disastrous encounter with urban renewal in the 1960's, Gloucester was relatively untouched by off-island development patterns and fashions. The direction of ideas and new practices was out of Gloucester to the rest of the world, and not the other way around. I've taken to challenge folks to find any other community of 30,000 people that gets as much "air time" in national media, including just a recent, partial sampling of Walker Hancock in Monument Men,

Roger Babson for supporting anti-gravity research, Lynn Klotz in challenging the safety of bio-labs, and Vito Giacalone in a Congressional hearing on fisheries.

People wonder – how has Gloucester achieved this unparalleled notoriety? What has been the formula for such diversity and complexity of thought and art and action? Much has to do with parochialism, a sense that Gloucester is serious and different and wants to remain so. Some newcomers might try at first to change the place to match the rest of modern society and the economy, but most eventually slow down and start to listen to the indigenous wisdom of the place.

Gloucester is now at a bit of a crossroads. In so many ways, our future depends on what happens to the fishing industry and working port. Gloucester retains a striking blend of vision and capacity in this regard. The appendix of the Port Recovery and Revitalization Plan on the City website describes a workshop last fall showing that people here have an unparalleled grasp of what has brought the industry and port to its point of crisis, and what needs to be done to rebuild going forward. GFWA, Ocean Crest, Turner's Seafood, Mortillaro's, Maritime Gloucester, and others have all the insight and talent that we need.

What is lacking, and what community leaders do need to help with, is a familiarity with institutional collaboration and of how to secure investments from federal and state government. For generations, the fishing industry has been supported within extended networks of families. Innovation and adaptation were sparked by competitive pressures and challenges. Fishermen and processors didn't formally build alliances with each other and with citizens to advocate for common interests. These traditions no longer serve them well.

The current draft of the Harbor Plan states that a new public-private organization needs to be formed to coordinate and advance harbor economic development and highlights a commitment to securing public investments.

Other than that, our best bet is to stay parochial. Gloucester's too great a place to risk with get rich quick development schemes from over the bridge!

Valerie Nelson
Sunset Point Road, Lanesvlle

I've come to believe that given a choice, virtually all "walks of life" in this complex community of Gloucester want to keep a working waterfront, and not just capitulate to a Newport, Nantucket, or Newburyport model of tourism and speculative real estate development. For a variety of reasons. Higher wages and a stronger local economy. Continued innovation and leadership in fishing. What tourists want to see. Our cultural heritage. What makes Gloucester great.

But still, the question lurks – is this "realistic", or is it just a "fantasy" pipedream?

The City's official position on this matter is that there is a strong future for the fishing industry and related marine technology and science, if steps are taken to invest and diversify. The Port Recovery and Revitalization Plan articulates a vision for the port that includes value-added product development, waste recovery products, a diversified catch, local seafood market expansion and test kitchens, fisheries research, and related innovations in marine technology and ocean science.

One of the best ways to assess the substance (vs. fantasy) of this thinking is to look outside of Gloucester to see what experts are saying and what other ports are doing. We should be encouraged.

The National Working Waterfront Network, funded by the Department of Commerce, and with the participation of state officials from MA DEP and U/Mass Boston, has articulated the first principle – do not abandon regulatory protections for a working waterfront whenever there is a bump in the road.

Providence, RI just this summer held firm on its own waterfront zoning. The likely next Governor of Rhode Island, Gina Raimondo, as State Treasurer has cut back on pension obligations, so as to invest substantial resources into marine technology and food production, and other manufacturing.

A bunch of guys sat around a coffee table in New Bedford some years back and dreamed up the marine science and technology program at U/Mass Dartmouth, which has led to a thriving corridor of business spin-offs.

In New Hampshire, the Portsmouth-based Community Supported Fishery is building more relationships between the local small-boat fleets and institutional buyers, such as the University of New Hampshire.

Portland, Maine, was just awarded a manufacturing partnership grant for economic development in food processing, to a large extent based in the seafood sector. This designation will allow the region to access up to $100 million in infrastructure, R&D, training, and other federal grants.

The St. John's, Newfoundland Marine Institute has calculated that the recovery of fish waste products, including nutrients, chitin, biogas, etc. could increase the revenue from the fishing industry by another 50%.

Port Orford, Oregon fishermen have joined with their local community to advance watershed-based stormwater projects to improve water quality and healthy fish habitats.

Alaska's ports are hotbeds of value-added product development, community-based fisheries and programs to bring younger folks into the industry.

The list could go on and on. Gloucester fishermen and processors have articulated all of these opportunities and more.

A little over three years ago, the U.S. Economic Development Agency brought a high-level team of federal and state leadership to Gloucester for a couple of days, and asked, how can we help invest in the working waterfront going forward?
We've yet to reply to their offer.

We have the vision and capacity in our port. The financing is there to turn this into reality. Next steps?
We need to reject the gutting of regulatory protections that are mistakenly included in the Harbor Plan now under State review. And then, let's all get to work.

The real fantasy thinking in town is that another Newport is what Gloucester folks need or want.

October 10, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Kathryn:

In this letter, I would like to reiterate and amplify on my oral comments at the public hearing on September 22nd in Gloucester, and add some additional thoughts as well. Here is a link to the comments, in order that they may be given full review: http://youtu.be/_3fsDpOwoN4

In particular, I would like to address: the flawed public process in Gloucester; lack of clarity on public benefit issues; excessive regulatory flexibility in the plan; and insufficient commitment by the City of Gloucester to supporting and investing in water dependent industrial uses of the Harbor.

Flawed Public Process

It should be noted that the two citizens who had attended all the meetings of the Harbor Plan Committee requested a two-week extension before the City submitted the Harbor Plan to CZM, so that the public would have an adequate opportunity to learn about and provide public comments to the City. The City declined to provide this additional time. As I described in my oral comments, public engagement in the development of the Plan was completely inadequate and lacking in transparency:

- The last meeting for the public at large was held before the final plan was available for review;
- Public notification of the meeting was late and inadequate (no articles in the newspaper, for example, that explained the Plan and invited the public to participate);
- No minutes of Harbor Plan Committee meetings were available to the public;
- The data on waterfront properties, percent waterfront industrial use (WDIU) vs. supporting use, etc. were not made available to citizens, when requested, and messages from City staff were that "raw data, charts, and tables" would be "confusing" to the public, so only a simple narrative text was needed. It might be pointed out that the text included only part of the data that was necessary to track WDIU, etc.
- Materials made available to the public were selectively edited, and key information important to public review was excluded. Specifically, the City did post presentations by consultants on the City website, but did not include all the slides from presentations. In particular, a presentation by Tom Skinner included several slides related to substitute provisions, special public destination projects, and transfer of development rights, along with

pictures of major mixed-use developments along the waterfront in Boston. These slides were in hand-outs, but were not included in the posting on the City website. Parenthetically, these provisions could create the most difficulty, if utilized, for the continued existence of WDIUs in the harbor;

- At the September 22nd hearing, the City's consultants put up a slide suggesting that uses, such as hotels or schools, would not be allowed in the MI uplands, while the actual submitted Harbor Plan stated that they would not be allowed "unless considered accessory to a WDIU". Here is the problem. The consultants failed to state that this was a significant change and leaves open the questions: "who can the public trust? What will the final Plan state? Why was it not made clear at the public hearing that this change was being made?"
- By all accounts, virtually no one in the City has read the Harbor Plan and, if they have skimmed it, are unable to answer correctly such fundamental questions as: "is supporting use still a requirement in the local marine industrial zone or 'uplands'?". This lack of understanding of the Plan is directly attributable to two factors: the Plan itself is a lengthy, "blizzard" of bland and fine-sounding text, where the key regulatory flexibility provisions are scattered and partial and, in effect, "hidden"; and, neither the City nor CZM have attempted to provide a straightforward explanation to the public as to the full implications of proposed regulatory changes;
- When told what the Plan actually entails, members of the public, along with Harbor Plan Committee members, agree that flexibility provisions in the Plan are excessive;
- All public comments at Harbor Plan Committee meetings were summarily ignored;
- Repeated requests to provide "scenario analysis" of how typical properties (particularly with uplands) could potentially use all of the varied regulatory flexibility provisions (or "loopholes") to be allowed to build non-WDIU projects were ignored.

It should be clear, in summary, that the public process and review of the proposed Gloucester Harbor Plan failed in multiple and extraordinary ways to meet any standards of public engagement and transparency.

<u>Public Benefit Standards Not Met</u>

If the City attempts to make the argument that a "public benefit" standard has been met with provisions for regulatory flexibility that would allow for new hotels, restaurants, shops, and galleries, I would categorically object to this. The City's consultant, Kevin Hively, at several presentations made the point that wage rates in the marine industrial sector are substantially higher than wage rates in the visitor economy. By a multiple of two to four times as much, according to his data and labor market data from the state. And yet, this fact went over time from being a major point in his presentation to being a minor statement hidden in the plan.

Similarly, Kevin Hively pointed out repeatedly that the fishing industry would benefit from more "value-added production" and branding (which would be targets of future investment), while sectors like marine technology and ocean science, since they are currently rare in Gloucester Harbor, would only happen with "serendipity". This economic development principle, that growth happens by diversification and strengthening of the industry that is already in the community and not by trying to attract something new, was also brought to the City by the U.S. Department of Commerce Economic Development Administration – both in its federal-state interagency site visit three years ago and in its background materials when it funded the first maritime summit.

Nevertheless, the City reorganized priorities in the Plan to suggest that ocean observation, unmanned undersea vehicles, marine biotech, and marine resources such as wind were predominant over fisheries and seafood.

The Plan also suggests that the public has recommended an "esplanade of galleries, hotels, restaurants, and retail shops" along the waterfront. This is not factually correct. While this language appeared earlier in the 2009 Plan, a careful reading of transcripts and notes from the various Listening Post sessions and public meetings surrounding harbor consultant reports suggest no such thing.

<u>Excessive Regulatory Flexibility</u>

The 2009 Harbor Plan, which dealt with virtually the entire inner harbor, did include a number of regulatory flexibility provisions, that would open up more supporting and non-WDIUs, including such measures as 50% supporting use, transfer of development rights, mitigation fees for non-WDIU, etc. But, 2009 Plan Committee members understood this to be appropriate for the larger DPA area, including sections that were struggling with identifying WDIU uses.

It is vital to acknowledge that the situation in the Harbor has changed dramatically with the removal of most of the East Gloucester waterfront from the DPA. And, 2009 Committee members are now stating that even the regulatory flexibility provisions incorporated into the 2014 Plan are excessive for what remains of the DPA.

The 2009 provisions have also been supplemented by additional drastic measures in the 2014 plan, including a completely new way of calculating DPA acreage for purposes of meeting a required WDIU percentage, jettisoning of any supporting use limitation in the MI uplands, and provisions for hotels and schools, etc. if "accessory to WDIU".

As described in my original comments to the City, this totality of regulatory flexibility provisions is radically excessive. A thorough discussion by the community of what all this could mean for a very significant change in uses and ownership in the harbor was never held. It is my confident belief, based on

extensive conversations in the community and the comments and letters being submitted, that the Gloucester community would be in stringent opposition to these regulatory provisions.

It should also be repeated. There was a lack of transparency about regulatory changes (as described above), these changes or their ramifications were never explained to the Harbor Plan Committee or to the public, and "scenario analyses" about what individual property owners would be allowed to do, as requested by citizens, were never provided.

Failure to Meet Standards of a Harbor Plan

As the New England School of Law has pointed out in their 2009 report, Designated Port Areas: A Manual for Lawyers, the intent of a community's Harbor Plan is to provide for some flexibility in return for a commitment of investment in WDIUs.

Given the history since 2009, there is no reason for any confidence whatsoever in the intentions or capacity of City government to do so. The 2009 Harbor Plan did describe the need for fishing industry investments, such as value-added product development and wastewater pretreatment, but none of these recommendations were ever pursued by the City. Indeed, the only significant investments sought by the City of Gloucester in the last few years were in support of a waterfront hotel and a "Harbortown" cultural district, and a Harborwalk and public art project.
While the Plan vaguely describes the potential hiring of new Community Development staff to

Given this past history, it is completely inappropriate to assume that going forward the City will follow through on its commitments, such as they described in the Harbor Plan, to seek investments in the fishing industry and other WDIUs. Extraordinary flexibility should not be granted because the City makes vague promises.

Failure to Meet Standards of State Regulations

In addition to failure to meet standards of public process and public benefit reviews, the Harbor Plan violates clear language of the DPA regulations, including the calculation of percentage of WDIU based on the entire acreage, including filled tidelands AND uplands under MI zoning, inclusion of accessory uses for hotels and schools, etc. and generally, insufficient attention to the need to provide appropriate buffers and to disallow "non-compatible" uses adjacent to WDIUs.

In summary, the current plan is riddled with confusing language and contains illegal provisions, fails to reflect accurately the public benefits to or public views of the community of Gloucester, was systematically hidden from full public review, and in totality opens the door for a radical transformation of Gloucester Harbor into tourism and speculative real estate development. In particular, the continued

viability of the fishing industry and related marine industrial uses would be severely threatened, to the detriment of the community and of the Commonwealth, by these provisions.

I urge the Commonwealth to reject the Harbor Plan as it now stands and to reengage the community in a genuine and factual discussion of how the vision and purposes of the DPA will be maintained and strengthened in Gloucester Harbor.

Thank you.

Sincerely,

Valerie I. Nelson, PhD
7 Sunset Point Road
Gloucester, MA 01930

Attachment: Comments to City on June 30, 2014

To: Gloucester Harbor Plan Committee
From: Valerie Nelson
Re: Comments on Draft 2014 Harbor Plan
Date: June 30, 2014

I would like, at the outset, to request a minimum two-week extension of the public comment period to provide more time for citizens of Gloucester to review and consider the changes and likely impacts of the draft 2014 Harbor Plan on the working waterfront and the community more generally. The Plan, as posted on the City's website, is not complete (appendices and other background materials are not included) and significant portions of the Plan were not presented at the City's prior two public briefings and Q&A sessions, nor discussed in Harbor Plan Committee meetings. Important related provisions are not described in the Plan. The latest in climate-change related hazard mapping and guidance has not been incorporated into planning. The comment period has spanned the time of St. Peter's Fiesta, when most fishing industry and waterfront businesses and workers are involved in a near-week of events and have not had the time to review documents. There should be no headlong rush to finish the review and comment period at the end of an 18-month review process, when so much complex material is presented in this document that has not been seen before in the process, particularly when the Commonwealth is not operating under any deadline and prefers that the community at large understands and backs the Plan prior to its own review. A Gloucester Conversations educational forum conflicted with the public hearing several weeks ago and was canceled, but should be rescheduled before the Plan is finalized. If such an arrangement cannot be made within two weeks, then the public comment period should be extended further.

While reserving the right to file additional comments upon availability of a full and complete draft, I will submit the following general reflections and recommendations:

1. While prior to the 2009 Harbor Plan, waterfront property owners had some just cause to suggest that DPA requirements were overly restrictive and compromised their capacity to invest in and maintain a profitable business, this 2014 Harbor Plan goes much too far in the opposite direction, in providing extraordinary leeway for property owners to engage in non-marine industrial and incompatible development that has the capacity over time to undermine completely the viability of the working port.
2. In this massive push for "flexibility", the City has now improperly identified the core structural dynamics in the spotty and sporadic decline and lack of investment in waterfront properties (it is important to note that many waterfront properties have been improved and rebuilt in recent years). The thesis of the draft Plan is essentially that DPA regulations have overly-restricted businesses to marine industrial uses that were defined decades ago and that are out of date, and that the primary engine for investment in

most of the DPA will be from massive private financing and expansion of supporting, accessory, and new uses.

3. Property owners have also, in the midst of "flexibility" discussions and creation of a Hotel Overlay District in the local Marine Industrial zone, engaged in a speculative holding pattern, failing to invest in marine industrial work or to sell their properties to other viable MI businesses, in the hopes that they or new owners might, in time, be largely freed to pursue higher-profit non-marine industrial development.
4. A more accurate assessment is that the cause of the chronic disinvestment and speculative paralysis in some properties in the harbor is the City's and Commonwealth's failure to commit in recent years to a strong marine industrial port. The answer is not radical new flexibility for supporting uses, but rather a strong resolve and focus by the City and the Commonwealth to invest strategically in infrastructure and other economic development strategies, as identified in the City's recent Port Recovery and Revitalization Plan and to stabilize the working waterfront and tamp down speculative holdings by committing to a full ten year's before the next Harbor Plan is submitted (not five years).
5. What is largely missing from the report is a recognition that federal, state, and local governments have largely abrogated their responsibilities in the harbor to provide what numerous plans have called for over the years: public infrastructure investments, including in wastewater pretreatment; public research and development capacity, product development, training, technical assistance, and other economic development programs; reasonable terms of financing for pier, buildings and equipment repairs and reconstruction; assistance with sustainable fisheries policy advocacy that would stabilize the fishing industry, including boats and processors.
6. To the degree that there has been City advocacy and state investment in the harbor in the last five years, projects have nearly universally been targeted at non-marine industrial uses, for example with a total of several millions of dollars in state grants for: a playground, a Harborwalk, cultural districts, hotel-related water, wastewater, and stormwater infrastructure and roads; and boulevard repair. In contrast, only a few tens of thousands of dollars have gone into marine industrial or fishing industry projects, such as: additional dockage at the State Fish Pier; and a green boat-building project.
7. The DPA's boundary review taking East Gloucester out of the DPA extended extraordinary room for potential expansion of recreational boating, tourism, hotels and condominiums, etc. for the visitor-based economy. It is vital to preserve as much space as possible for marine industrial usage in what remains of the DPA, not facilitate a wholesale conversion of all of the port to these kinds of uses. It should also be remember that the tourism economy depends on marine industrial use, particularly in the fishing industry, remaining a valuable asset in Gloucester's draw for tourists looking for an authentic working waterfront, which is increasingly rare along the coast.

The primary foci of the 2014 Harbor Plan should be, first, on an economic development strategy of investment in marine industrial development, including the fishing industry, in particular, and, second, in recognition of the removal of East Gloucester from the DPA to reduce or remove regulatory flexibility provisions that would open the door further for non-marine industrial development in what remains of the DPA.

The list of "flexibility" provisions in the current draft is excessive. Pages 49-53, in particular, contain the following sections:

Establishes a presumption that 100% WDIUs continue on the following properties:

- The State Fish Pier
- The U.S. Coast Guard facility
- The portion of the Cruiseport that is within Chapter 91 jurisdiction
- All DPA roadways
- All pile-support piers

This plan does not preclude the aggregation of parcels, or a process using transfer of development rights, to achieve the same goals.

Two components for further local zoning changes are recommended in this plan. First, the local zoning restriction that no more than 50% of any property in the Marine Industrial district can be supporting commercial use is no longer a required component of the MHP and DPA Master Plan.

The City commits to MI zoning in the upland portion of the DPA that, at a minimum, excludes new developments or conversions, unless considered accessory to a WDIU, for (1) housing units and other residential facilities; (2) hotels, motels, and other facilities for transient lodging; (3) hospitals, nursing homes, and other care facilities; and (4) day-care centers, primary schools, and secondary schools, or other schools unrelated to maritime trades or marine science and technology. (This provision could provide virtually unlimited permitting for development such as a Cruiseport or charter boat-related hotel, for example.)

If a project site does not have existing water-dependent industrial uses on-site, DEP will consider commensurate investment in on-site waterfront infrastructure or an appropriate contribution to the Gloucester Port Maintenance and Improvement Fund as mitigation. (This provision was used for permitting of The Brewery, along with the questionable assertion that there was no other potential marine industrial use for the property.)

Other potential "flexibility" approaches that, in effect, waive marine industrial or water-dependent use requirements were presented at a harbor plan committee meeting and include provisions for a public-purpose project, such as a Fishermen's Wharf, under which various normal regulatory requirements would be waived.

I cannot find any minutes on this particular presentation on the City website and view this omission as a serious gap in the report, from the perspective of public comment. As I recall, three flexibility provisions were described, including public-purpose projects, transfer of development rights, and one other that I cannot find in my own notes or on the City's website.

Finally, a state technical advisory group is considering new provisions for allowing supporting uses on docks and up to nine recreational boats per property, if approved in a City's harbor plan in the future.

In totality, these waivers and flexibility provisions would likely allow a massive conversion of large swaths of harbor property to non-marine industrial uses, in particular in the tourism, hotel, and visitor-based economy, which is known to be a threat to working waterfronts when built in close proximity.

It is also problematic that the draft 2014 Harbor Plan contains language in a vision statement, such as the following: "Bustling maritime commerce requires hotels, restaurants, and retail shops for the workers and the many visitors who seek the experiential connection to a vibrant working waterfront and visitor amenities. Along the waterfront an esplanade weaves in and along and through the myriad industries and commerce. Artists open galleries in nooks and crannies on Main Street and along the esplanade when they can afford it. Shops fill in the gaps along Rogers Street as businesses look to grow and the waterfront has become the logical edge of the downtown."

I believe that on closer examination there has never been anything remotely similar to the concept of an "esplanade" with new hotels, restaurants, and retail shops along the waterfront discussed favorably by the public. Listening posts and earlier plans referred to the need for public access, but not to a completely transformed visitor economy right on the waterfront.

In brief and preliminary summary, I would make the following recommendations:

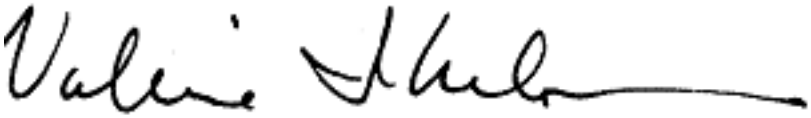
1. Extend the comment period for a minimum of two weeks – work with Gloucester Conversations to arrange for an educational forum and, depending on the date, extend the comment period beyond that forum
2. provide to the public the full data set used to calculate amount of allowable supporting use and exclude Coast Guard station and roads from the calculation (as 100% marine industrial or water-dependent)
3. study climate change hazards and recommendations, as in MA CZM "no adverse impact" reports, and implications for the harbor – even the new FEMA maps are not considered sufficient for this kind of analysis. If relatively soon the rising seas and storm surges will be taking over more of Chapter 91 filled tidelands, then it is essential that MI zone and uplands be available for marine industrial use and not converted to the visitor economy.

4. present to the public the National Working Waterfront toolkit and other guidance on harbor economic development investments
5. revisit the community vision for the Harbor, including in listening posts, Mt. Auburn report, and other community discussions, including in Port Recovery and Revitalization Plan to make sure that there is not a tilt in the Plan away from fishing industry and marine science/technology uses
6. prepare "scenario" analysis – what would be the totality of conversion to non-marine industrial uses that would be facilitated by the summation of all "flexibility" provision in the draft Plan
7. based on this analysis, rebalance the amount of "flexibility" allowed in the Plan by removing some the of earlier and the new sections
8. maintain the restriction on amount of supporting use in the Marine Industrial zone (after recalculation, not to exceed 50% as the estimate for now)
9. drop the 3-step provision, which allows for such uses as restaurants, as long as there are payments to a mitigation fund
10. extend the period for a new harbor plan to 10 years
11. review the proposed institutional arrangements, including increased Community Development Department staff, and commit to the creation of a "new entity" as recommended in the Plan.

I am submitting these comments by what I presume may be a 5:00 p.m. deadline on June 30th, but again, look forward to continued public education and analysis of this new complex plan.

Thank you.

Sincerely,



Valerie I. Nelson, PhD
7 Sunset Point Road

Reply | Reply to All | Forward

Gloucester Harbor Plan

Tom Gillett [tfgillett@gmail.com]

Sent: Thursday, October 09, 2014 5:06 PM

To: M
Glenn, Kathryn (EEA)

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Tom Gillett
5 Howard Rd
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

The Plan continues protections of the DPA and appropriate supporting uses while clarifying jurisdiction and will help move investment in the working waterfront forward.

I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Tom Gillett

Office of Coastal Zone Management
251 Causeway Street, Suite 800
Boston, MA 02114
Attention: Kathryn Glenn

SEP 30 2014
COASTAL ZONE MANAGEMENT

September 28, 2014

Dear Ms. Glenn (Kathryn),

My name is Susan Waller. I am a resident of Rockport MA and a concerned citizen of Cape Ann. I attended the public hearing at Gloucester City Hall on September 22, 2014 regarding the proposed Gloucester Municipal Harbor Plan. First of all, please extend the submission deadline 6 months, so the Harbor Committee can produce the necessary data to address vital issues such as the uplands. The current recommendations for the uplands should have been mapped out and given to the property owners before they were included as a formal proposal within the Plan.

I agree very strongly with Angela Sanfilippo, President of the Fishermen's Wives Association, that weakening the DPA requirements and potentially promoting commercial use such as hotels, shopping centers, and recreational marinas would be incompatible to the survival of the city's commercial fishing industry.

I was one of the few citizens at the first Harbor Planning Workshop that was held at the Gloucester House Restaurant on April 10, 2013 – and I felt excluded. The meetings have been hardly publicized.

I take issue with the fact that the Office of Coastal Management only sat down with city officials (which is a breach of federal law), and I agree with Valerie Nelson that "there is a fundamental schizophrenia in this Harbor Plan, where the regulatory provisions do not support the achievement of its goals."

I recommend giving a 6-month extension to produce the necessary data – and to produce a new proposal that provides more protection for the floundering commercial fishing industry, as well as the removal of the current recommendation to allow new uses in the

uplands by removing the uplands from the DPA. The current proposal will lead to attempts to circumvent the intent of the Plan.

I take issue the most to the proposed removal of the uplands from the DPA and the promotion of allowing hotels, shopping centers, and recreational marinas. I believe the current proposal would be a death knell to the commercial fishing industry which is what Gloucester Harbor is all about.

Sincerely,

Susan Waller

Susan Waller
184 Rear Granite Street, #2
Rockport, MA 01966
Telephone: (978) 546-3828

CC. Angela Sanfilippo, President of the Fishermen's Wives Association,
John Bullard, Northeast Regional Director, NOAA,
Ann Malloy, President of Neptune's Harvest,
Vito Giacalone, Northeast Seafood Coalition
Mayor Kirk, Gloucester City Hall

Steve Cefalo

17 Colburn St
Gloucester, MA. 01930
978-381-3020

OCT 6 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn,
North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Coastal Zone Management,

As a member of Gloucester's Harbor Planning Committee I wanted to send along my support of the plan and to ask the state to approve the plan as submitted.

The Harbor Plan Committee's extensive (nearly two-year long) process was comprised of a cross section of residents. We embarked on an extensive and nearly two year long process to submit a plan that we hoped would help move forward future investment in the working waterfront.

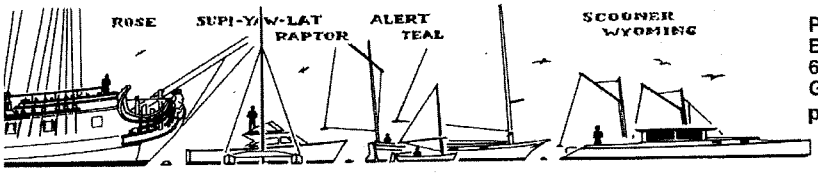
The Plan continues protections of the DPA and appropriate supporting uses while clarifying jurisdiction and providing some flexibility to waterfront land owners who today are unable to make profitable use of their property.

Despite the fact that we submitted a plan that is a step in the right direction, it is my personal belief that we should have been able to further ease current restrictions and challenges in order to enable investment and growth.

Sincerely,

Steve Cefalo

Harbor Plan Committee
City of Gloucester
October 1, 2014



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Public Commentary to MA Coastal Zone Management (CZM)

on the

2014 Gloucester Municipal Harbor Plan and DPA Master Plan

by

Susanne Altenburger of Phil Bolger & Friends Inc.(PB&F) (10/10/14)

Attention: Kathrine Glynn - CZM North Shore Coordinator
261 Causeway Street, Boston, MA

19- pages of Commentary
plus
33 single- and double-sided sheets
of
Attachments, Articles, Signatures, Letters of Endorsements, Whitepapers etc.

OCT 10 2014
COASTAL ZONE MANAGEMENT
Executive Office of Energy &
Environmental Affairs

Basic Premises of Harbor-Economic Development

- Community Economic Development is an exercise in optimism, looking for and developing opportunities for jobs- and tax-base creation, typically in collaboration with private-sector and other public-sector partners.

- Any community's 'Harbor Plan' should reflect a similar approach, addressing past and ongoing marine-industrial and marine-scientific challenges along with respective emerging opportunities under the premise of protecting and enhancing jobs- and tax-base assets.

- A 'Harbor-Plan' for Gloucester should attempt to leverage existing infrastructural assets developed over decades and centuries of private and public enterprise, by drawing on existing economic, intellectual and political connections in an unambiguous pursuit to protect and grow if not multiply the jobs- and tax-base that 'America' Oldest Seaport' has produced to establish and support this 391 year old community.

- Since a Port without boats is just a cove, design and construction of boats to match demands across a broad range of purposes and changing circumstances over time is essential for a port's economic viability.

- Gloucester – together with Essex – has been central in the pursuit of excellence in boat-design, boat-building as the basis for the well-documented extraordinarily successful Commercial Fishing Industry across much of the history of the North-East. Less broadly-known we've typically built for our Regional Coastal Transportation as well.

- Today, Gloucester is the last Full-Service Hub-Port for the Gulf of Maine.

- Up until this 'Harbor Plan of 2014', Gloucester Harbor has had a long-standing body of zoning-provisions to support both fleet-operations along with requisite uplands ventures, all based on a broad range of skilled man-power to support and develop further its various commercial fleets.

- One central element of Harbor Economic Development for this Hub-Port thus is to keep a watchful eye on the *economic and increasingly the ecological viability* of the fleets that support the Port of Gloucester.

- Inherent in and to retain and *re-expand* local capability to design, build and maintain at least key-elements of this broad range of craft.

- Coastal Zone Management depends on a sound foundation of public and private stakeholders at the table around a given issue around public policy, such as the development and then final assessment of a Harbor Plan.

- In the business of designing boats since 1952, Phil Bolger & Friends Inc. is one such stakeholder. As laid out below, we have engaged extensively and far beyond the 'call of duty' with the emerging need to boost this port's fortunes and thus reputation as a Go-To destination for Ocean-Centric Commerce. This body of work contrasts sharply with the ambitions of 2014 'Harbor Plan'.

A. We are 'Phil Bolger & Friends Inc.' of Gloucester - Boat-Design since 1952

A. 1. 62 years a Working Waterfront business:

This office has formally produced boat-designs out of Gloucester since 1952, with less structured efforts preceding 1952 by several years.

By now over *680 designs* have been completed, with the majority actually constructed and used.

Most have been built custom/one-off, with a number of designs produced industrially in larger numbers here and abroad, using a range of construction-methods and materials. **They were designed, built, and used for fishing, science, pleasure, governmental purposes etc.**

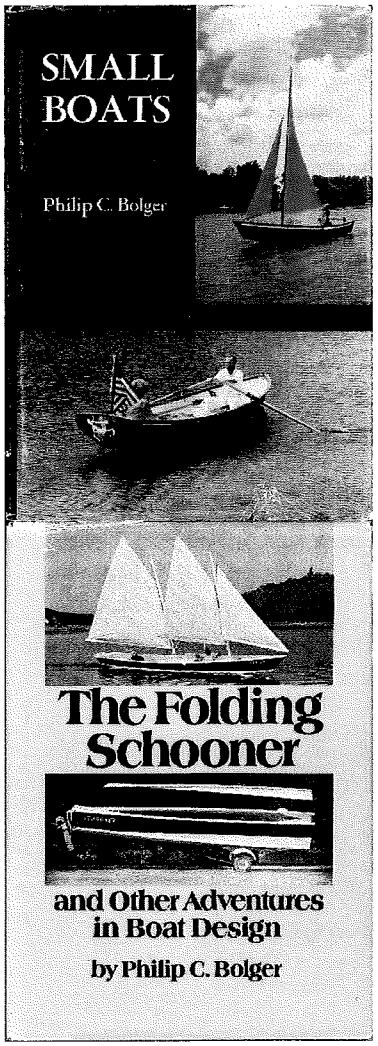
A. 2. Since March of 1948 a steady flow of publications in many periodicals here and abroad:

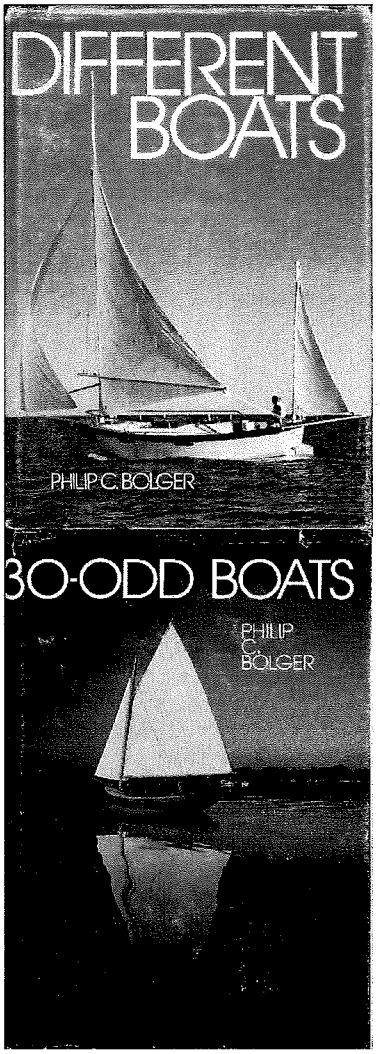
Based on this growing body of design work, an ongoing series of publications – including on directly related subjects – began actually with **the March 1948 issue of THE RUDDER magazine**, then a leading glossy national monthly magazine. The topic then was "Transport- and Fishing-Craft of the Greater Tokyo-Bay Working Waterfront".

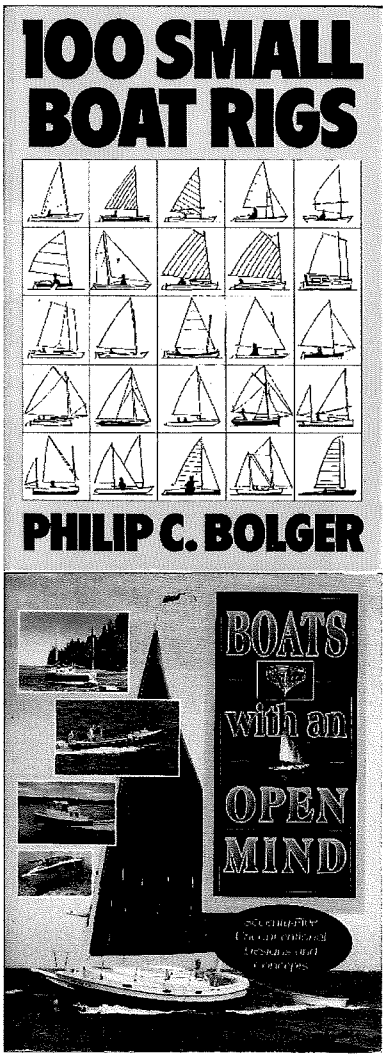
Across now over 600 articles in Quarterlies, Monthlies, Bi-Weeklies here in the US and abroad our work has been in public view and discussion for over 66 years now - and is ongoing.

A. 3. 6 Books with global publishing house McGraw-Hill – with more in the works:

That public profile led international publishing-giant McGraw-Hill to initiate the first of what would over several decades become a series of **6 books by Phil Bolger on this design-work out of Gloucester**. More are in production.

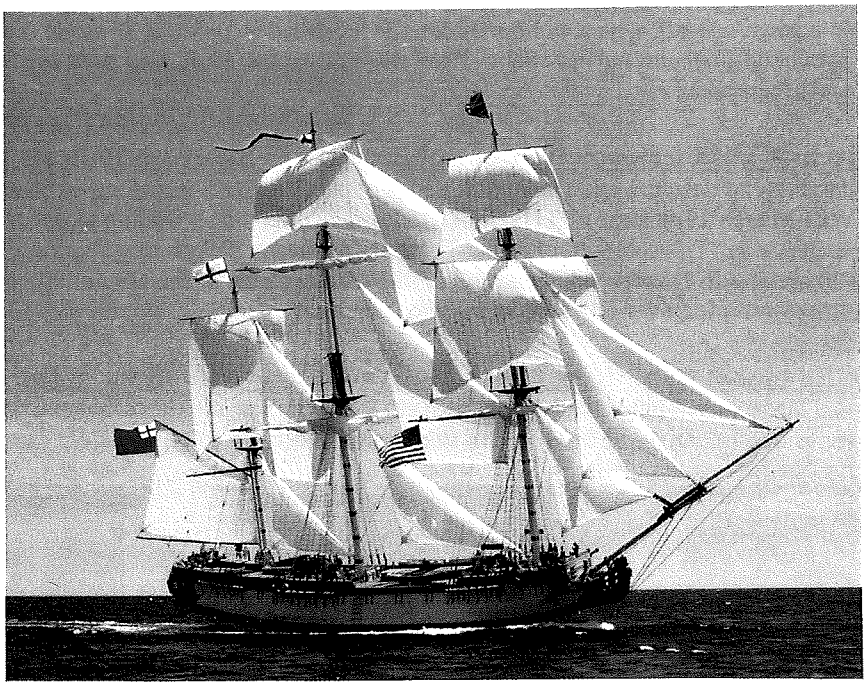


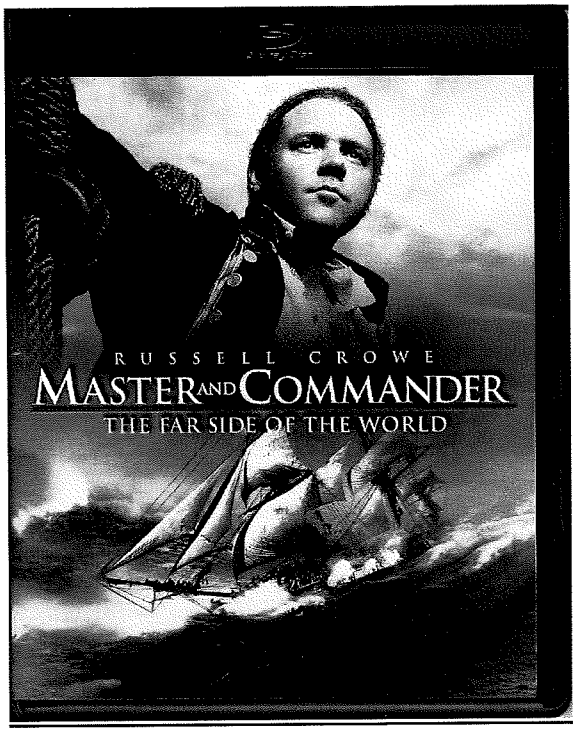




A. 4. Our largest Design – a Lead-Actress in a Movie seen World-Wide:

Our Design #225 of the 115-foot, 13,000 square-feet of sail, 450-tons for the 24-gun three-masted square-rigger frigate "H.M.S. Rose" became the lead actress in the 2003 20th Century-Fox Movie "Master and Commander" also starring Russell Crowe and Paul Bethany.





A. 5. Work for the US Navy (USN) and the US Marine Corps (USMC):

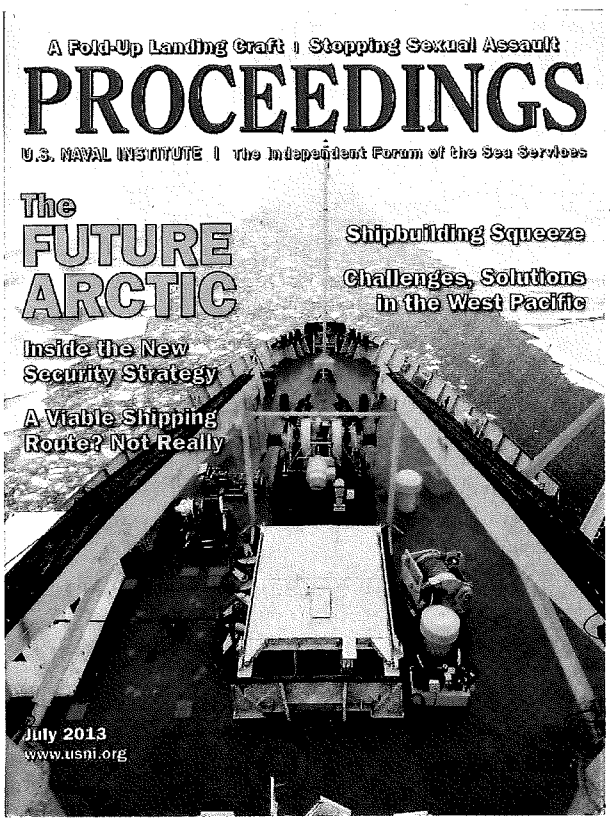
That public track-record of work in turn led in the 1970s to **the US Navy requesting a first of then a modest sequence of consultancies**, including requiring classified work.

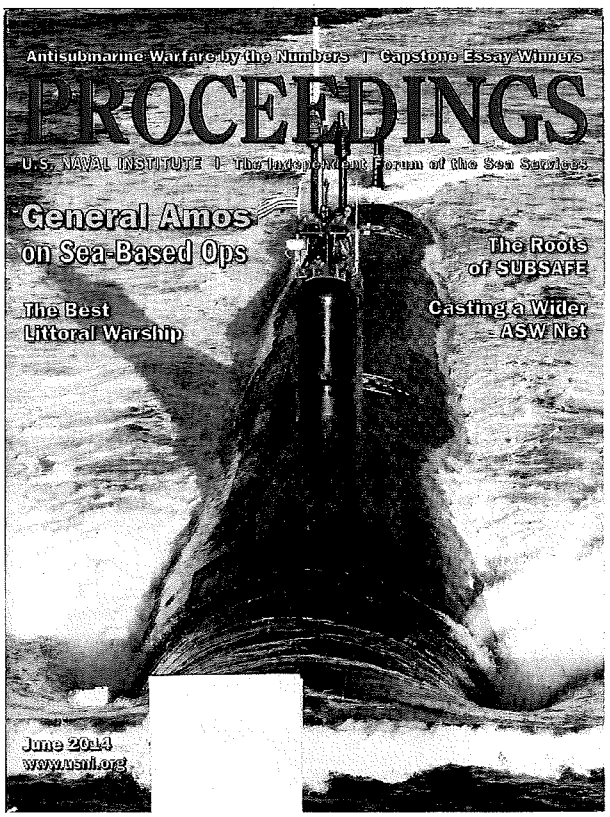
By 2002 a new and now ongoing series of consultancies with USN emerged, now touching on matters for USMC as well, as these links document:
- http://www.usni.org/magazines/proceedings/2013-07/landing-craft-21st-century " was lead-authored by me, Susanne Altenburger, widow to Phil Bolger since 2009, on work we did together here at PB&F, here endorsed and explicitly supported by CDR Bosworth of Naval Sea Systems Command and CPT./Prof. Junge of the Naval War College. (PROCEEDINGS, July 2014, pp. 60-64)

- This in turn led to USMC-Commandant General Amos discussing implicitly our work at this conference in February'14: http://www.youtube.com/watch?v=nHWy1LIYyjQ

- Four months later Commandant Amos explicitly focuses on our work as 1 out of 4 projects he wants to see much work done on in this June'14 article: http://www.usni.org/magazines/proceedings/2014-06/bridging-our-surface-connector-gap. (PROCEEDINGS, June 2014, pp. 20-25)
This so far is the highest honor for this Small Business serving and working on Gloucester's Working Waterfront.

Here are the covers of the issues of the USNI PROCEEDINGS referred to. And see the attached articles.



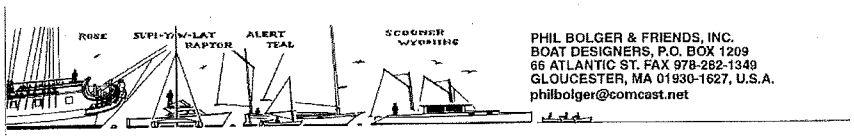


B. As one of Gloucester's Oldest Waterfront Businesses we've defined and pursued over the last 12 years several significant initiatives to boost Gloucester's Port-Economic Viability. Thinking and Hands-On Work – Made in Gloucester

B. 1. Work for the US Navy and the US Marine Corps with an Eye on bringing related Jobs to Gloucester's Inner Harbor:

- a.) The intellectual and conceptual work on a range of projects for USN/USMC as already referred to above under A.5. USMC-Commandant General Amos's perspective touches upon a potential Acquisition-Program that would exceed $2 Billion. ***PB&F's interest has been to see considered locally how to put Gloucester into a position across the next 3-5 years to become a plausible credible Bidder on at least a share of that production-program.***

- SACPAS-3 – with PB&F bringing to this Working Waterfront an offer for ***Collaboration between USN and the City of Gloucester.*** This has been a very unorthodox experiment to prove whether non-boatbuilders could build this 39'x 7'5"boat.
- PB&F produced a new design, oversaw and hands-on engaged in her construction, and has seen her through all the ups and downs of this experiment. ***As the visuals below document, that experiment was indeed successful.***
- In full public view **this construction also demonstrated design- and construction-principles that would guide the design and construction of an advanced 21-st century low-carbon fishing-craft as well.** (see also the attachment)



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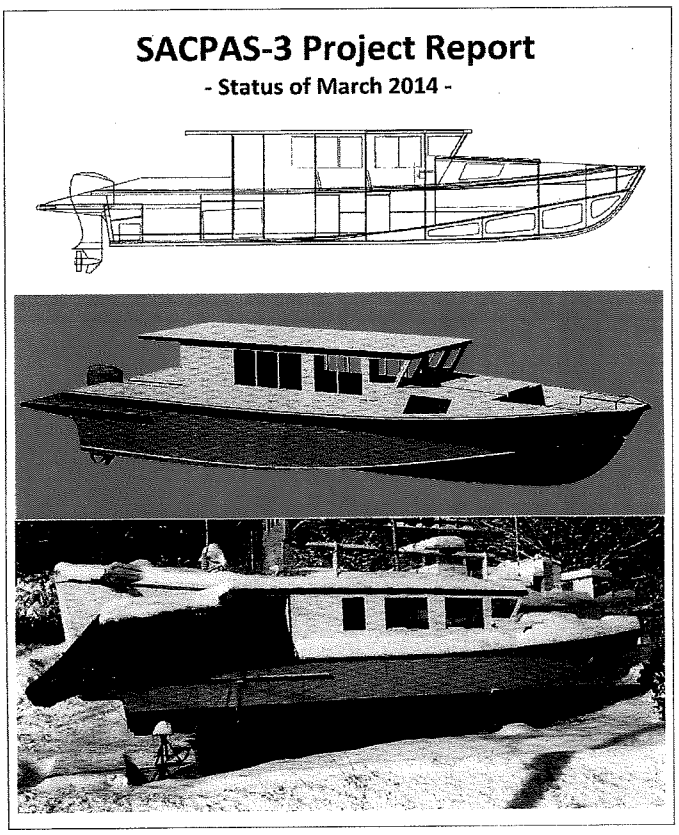


SACPAS-3 Project Report

- Status of March 2014 -

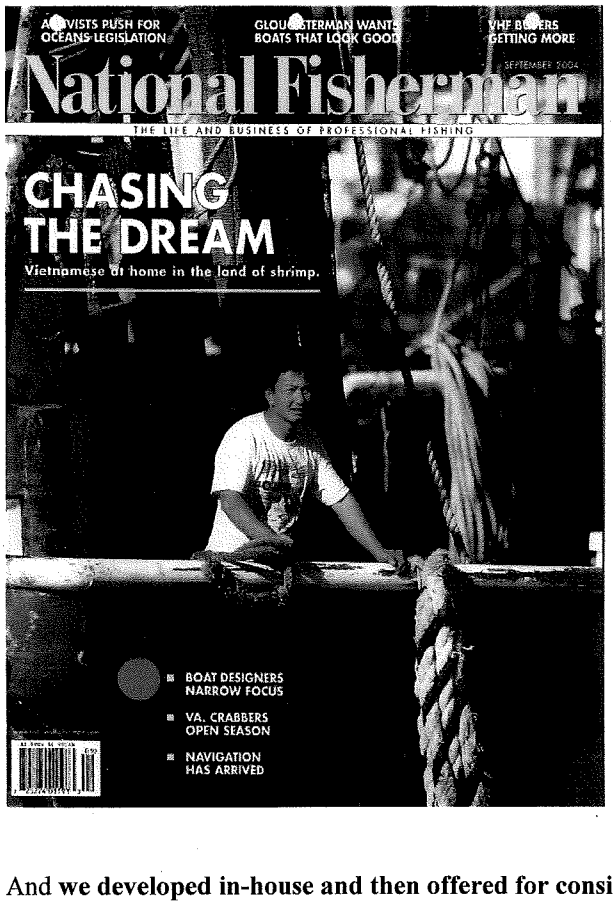
SACPAS-3 March 2014 Project-Report ©2014 Phil Bolger & Friends Inc. 66 Atlantic St. Gloucester, MA 01930 philbolger@comcast.net, 1 of 58

B. 2. Work for and with the Commercial Fishing Industry towards a 21st-century Low-Carbon Fishing-Fleet:

Concurrent with this Navy work, **we engaged since Summer of 2002 in an extensive effort to help Gloucester's Commercial Fishing Fleet and thus our Working Waterfront. We've invested over 3000 unpaid hours in our *PRO BONO* efforts** to

- examine the regulatory dictates that have so damaged the fleet's *commercial and ecological viability*,
- discussed realities with vessel-owners, operators, and crews, (see the attached List of supporters)
- discussed these realities with owners and staff of shore-side supporting industries such as marine railways, ice-house, seafood-brokers etc.
- listened in and testified at local, regional and even national fora since 2003, with Phil Bolger & Friends Inc. being **the sole Small Business form the North East to be invited to give a presentation before 18 nations at the Nov.14-17'10 first International NOAA/UN-FAO/WorldBank Conference in Seattle on 'Energy Use in Commercial Fishing".** *(see the attachment with the Abstract of our presentation)*

Below an excerpt of our first national exposure on this issue via the Sept.'04 issue of the fishing-industry's leading monthly NATIONAL FISHERMAN:



And **we developed in-house and then offered for consideration a growing range of design-concepts to illustrate our best thinking towards the smartest 21.-century fleet** to potently address the ecological, economic and the political/ regulatory demands that would come to do so much damage on this Port's and Community's economy since 2002.

Beyond the publications in various fisheries periodicals we've accumulated **by now a 17-chapter narrative in a non-fisheries monthly** which in the context of our design-efforts and position-pieces is by **now enough for a mid-size book on this decade+-effort.**

As one of longest continuously-existing businesses on Gloucester's Working Waterfront and from a *fleet-technical* and thus *fleet-structural* perspective, here a summary of our understanding as developed across many papers, presentations, articles, Comments on Fisheries Policies as also recorded in the Federal Register:

Here our Commercial Fishing Fleet-focus in highly-compressed format:

2.a. A Fleet-Structure based on Parameters of the 1970 and '80s:

Over many decades the Daily Practice and corresponding Governance in this Commercial Fishing Fleet was **based on cheap fuel** for vessels-&-raw-materials and daily/annual operations on the one hand, **and the idea of a seemingly endless fish-resource to pay for expenses and profits on the other hand**. Fishing boats and thus fleets were built to those principles, with most vessels typically expected to work at least 2-3 decades. Inevitably, both operational and respective regulatory assumptions would indeed come to be reflected in the fleet's physical structure, thus inevitably defined in its operational profile for decades to come deep into this new century.

2.b. Regulatory Constraints freezing the fleet in a *High-Carbon* Fleet-Structure and thus -Operations:

As came to eventually be document in the phenomenon of apparent 'Overfishing' of certain species, regulations emerged to restrict the fleet's fishing-effort in order to allow the recovery of the affected sectors of seafood harvesting. In the *Ground-Fish Industry* for instance several regulatory concepts were deemed appropriate to address that challenge. Two major approaches would come to be applied in parallel:

2.c. 1. Basic Intentions: Limits on the Fleet's Relative Growth-Potential.

Federal Permits to go fishing commercially would limit any associated vessel in three significant ways:
- 1. the given vessel's length,
- 2. the vessel-engine's current horsepower,
- 3. the vessel's current 'volume-tonnage'.

The underlying assumption was that limiting the 'size' of any vessel would limit the overall technically-possible 'lethality' to the fish-resource, thus presumable protecting the fish-stock from ever larger vessels.

2.c. 2. Basic Intentions: Limits on the Annual Effective Fishing-Action.

Spatial, temporal and finally quantitative limits were initiated in various forms and intensity by federal and regional bodies of regulatory controls to protect the overall viable size of the resource and thus its natural reproduction a fisheries.

2.d. Destructive Results: Incoherent Federal and Regional 'High-Carbon' Policies and Consequences

Taken together these regulations have *fostered historically unprecedented High-Carbon Fleet-Attributes and Operations*:

- For instance, item c.1.) prohibits outright any exploration of long-&-lean - at same weight ! - hull-geometries that would allow low-carbon operations by leveraging the laws of physics, *but without any damage to the resource.* As a matter of the Laws of Physics and thus fundamental Boat- and Ship-Design-Principles *any given vessel's 'Size' is actually its Weight*! Experience has demonstrated in general that the operationally *most efficient vessel-geometries* would tend to be *Long-For-The-Given-Weight*, as reflected in the de facto global consensus on the hull-geometries deemed desirable in both commercial transports and especially naval-vessels where speed, range and efficiencies are paramount requirements. In comparison to shorter-&-wider hulls (regulation-limited), long-&-lean-*per-same-weight* hull-shapes simply run faster per given weight at typically less power, or require even less power for the same speed carrying the same weight - be it cargo, people or fish.

- Item c.2.) has often fostered high-speed/high-power (- high-carbon !!) types to catch fast, the most, wherever allowed. ***This regulatory High-Carbon Dictate stands in* direct conflict *with any principles of ecological fisheries management. Without the technical flexibility allowed by regulation to build the greenest fishing boats, no chance existed to at least reduce that daily economic burden.***

2.e. Additional Challenges: 350% Fuel-Cost Inflation from $1.10.- to $3.85.-/gal between '99 and 10 '14

Without innovation allowed on any level in pursuit of a Low, if not Least- Carbon Commercial Fishing Fleet, adding this massive cost-factor has damaged the fleet's and thus the port's viability disproportionately.
This level of inflation is about 10-fold that of the average economy across those 15 years. No fisherman has seen a commensurate increase in the price for the catch at the dock, with prices apparently even stagnating in certain cases.

2.f. Economic Realities: Just a Few Hard Numbers from our Technical Perspective
on the Unavoidable Long-Term Vessel-Economical Consequences under $2.5/gal, $4.-/gal and $5.-/gal using one current local High-Carbon type under the 'High-Carbon Regulatory Dictates, and a matching Low-Carbon Type under ecologically-correct regulations we'd offer for comparison:
- HC-type @ 4.26GPH (or 1.46MPG) - 1500hrs = 6390gals Annual Consumption
- LC-type @ 1.13GPH (or 6.67MPG) - 1500hrs = 1695gals Annual Consumption
HC-type **Annual Cost @ 1994-level $1.1.-** = $7,029.-, **@ $2.5.-** = $15,975.-, **@ $4.-** = $25,560.-, **@ $5.-** = $31,950.-
LC-type **Annual Cost @ 1994-level $1.1.-** = $1,865.-, **@ $2.5.-** = $ 4,237.-, **@ $4.-** = $ 6,780.-, **@ $5.-** = $ 8,475.-
- Per Hours of Annual Operation, the Cost-Savings of LC-craft over current HC-types also illustrates the mid-term protection from energy-price spikes:

All this has left this Port's Commercial Fishing Fleet in a state of persistent High-Carbon stagnation, with not even *experimentation* towards lower-carbon opportunities tallowed by regional and federal regulators: *No industry that is forced to technically remain on the 70s and 80s will be able to support any 21st-century Port-Economy.*

2.g. Here is a compressed time-line of this extensive effort since the Summer of 2002:
PB&F has engaged the challenge with in-house discussions, concept-studies, in-office conversations with fishermen in regards to needs, workflow ergonomics aboard, differences between HC-types and LC-types via sketches, studies, numbers, publications.
Here the 12-years 3000+ pro-bono hours effort in short form:
- **2002-12** 3-digit number discussions with ship-borne and shore-side stakeholders on Gloucester's Working Waterfront.
- by **Spring 2003** going public for the first time testifying before the New England Fisheries Management Council,
- nation-wide coverage in the **Sept.2004** issue of **NATIONAL FISHERMAN,**
- **Dec.2004** workshop with fishers, academics, ENGOs and NMFS staff at the Gloucester Maritime Heritage Center,
- Invite by **ECOTRUST** of Canada to a **Nov.2006** 6-day Field-Trip to Vancouver B.C. and Vancouver Island.
- **2007 *Petition-gathering* of some 60 signatures from Gloucester fishers and shore-side industry-stakeholders.**
- **Dec.2007** Feature in **'FISHERMAN LIFE'** monthly.
- **March 2008** *Endorsement* by New England's CONSERVATION LAW FOUNDATION. *(attached)*
- **June 2008** *Endorsement* by OCEAN ALLIANCE. *(attached)*
- **Aug. 2008 COMMERCIAL FISHERIES NEWS** feature.
- **Oct. 2008** *Endorsement* by GLOUCESTER'S MAYOR CAROLYN KIRK. *(attached)*
- **Feb. 2010** *Endorsement* by CAPE ANN CHAMBER OF COMMERCE. *(attached)*
- **Nov. 2010 PB&F was the sole Small Business from the North East** asked to give a presentation at the first **International Conference 'Energy Use in Commercial Fishing' in Seattle 11/14-17/'10** convened by NOAA, UN-FAO, World Bank with 18 nations attending.
- ***March 2011*** start of construction of the experimental 39'x7'5" SACPAS-3 type *already discussed earlier.*
- **May 2012** *Endorsement* by the **GLOUCESTER FISHERIES COMMISSION**. *(attached)*
- December 12th, 2012 a **WHITEPAPER for CAPT. Mark Ablondi at NOAA Silver Springs MD: " Towards Research and Development of Least Carbon Fishing Vessels".** *(attached)*
- **Sept. '14 Commentary by PB&F on the "Vessel Baseline Draft Omnibus Amendment" to Magnussen-Stevens,** the national legislation governing the commercial fishing fleet. *(attached)*

2.i. Some Progress on the Federal and Regional Levels – with or without PB&F's efforts:
- **NOAA has recently appointed an Eco-*System Based Fisheries Management (EBFM) Specialist* at NOAA in Woods Hole.**
- **The New England Fisheries Management Council** has just formed its own first such ***EBFM Committee*** with its first meeting recently.
- **NOAA on the federal level has recently confirmed in writing that indeed the Fleet itself must be part of any EBFM-efforts...**
- NOAA/NMFS is in the first stages of the process of allowing gradual improvements towards lower-carbon vessel-geometries we've advocated for since 2003. (see attachment: Vessel Baseline OMNIBUS Amendment).

B. 3. Leveraging the City/State-owned I4-C2 property between Rogers Street and Harbor Cove on the Inner Harbor as a mini-industrial park to support a Ship-Yard/Vocational Technical Facility to pursue Low-Carbon Fishing- and other Commercial Projects – a 21st-century Focus

In the context of the City's call to the community on what to do with the city and state-co-owned property known as I4-C2 at 63 Rogers Street right downtown on the Inner Harbor, we submitted December 15th 2010 a 19-page well-illustrated proposal of Dec. 15, 2010 along with a later 4-page version. **This proposal was conceived by Phil Bolger & Friends Inc. (PB&F), Boat-Designers of Gloucester since 1952 and drawn by Michael David Rubin, Harvard-trained Architect & Planner, CSI/LEED-AP, also of Gloucester and a long-serving volunteer on our planning- and permitting boards.**

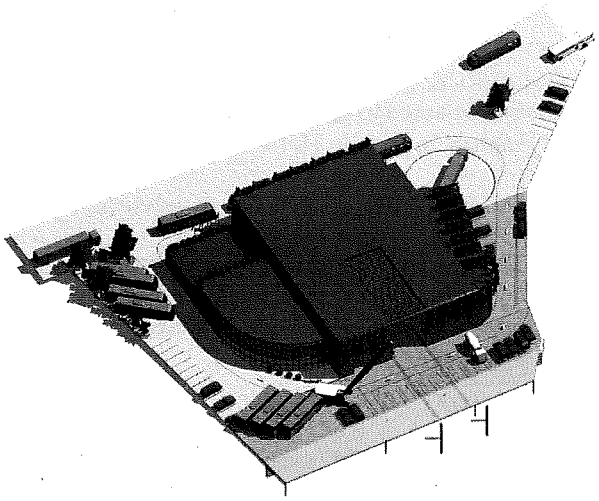
The proposal features four functions:

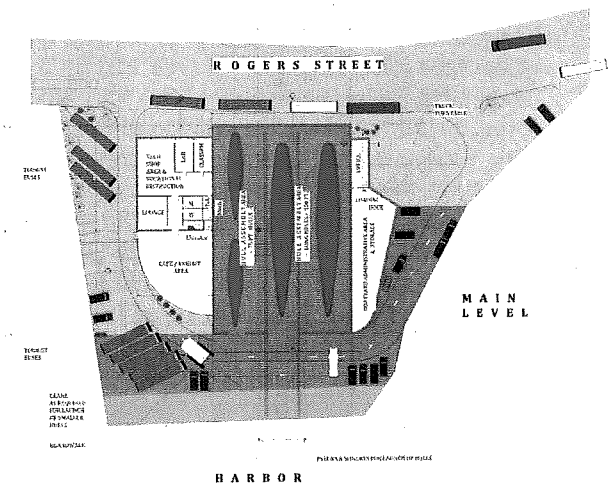
- 1. A 21st-century boat-building facility organized on market-economic principles.
- 2. A matching vocational-technical department onsite to train the next generation in a range of ocean-centric trades.
- 3. Via a glazed Mezzanine over the shop-floor, a well-protected public viewing area to attract local and regional observers of people building boats, and thus likely attracting future clients as well.
- 4. Covering the hangar-like open floor-plan of the shop, a well-braced snow-load correct roof-structure would during the rest of the years allow use as a Downtown Community Roof-Top Garden for a broad range of social and artistic functions.

This proposal reflects all regulatory site-dictates.

Here are excerpt from our perspective:

"Owning I4-C2 is a unique opportunity for this community to demonstrate unambiguously to the world that Gloucester is indeed a Port-Economy moving forward in the 21st-century. Between down-town and the harbor, and with its broad footprint featuring over 220-feet of working waterfront right on Harbor Cove, it is Gloucester's best location for a dedicated marine-industrial and marine-scientific 'Ocean Innovation Campus'. Here in the Port's heart, ocean-centered jobs-training, all levels of related research, and most importantly well-paying full-time jobs have to be pursued with determination by all of us.





"From Governor Patrick's emphasis on boosting vocational- and community-college training to our schools' growing STEM-curriculum (Science, Technology, Engineering, Math), the ' I4-C2 Ocean Innovation-Campus' would offer a dense ocean-industrial cluster of concurrent vocational and commercial work actually unique in this Commonwealth.

"For sound fiscal sustainability, a significant part of the site would be dedicated to building advanced fuel-efficient

boats, first for the nation's fishing-operations, then whale-watching and party-fishing-boat owners, governmental research-craft, and finally this the world's largest pleasure-boat market.

"Drawing on these industrial man-power demands and its opportunities for direct hands-on full-immersion training, that site could become the *North Shore Voke's and/or a Community-College's 'Saltwater-Campus',* offering right on this Working Waterfront a broad ocean-centric curriculum for internships, apprenticeships, life-long careers - *a facility unique in Massachusetts.*

"For starters, ***our I4-C2 parcel happens to be the only property on the harbor with a foot-print that allows this Port to build modern high-efficiency hulls that are long and lean for their weight.*** None of the other 4 marine railways (Rocky Neck, Rose's, G.M., Montgomery's) are interested in or would have the physical foot-print or facilities to build 21.-century boats to match our local fleet demands.

To address the market-needs just in the Port alone in the Fishing and Whale-Watching industries ***to replace the current carrying-capability with much less fuel-intensive models*** they would measure up to 150 *lean* feet in length with at most 30-feet in beam, this requires an open unobstructed shop-floor plan of near 180- by near 120-feet to allow multiple smaller and larger projects to proceed side-by-side. Using a version of Rose Marine's approach, I4-C2 would not need a marine-railway and only launch hulls via a platform and only at high tide, not impacting the existing commercial fishing-craft marina.

"On this main-level all industrial and vocational activities take place with class-rooms and sub-assembly shops to the 'west' and materials- and hardware-stowage to the east. The marine-industrial trades involved are boat-building in a range of materials, gasoline and diesel and hybrid propulsion systems, hydraulics, electrics, painting, glazing, electronics, etc. Plus science-related skill-sets etc.

"Across all four building-levels there are facilities for tourists to observe all stages of building boats, two office/laboratory-suites, and of course the yard administrative offices. On the large roof-structure a Community Roof-Top Garden would serve visitors, residents, and workers alike, full of volunteer-based botanical displays, art-installations, small performance spaces and solid security after hours - all overlooking the harbor. We could see our visual artists community adorn this industrial building on all sides with murals depicting Gloucester's maritime history, or fishing-vessel types since colonial times...

"This Innovation Magnet on I4-C2 would attract like-minded scientists and entrepreneurs to Gloucester and produce multiple spin-off ventures on now under-utilized properties along the Inner Harbor, eventually making Gloucester a 'Go-To' ocean-centric commercial and scientific destination where you'd exchange 5- to 7+-digit payments for advanced craft and scientific expertise.

And right on the Harbor Walk, it would indeed be a Working-Port Tourism Destination unique on the East-Coast...."

" <u>How to get this off the ground ?</u>

We have many vital political, legal and fiscal elements already in place:

"- ***As early as 2007 many in the local fishing-fleet expressed the need*** to prototype and then build for local and later regional customers modern fishing craft able to be productive in times of rising fuel-cost and constructing regulatory provisions. (see attachment)

"- ***Mayor Kirk had understood the path to revitalize this port as far back as October 2008*** when she stated unambiguously"... this City must lead in the development of low-carbon footprint resource-sustaining operation of commercial fishing craft and our port. Only a fleet and a port prepared for the 21st century will be able to prosper...(...) I am writing this letter as an expression of support for the Sustainable Commercial Craft Project developed by Phil Bolger and Susanne Altenburger of PB&F Inc. Boat Designers of Gloucester." (see attachment)

"- ***The Cape Ann Chamber of Commerce came to agree with her perspective*** when **it stated in February 2010**: " The commercial fleet must move toward operational economies that secure and grow employment and strengthen the tax-base of our port. Establishing operational sustainability requires prototyping and rigorous testing of several sizes of commercial craft... (...) The Cape Ann Chamber of Commerce supports the Sustainable Commercial Craft Project by PB&F..." (see attachment)

"- ***By May 2012 the newly re-established Gloucester Fisheries Commission put the serious challenge to this port as follows***: "Faced with many threats including rising costs of fuel, the fishing industry of Gloucester and our City must lead in the development of low-carbon operations of our commercial fishing vessels.(...) The Gloucester Fisheries Commission endorses the PB&F Sustainable Commercial Craft Project' and encourages you to do the same." (see attachment)

"- ***And on October 16th 2012, during her Keynote-Address at the Gulf of Maine Research Institute's Conference on 'Innovations in Fisheries', Mayor Kirk mentioned*** the recent model of collaboration between the Federal Government (the Navy) the State, the City and PB&F in order to distribute fiscal burdens and the inherent risks of the experiment of building a modest but advanced boat with local untrained labor.

"- After 40 years of waiting, owning the I4-C2 lot as our public property *entitles us* under the benefits of MA's DPA *to a much greater steady grant funding-stream* than ever before to boost this Port's fortunes. And this City-&-State partnership would draw in Federal resources as well.

"Therefore, to maximize this unique opportunity of I4-C2, we all must put our weight into pulling together a broad coalition of like-minded state, federal and private agencies to pool resources and build this vital port-infrastructure project.

" 'The Ocean Innovation Campus' *would permanently link Voc-Tech-and -Science Training with on-going Ocean-Centric Commerce and -Science to support itself with a growing client-base ordering boats, and drawing on ocean-centered expertise - all based on Ocean-Centric Skills with deep roots in Gloucester's education system and our distinct Culture of Working the Ocean since 1623 !"*

B. 4. SUMMARY of our Efforts:

This outline of projects constitutes a broad range of productive engagements with various challenges facing this Port-Community - generated here in Gloucester for Gloucester.
This body of documented work by this (now) Woman-Owned Small Business exceeds in
- depth,
- quality,
- diversity
- political potency
and
- comprehensiveness
any such efforts generated by Harbor Development Director Sarah Garcia in her many years on City of Gloucester pay-roll. In fact, it may in fact exceed as well the combined efforts of the Community Development Department.

Phil Bolger & Friends al;ong with a good number of 'feriends' saw a range of challenges, and then pursued solutions - just about all of them in public view. This work stands in stark contrast to what has been produced as the 2014 Gloucester Hasrbor, now before the Stare via CZM for approval.

C. With this 2014 Gloucester Harbor-Plan - NO Comprehensive Engagement with any these Central Challenges

In this Harbor-Plan,
- none of these Challenges are reflected with any substance,
- are thus not addressed with effective measures,
- with our extensive efforts here at PB&F across 12 years explicitly excluded by both Ms. Sarah Garcia on City-payroll along with the well-paid Consultant Kevin Hively of Ninigret Partners.

Both have been explicitly kept informed about of work this far, including the recent developments in the USN/USMC areas of our work.

And at least Garcia has lived in Gloucester (?) long enough to understand the basics of what the Department of Commerce has declared an 'Economic Disaster', meaning numbers that don't match, with resulting economics that won't support this port-economy...

Quite independent from our particular perspective at PB&F as one senior Small Business on this waterfront, to summarize the challenges facing this Harbor-Plan:
- a) Locally we can only help to support **Sustainable Fish-resource-Management**, based on stock-assessment and emerging Eco-System knowledge, with a *lot of effort and funding having been invested into this, with so far with remarkably uncertain results*;
- b) **However, as America's Oldest Seaport we must pursue a Sustainable Fleet-Structure**, based on Least-Carbon Vessel-Economics and Fleet-Practices based on innovation *so far impossible to pursue under the current assumptions and rules*;
- c) **And this would have to go hand-in-hand with a Sustainable Shore-Side Infrastructure.**

Instead, Hively & Garcia *do not seem to have any interest in actually pursuing the obvious* – transforming the Fishing Fleet into a 21st-century example of smart, scientific and determined progress.

C. 1. Instead, *Breezy Visions* by the *Garcia-&-Hively School of Port-Economics* – versus Hard unarguable Challenges and Opportunities facing America's Oldest Seaport in 2014

a.) In Chapter 4 of the DRAFT headed "An Opportunity Analysis for the Maritime Economy", **neither Garcia nor Hively begin to even touch upon the central**
- political,
- ecological,
- economic,
- port re-developmental
and *perhaps most importantly*
- reputational opportunities for Gloucester inherent in any decisive TRANSITION from a High-Carbon to a Low-Carbon Fleet.

They appear to have at best a *very limited fractured* understanding about the basics of the industry's challenges as they have emerged – a remarkable spectacle in light of what they are both billing to the City's tax-coffers. *In fact, it is my understanding that Garcia has been paid out of the State's Seaport Council funding.*

As a consequence, the Garcia-&-Hively Model explicitly ignores what has made this Port an economy, with neither showing any insights on the obvious next steps after major regulatory and political failures to manage the fleet.

b.) Seemingly rather 'personal' visions of Garcia-&-Hively are presented instead:
- Attracting (lost ?) scientists by teaching them about the existence of Gloucester (1623-....),

- an idea that mostly depends upon people withdrawing funding *from other* research-institutions to somehow redirect them to Gloucester - highly unlikely with constricting research budgets at well-established and politically deeply-entrenched institutions 'elsewhere',

- that assumes breezily that a fine well-sculpted 'Research Building' on I4-C2 *without any market-place economics to support it* will have folks migrate here anyway,

- that assumes that this distinctly non-economic proposition could somehow be funded by the public without any hard chances of fiscal returns,

- that as a matter of the obvious intellectually necessary environment they would not need to be surrounded by a thriving *least-carbon* working-fleet doing all sort of work beyond fishing…

- in perhaps the fond hopes that these 'resident scientists' will eventually think 'grand thoughts' – such as towards reducing the carbon-footprint of the fishing industry…

This reads like random clippings from some paper's weekend-edition's Science' Addendum.

c.) Under Item 4.1., the Garcia-&-Hively Model appears
- to dismiss (again) the role of urgently-needed innovation in marine-industrial context of an old port with a 30-40-years old ailing and disintegrating fleet, *in order to attract other dynamic ocean-centric innovators,*

- to understand little of e.g. *the universe of ROV design*, construction and testing for which beyond a fine up-country office and construction-shop you typically need no more than a small or large trailer, a crane or a launching ramp into fresh or salt-water - and thus most assuredly not a full-service harbor,

- under 4.1.2. to be preoccupied with the idea that Gloucester has not always been 'on the map' for decision-makers – such as for 'Ocean-Observation - to migrate here, or not,

- under 4.1.3. that local ventures by actual marine-industrial and –scientific 'Doers (!) – not some 'planners – have actually been pursuing such works since near the beginning of the economic enterprise that came to be known around the world as Gloucester, such as today NEPTUNE's HARVEST, or earlier GOOD HARBOR FILLET/PROTEUS etc. – all without high-priced 'consultants' to tell them 'what's up'…

- to continue under item 4.1.4. "Fisheries and Seafood" (barely 1 page out of this 'Plan') the unfocussed approach of the earlier "2014 Groundfish Port Recovery and Revitalization Plan" of again ignoring the core - the actual fleet and its ecology and economics – amidst a bulging grab-bag of '*41 items of importance*' but without a clear-cut grasp and thus zero potent policies to address The Obvious here in this Port-Economy,

- to have discovered 'Tourism' under 4.1.5. - actually quite well-**understood in these parts since at least the arrival of the railroad in 1848** to compete with coastal steamers, several thousand hotel-beds available at one point, then with the arrival of Rte 128, etc.

C. 2. Any potent Focus somewhere in these Slim Pickings in Items 4.2. and 4.3. under these *most Personal* Definitions of Policy-'Leadership' ??

The G-&-H model does shine in pointing out some obvious realities – as so many others of their discoveries' - mostly already well-familiar by the enterprising folks on and along this Harbor, such as the significant role of the Port-Economy in this City's economics in general. We even see numbers quoted, such as numbers of employees ! Realities indeed. Some of these numbers would *suggest the opportunity to at last demonstrate unambiguous focus by Garcia-&-Hively with this 'Plan' However, as this 'Plan' lays down before CZM, the City and history,* ***Garcia and Hively's 'preferences' of seeing 'their realities' keep both from pursuing the 'obvious'*** :

a.) Mr. Hively repeatedly dwelled in his presentations and in this 'Plan' on the (well-known) reality that the US Navy's Office of Naval Research (ONR) is indeed likely the most potent marine-scientific/marine-industrial/marine-technological funding source, citing **$4.7 billion annually** versus the largest 'civilian' such budget by the **National Science Foundation with 1.673 billion.**
This would suggest a solid engagement-policy with folks out of that US Navy and thus also the ONR environment.

However, on the SACPAS-3 project – a collaborative effort between the US Navy, Phil Bolger & Friends (us!) the City and the State –
- Ms. ***Garcia decided to not attend*** *any of the 4 meetings with US Navy leaders and staffers during that Project.*
- She **never visited** the Project in her official capacity.
- **She refused to engage with PB&F when challenges emerged during the SACPAS-3 project.**
- When asked after another Harbor-Plan Meeting, **she appeared to have no clear understanding of either the focus of the collaborative experiment, nor was even up on basic budgetary matters.**

Ms. Garcia's personal 'priorities' in dismissing those 4 occasions here in Gloucester – plus others in DC - to build a relationship with USN folks out of DC did do significant damage to the SACPAS-3 schedule and budget.
Her persistent attitude of disrespect signalled (speaking for the City ?) her disinterest in these folks coming to Gloucester with a collaborative effort on their minds. Without 'Harbor Planning Director' Garcia showing any interest.
Garcia de facto abandoned SACPAS-3.
In fact, her absence at these project-vital meetings signaled a sudden indifference of this Administration in terms of this growing relationship with USN after the initial significant commitment to it. After the Navy had boosted the funding, the City did not contribute its further share to the progress of the project. Finally the Navy would not be in a position – under federal budget-cuts, Sequestration etc. – to add further to the project.
Only private funding did allow SACPAS-3 to be completed, with now the City nor USN ever in a position to actually trst the craft. **The Experiment has been successful. It's financing and oversight by the City via Harbor-Plan Director Garcia failed in a very damaging fashion.**

In light of Ms. Garcia's incapacity to professionally attend to this modest project, and then Mr. Hively's denial of its existence altogether (see C.2.c. below) it is this no surprise to thus find no reference in this 'Plan' to either the USN-presence in Gloucester since 2002, nor any plausible proposals on how to have USN attempt again to collaborate with the City.
And yet here in this 'Plan' we read about fond hopes towards building good relationships with US Navy's ONR ?!
It thus would seem that the Garcia-&-Hively model of Port-Development has already failed in just this series of quadruple+ example of odd priorities...
Indeed, why should USN or USMC return to Gloucester with any harbor-development opportunities ?
If you cannot stick with a small collaborative project, no others will be likely.

b.) As an outside 'professional' Mr. Hively appears to reflect similar 'personal preferences' when last September '13 with unyielding conviction he strained across one hour in the attempt to convince PB&F over the phone that neither the Navy has been to Gloucester in decades, nor that anyone was building boats here... a most peculiar idea to hear forcefully put forwards as 'fact' by this well-paid consultant. ***In fact, another USN/PB&F meeting would be held by late September...***

What other hard realities would he be willing to argue with in this literally 'Quixotic' approach to consulting for this old Port-Community ?! At that point in time in business for 61 years, PB&F was indeed hands-on (!) executing PB&F's custom-design for this collaborative SACPAS-3 Project for the Navy – incidentally a low-carbon boat-building exercise in its own right.

Two astonishing Conclusions by Consultant Hively:
2.c.: Mr. ***Hively had apparently not done any homework on all the elements of this modest port-community*** **- nor was he apparently briefed by Garcia that we've been doing this work since 1952, across 600+ articles, 6 books,** lots of contributions to the paper, etc.... with SACPAS-3 by then already **twice on the Front-page of our Gloucester Daily Times, with one story featuring Congressman Tierney in the picture discussing the growing project with PB&F.**

And yet, Mr. Hively refused acceptance of that community-wide well-known reality.

2. d.) In a similar hard-to-follow quirk, Mr. Hively appears to have brought *another firm conviction* to this consultancy for Gloucester. During direct communications and his public expressions, **he appears absolutely certain that you'd need much more land than Gloucester has ever had available on the Inner Harbor since it was settled, to build any boats for our and other fleets commercially – never mind that we've had at least 5 locations on which boat were built in this town in recent memory. Again no homework done ??**

He postulated a minimum of at least 5 acres, if not 10-20 (!), before any consideration should be given to the idea of building an advanced low-carbon fishing-fleet for Gloucester. **His firmly held *belief* is that since we have no such property on the Inner Harbor, we surely cannot build any such fleet here....which thus structures his 'Harbor-Plan' right through its peculiar conclusions:**
- Hence no Voc-Tech angle for our young generation to explore building, fitting out and launching the most advanced fishing-fleet.
- Hence his physically facing SACPAS-3 fully-visible 'in 3-D' - and still arguing against her existence.
- Hence his musings about the (for him very distant) **ONR on the one hand, without then seeing on the other the immediate link between *US Navy's SACPAS-3 collaborative offer to the City* as a first modest step, as Mayor Kirk once put it.**

Mr. Hively's very *personal* preferences notwithstanding, three very different examples of commercial boat-yards building long and heavy working-craft shall suffice to illustrate that Hively's 'text-book' wisdom may indeed be far from the actual reality of the Working Waterfront here and elsewhere on New England's shores:
- 1. Essex, MA, for decades past its prime being the most productive center of fishing-craft building on the East-Coast if not anywhere on this continent, even today would have challenges to find adequate acreage to then use Mr. Hively's reasoning to build anything but dories and trailer-boats at best. And yet the largest fishing-schooners – longer than the large Gloucester Draggers today - were built in that well-protected spot on the edge of the Great Marsh, for decades and centuries actually.

- 2. Somerset, MA: Gladdin-Hearn is a contemporary and successful builder of ferries, pilot-boats, working-types, specializing in aluminum construction. Their location is a very tortured S-shaped piece of real-estate between a modest residential neighborhood and a sewage-plant, with just enough water-frontage to launch boats of up to 160-feet in length. It measures under 5 acres, with a net-coverage of building-sheds only about 25% larger than that proposed for the 'I4-C2 Ocean-Innovation Campus' boat-building facility. It does all its work on that property.

- 3. East Boothbay, ME: Washburn & Doughty are well-known for their specialty of building primarily steel harbor-tugs on that 3.5 acre property. After a massive fire, the facility was redesigned and modernized, with much of that property now for parking and optional outside materials- and hull-elements-storage - and just a single shed about the size of the proposed I4-C2 facility.

The I4-C2 project here in Gloucester would leverage the 1.8 acre waterfront property for the assembly and launching of large and thus not road-transportable craft, **with its production-process working in tandem with an uplands-facility in one of our industrial parks**, where noisy, dangerous work could be done under best conditions in preparation of all the pieces that make for a large structure like that. Then these individual pieces – a kit essentially – would be brought to I4-C2 ready to be assembled into a whole hull, until launch into Harbor Cove - with a great public party. **This way, direct replacements of older high-carbon types in our fishing-, whale-watching- and governmental fleets could be built under advanced low-carbon design-, construction- and operational principles.**

If anyone would have tolerated this nonsensical attitude, following Mr. Hively's perspective, the central contribution of 'too small' Essex to the North-West Atlantic Fishing industry should not have been possible. Nor should the efforts and performance of the Somerset folks, nor those at the East Bootbay enterprise ever been *deemed* 'acceptable' by this consultant in light of their 'improbable' and 'unproductive' property-size and -layout - or so his textbook would claim....

Therefore, judging by this 'Harbor Plan' for America's Oldest Seaport, **in his most sincerely-held consulting expertise, we are simply not to see a modern fleet, nor should we even begin to think of building it ourselves... And as far as**

he is concerned - that is that !

This sort of 'thinking' would seem to put what remains of our Fleet into its final stage of ruination, while **it also *preemptively* outsources jobs neither Garcia has so far proven to be able to bring here, nor Hively would likely seem able to attract with this 'Plan'.**

Of course, instead of text-book wisdom and snippets from FORTUNE magazine, **folks** in those locations mentioned above - as we have here in Gloucester since 1623 - **used what they had, rolled up their sleeves and scoffed at the know-it-alls who will eventually disappear over the horizon anyway, once serious work begins in earnest... And so may we here in Gloucester, engaging the demands of the 21st-century.**

D. Conclusions

D. 1. Formalities and Pseudo-Formalities:

a.) Much more could said, for instance, about petty 'formal' matters such as
- **the near intolerable 'planning' format** under Garcia's dictate – with (nominal Committee Chair) Richard Noonan always submitting to full compliance - **to limit actual public input to the least amount controllable,**
- the **absence from formal consideration, such as via presentations, *of the full spectrum of voices*** – such as ours,
- the **peculiarities of the online/e-mail notifications of up-coming meetings** often only going out at the very second the meeting is actually getting underway, and with the City's website at times being almost as unpredictable in terms of change of meeting-location for instance, etc.
- etc, etc.

b). Or the not-so-petty formal facts that
- that **only 2 members of the Commission** – 1x Fisherman and 1x Fish-Processor/advanced fish-waste processor - **actually had water-dependent business on the Harbor,**
- that 5 other members at least were real-estate-business driven, including cases whose property would be directly enhanced by the new Harbor-Plan.

The claim that this plan is "community-based" may seem formally so, but is substantively distinctly misleading when water-dependent business are in a tiny minority on the board to develop a 'Harbor-Plan', with other folks of inherently limited insights on the Port-Economy in the vast majority.

Many serious 'players', such as this business, *were never in a position to be either on the board no could even give formal presentations before it as a matter of public input on the record.*

c). Then - as on other 'summarizing' documents before - there are the sudden appearances of subject-matters in this Plan that seem to have never been discussed at any meeting to anyone's memory and notes, such as the
- well-appointed Harbor Super-Committee as on page 6 and Section 6.1. , or the
- de facto unhinging of the DPA's protections against Hotel, Condos etc. by the rather large 'back-door' under Section 5.2.3,
or the
- Port Maintenance and Improvement Fund...
etc., etc.

Other Critics of this aspect of this Harbor-Plan do address these issues at much greater detail in their Comments to CZM.

D. 2. Odd *quite personal* 'Garcia-&-Hively Rationalities' offered as 'Best Professional Thinking' for America's Oldest Seaport – only 9 years before our 400th anniversary

This 'Harbor-Plan' seems driven by the apparent Urge to |
- deny Well-Publicized Realities,
along with
- equally indecipherable 'Preferences' based on 'Personal Visions' drawing on unknown if not unknowable references...

The 'Plan' as submitted seems nice enough to read, with pretty lay-out touches and an overall appearance of 'thoroughness'. And yet, as it is presented to CZM, the community and the world of observers and potential investors, it may come to be closer to matters requiring some form of 'sympathy' than usually assumed in sober discussions around a public policy document:

a.) The example of just the utter dismissal of the needs of the Fleet or just the denial of our extensive work alone seem to demonstrate Garcia's and Hively's apparent limitations to record, then categorize, then assess to possibly finally leverage well-documented hard realities
By not engaging the obvious challenges and leveraging what we have, this 'Plan' violates our Past, and Present, while casually dismissing any firm and 'shovel-ready' Low-Carbon Future for ourselves and then the next generations, *thus throwing away the central Port-Recovery tool any port and any fleet must focus on.*

b.) The unfortunate combination of the **peculiar (personal) approaches** brought to this project **by Garcia and Hively and their 'agenda'** – as documented in the **refusal to accept the realities in our fleets** and the inherent rich range of obvious economic development opportunities - have overwhelmed any plausible chance with this 'Plan' to produce a viable port-economic matrix upon which to build a thriving future. **This 'Plan' is a strange display of a very idiosyncratic definition of 'professional services' in full public view, which will likely be the source of much discussion for years to come as an example of *not* serving America's Oldest Seaport in its desperate time of serious needs.**

c.) Instead - apparently reflecting the (relative ?) reach of its authors - it is an under-ambitious narrow-base real-estate manipulation tool exercise without much more focus than the apparent intent to further weaken the Commonwealth's DPA-protections of the limited Waterfrontage we have left in this State. And that is of no 'service' to anyone in this community.

As Garcia and Hively should know, Gloucester has made it across nearly 400 years of mostly thriving economic performance by engaging in the obvious challenges and opportunities, **often turning those problems into profitable chances to boost this local economy's fortunes. This Harbor-Plan DRAFT reflects little of that spirit, appearing limited to snippets of the science-supplement of some weekend-edition – rather than hard unarguable economic and ecological analysis and thus emerging opportunities.**

So it would seem that **under the "Hively-&-Garcia Model of Gloucester-Development" the Commercial Fishing Fleet will still not receive any unambiguous support by this community, to at long last move into the 21st-century of Port-Economics and thus re-emerging fleet and port–sustainability – all based on resource-sustainability.**

And that will make for bad politics in-town and observations from without for years to come.
The most public of ways to turn off potential investors you'd actually want here, is to let the Fishing Industry Disaster continue without stirring a finger – as this 'Plan' clearly proposes:
- It is one thing to simply not know what to do about our Port-Economy with our Fleets at the center of it.
- But it is quite another to explicitly refuse to engage in the obvious, and to never explore how far towards 'recovery' this it might go.

Based on serious work in that forum since 2002 – actually since well before Ms. Garcia even went to school to study Community-Development - , this Small Business 'Phil Bolger & Friends' of Gloucester has succeeded to get its indeed 'best thinking' into rather high levels of defense-deliberations. And as General Amos chose to structure his argument, our work is indeed mentioned at greater length than the *ONR*-project following ours... ! All visible

online at USNI.org, and in the body of attachments of this printed version of the CZM Commentary.

Therefore, discarding soon (and often !) the urgent gospel of dark self-limitations proffered across a year now by 'Garcia-&-Hively', Gloucester is certainly able to leverage 'shovel-ready' local 'can-do' attitude and many other such opportunities as well. There is no doubt, that with what Gloucester already has, we sure can do better than Garcia-&-Hively appear to be able to…

Sarah Garcia has pretty well already self-defined her tenure here in town - with no doubt to his surprise Kevin Hively experiencing his 'share' of 'this thinking' with his name now associated with it.

However, for both the community, our elected and appointed officials and of course our State Agencies from CZM over DMF to DEEA, the accelerating risk of losing the Fleet by omissions, thus de facto giving up on Gloucester's Working Waterfront altogether, will not be the historic record anyone would want to see pinned on themselves for good !!

This 'Plan' is nowhere near 'best thinking' by any stretch of available imagination – and for the budget invested !
It is in fact a tragic example of embarrassing 'personal' matters, apparent challenges that should have none of the broad damaging impact on this community's future this Plan 'as is' will have.

Both Sarah Garcia and Kevin Hively have left this City for good months ago...

A Fold-Up Landing Craft | Stopping Sexual Assault

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The FUTURE ARCTIC

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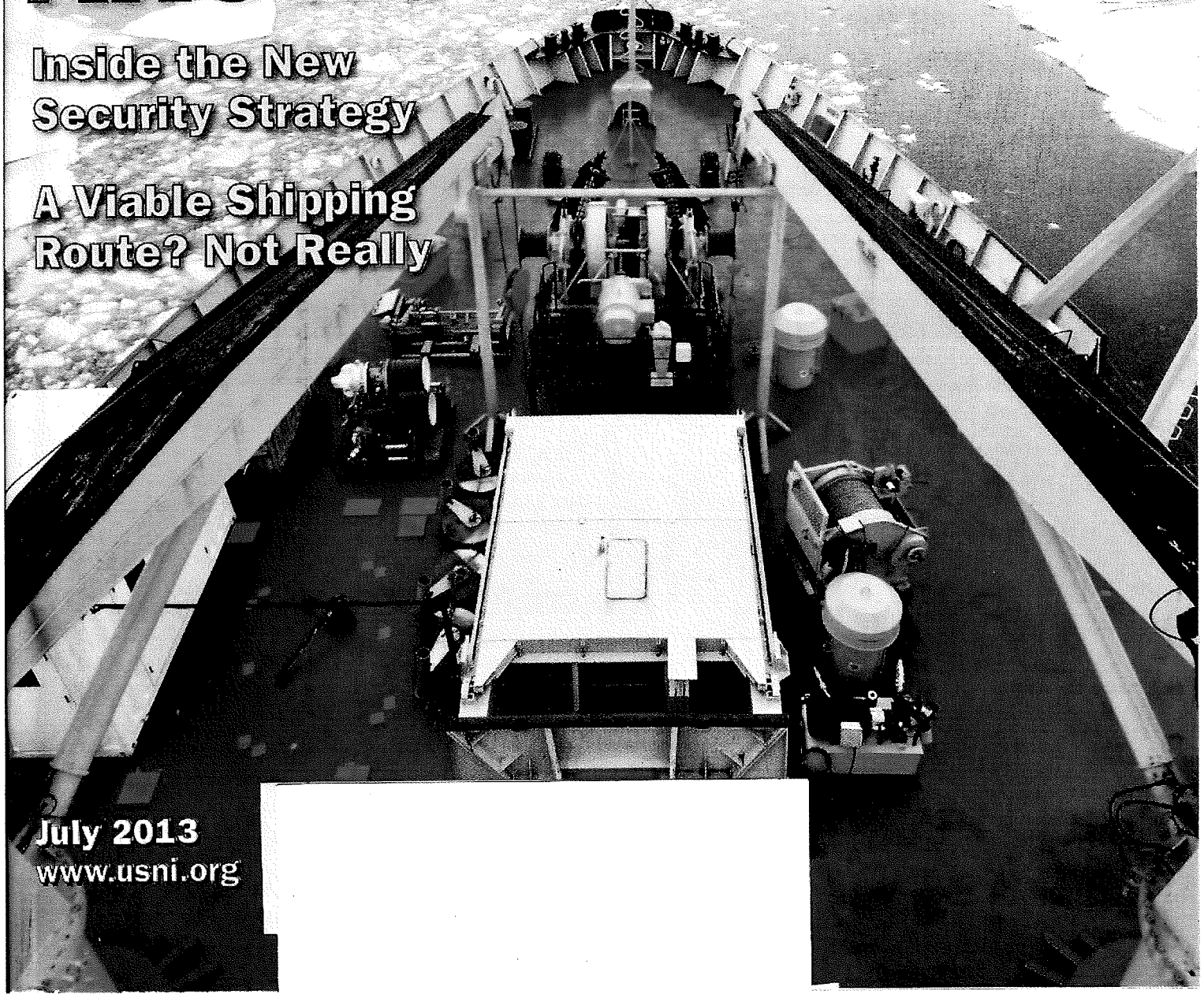

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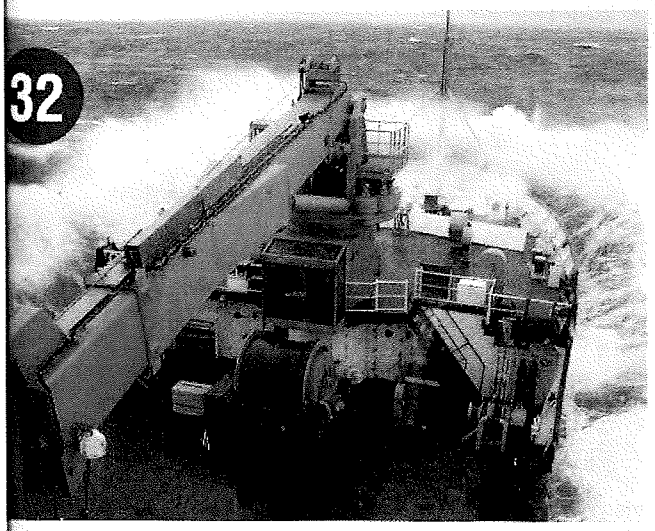

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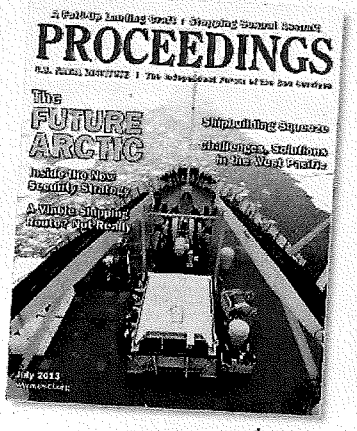
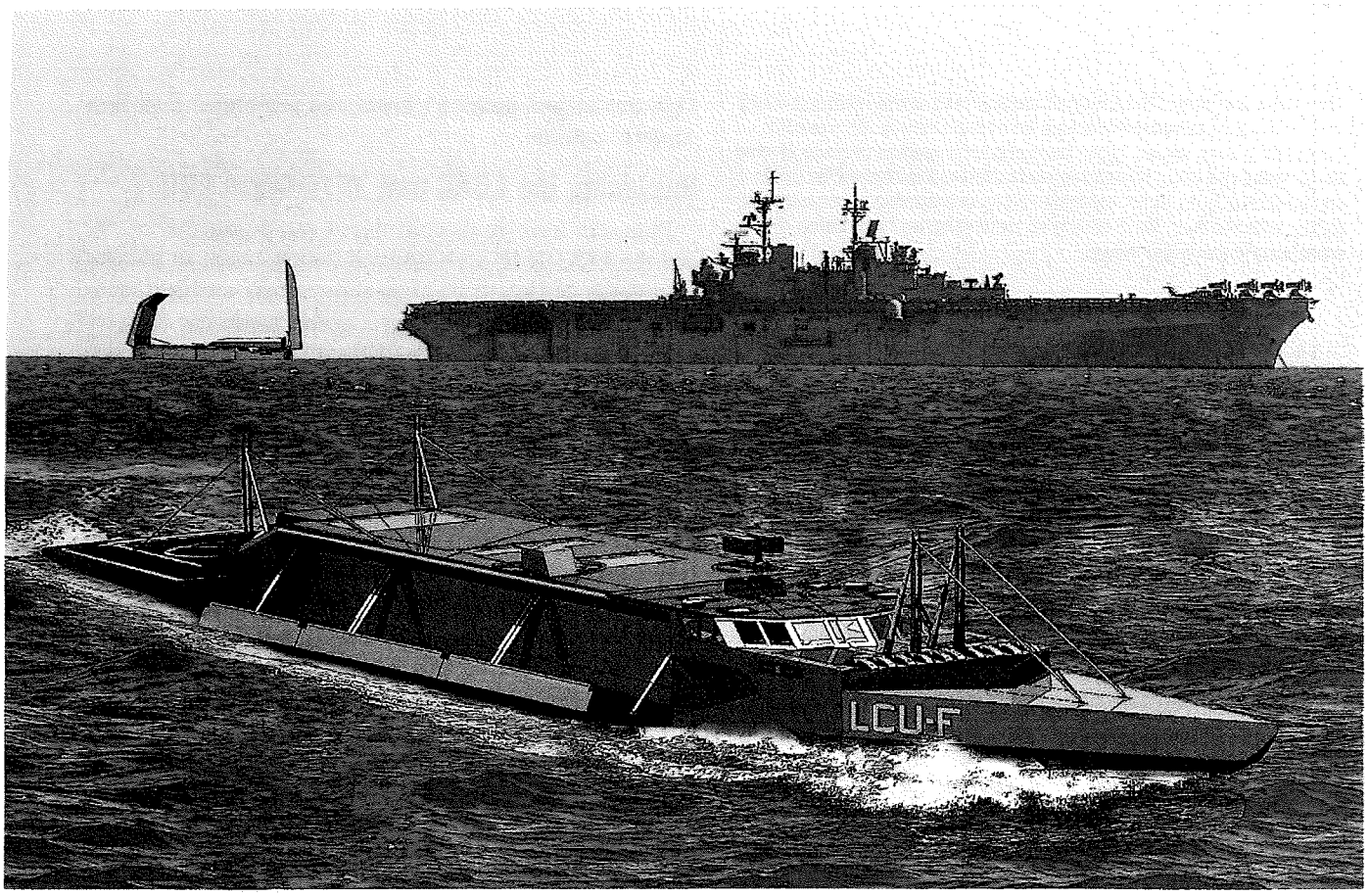
THIS MONTH'S COVER

The Canadian Coast Guard's heavy Arctic icebreaker *Louis S. St-Laurent* follows a path cut by the U.S. Coast Guard icebreaker *Healy* (WAGB-20) during research of the North American continental shelf. Our special section on the current and future state of the Arctic region begins on page 18. U.S. COAST GUARD (PATRICK KELLEY)





A LANDING CRAFT *For the 21st Century*

By Susanne Altenburger; Commander Michael Bosworth, U.S. Navy (Retired); and Captain Michael Junge, U.S. Navy

The old landing craft utility (LCU) is too small and too slow for today's amphibious landings. Here's a proposed successor—with a new, outside-the-box design.

The Navy needs a new, 21st-century landing craft utility (LCU)—the kind of flexible, shallow-draft, fast-moving cargo-carrier required for putting Marine Corps tanks and armored vehicles ashore during a modern-day amphibious landing.

To be sure, technological breakthroughs have given warfighters a wide array of options for transporting personnel and equipment during the first wave of an amphibious landing. The LCAC (landing craft, air cushion) and the MV-22 tiltrotor aircraft are the newest additions. The Navy is modernizing many of the older workhorses in its amphibious fleet, from the AAV (amphibious assault vehicle) to the LHD-1, LHA-6 and LPD-17. And tactics such as vertical envelopment using large numbers of helicopters have proved effective for limited operations. Indeed, no other navy can match the United States' for numbers, technology, or breadth of experience.

This rendering shows the proposed landing craft utility-folding (LCU-F) under way, with sponsons extended for added stability. The authors argue that a new, larger, faster landing craft is needed because Marine Corps tanks and other equipment are becoming too big and heavy for the traditional LCU. In the background are an amphibious assault ship (LHD), with another LCU-F folding its stern-ramp and bow before being taken aboard the larger vessel.

Under current doctrine, amphibious assaults are carried out by a Marine Expeditionary Unit (MEU) embarked as part of a Navy Amphibious Ready Group (ARG) consisting of an amphibious assault ship, multipurpose (LHD), and two amphibious transports—an amphibious dock landing ship (LSD) or amphibious transport dock (LPD). Skeptics may well ask, why do we need anything more?

New Threats, New Challenges

But the picture isn't quite so comforting if you compare the capabilities of the current choices against the Marine Corps' needs for launching amphibious operations. While U.S. forces haven't mounted any large-scale amphibious attacks in recent decades, they have been called on repeatedly for missions ranging from combat to disaster relief, deploying a wide array of equipment and payloads. In this capacity, they are facing new asymmetric warfare threats from rogue states and hostile insurgent forces, many of which now have access to precision-guided rockets, artillery, mortars and missiles, along with short- and mid-range antiship weapons that provide them with anti-access and area-denial (A2/AD) capabilities. In 2006, for example, non-state actor Hezbollah fired an Iranian-built C-802 against an Israeli Sa'ar 5 corvette. The possibility of being hit by such weapons is pushing our large amphibious support ships farther out to sea—and in the process making the job of getting from the ships to the beach even more daunting and precarious.

Moreover, whether a Marine Expeditionary Unit (MEU) faces regulars or irregulars, the vehicles most likely to survive on the battlefield ashore typically are the heaviest—armored tracked and wheeled vehicles such as tanks and personnel carriers. Yet, the increasing weight of our new armored vehicles often exceeds the ability of our air- and landing-craft to carry them from the support ships to the beach. The plodding speed of the AAV-7 Amphibious Assault Vehicle and the high fuel consumption of the 40-knot LCAC and the limited 15,000-pound external lift of the combat-loaded MV-22 Osprey tiltrotor aircraft are all significant tactical limitations.

The Marine Corps thought it had a partial solution in the high-technology Expeditionary Fighting Vehicle (EFV), but the Defense Department canceled the project in 2011 in favor of refurbishing the AAV and procuring a cheaper Amphibious Combat Vehicle (ACV). As a result, today's heavy-lift capability depends primarily on the 50-year-old *1610*-class LCU and related landing craft, which are slow and aren't designed to make the most of in the support ships' 50-foot-wide well decks. The current LCU measures 135 feet by 30 feet, carries 160 tons to 180 tons at just under 11 knots and requires a nine-foot depth to operate.

Replacing the LCAC and *1610*-Class LCU

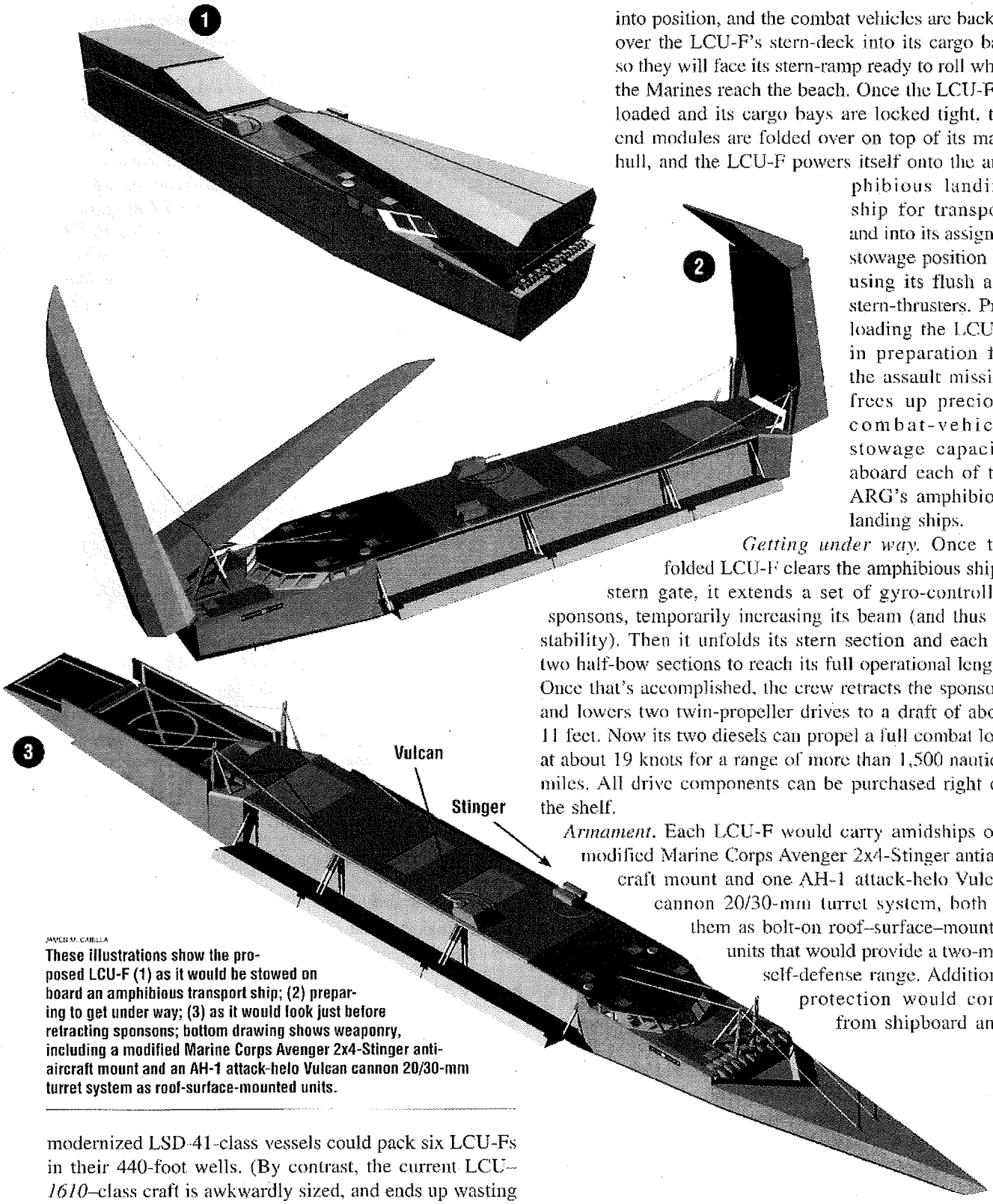
Planners have long considered replacing the LCAC and the LCU-1610 with updated designs such as planing monohulls or enlarged, high-powered air-cushion technology. The LCAC's presumed replacement, the Ship-to-Shore Connector (SSC), is similar to the LCAC in speed and carrying capacity, with slightly better fuel consumption. And the successor to the LCU-1610 reportedly offers the same hull, the same speed, and the same capability as the current model, with updated electronics and stronger steel. But neither design capitalizes on the kind of breakthrough concepts and technologies that would make the successor landing craft more effective and affordable. And even with the MV-22 Osprey, the Navy and Marine Corps still lack the kind of fast, heavy-lift capability needed to transport a modern-day assault force ashore.

We propose a Landing Craft Utility-Folding (LCU-F). The innovative design would provide the higher speed, larger payload capacity, greater fuel efficiency and better beach-landing ability needed to fulfill today's amphibious force requirements, yet the LCU-F could be folded up to fit neatly into the standard well decks of the major amphibious transport ships. The new LCU-F would be based on a novel concept—a folding landing craft—developed by the team of the late small-boat designer Phil Bolger and Susanne Altenburger of Phil Bolger & Friends. The unorthodox configuration is designed to take advantage of age-old hull-speed geometry to provide a modern-day landing craft that, when expanded to its fold-out length, can get more speed for the horsepower than conventional LCUs.

Like a Swiss Army Knife

In drawings illustrating the folding process, the proposed LCU-F prototype looks something like a Swiss Army knife—with its ends folding both outward and inward. When the boat goes into the water, the mostly empty bow and stern modules are folded out to extend the length of the vessel (see drawing on next page) and increase her maximum hull speed. With a boat length of 270 feet, a beam of 22 feet, and a draft of 4.5 feet, the LCU-F could carry up to 200 tons of personnel and equipment at a speed up to almost 20 knots—a far better performance than the current LCU–1610–class craft (see table on page 64). Besides adding to the length of the new landing craft, the hinged modules provide a wave-piercing bow and a stern ramp for the LCU-F and give it added displacement to support the weight of the vessel's cargo.

When the LCU-F is stowed aboard a well-deck ship, with its bow and stern modules folded back over the main hull, it measures 143 feet long, 22 feet wide and 20.5 feet high—a package that fits neatly (in multiples) into the standard well decks of the Navy's existing amphibious ships. Indeed, most of the support ships could carry at least two LCU-Fs in their well decks, and the recently



JAYES M. CAIELLA

These illustrations show the proposed LCU-F (1) as it would be stowed on board an amphibious transport ship; (2) preparing to get under way; (3) as it would look just before retracting sponsons; bottom drawing shows weaponry, including a modified Marine Corps Avenger 2x4-Stinger antiaircraft mount and an AH-1 attack-helo Vulcan cannon 20/30-mm turret system as roof-surface-mounted units.

modernized LSD-41-class vessels could pack six LCU-Fs in their 440-foot wells. (By contrast, the current LCU-*1610*–class craft is awkwardly sized, and ends up wasting valuable space aboard amphibious transport ships.)

Here's how the LCU-F would work:

Pre-loading the LCU-F for combat. In anticipation of a hot landing—i.e., not a training cruise—the MEU's vehicles and equipment are pre-loaded onto the LCU-F from a shore-side base or one of the new mobile landing platforms (T-MLPs). The unfolded landing craft eases its stern into position, and the combat vehicles are backed over the LCU-F's stern-deck into its cargo bay, so they will face its stern-ramp ready to roll when the Marines reach the beach. Once the LCU-F is loaded and its cargo bays are locked tight, the end modules are folded over on top of its main hull, and the LCU-F powers itself onto the amphibious landing ship for transport and into its assigned stowage position by using its flush and stern-thrusters. Pre-loading the LCU-F in preparation for the assault mission frees up precious combat-vehicle stowage capacity aboard each of the ARG's amphibious landing ships.

Getting under way. Once the folded LCU-F clears the amphibious ship's stern gate, it extends a set of gyro-controlled sponsons, temporarily increasing its beam (and thus its stability). Then it unfolds its stern section and each of two half-bow sections to reach its full operational length. Once that's accomplished, the crew retracts the sponsons and lowers two twin-propeller drives to a draft of about 11 feet. Now its two diesels can propel a full combat load at about 19 knots for a range of more than 1,500 nautical miles. All drive components can be purchased right off the shelf.

Armament. Each LCU-F would carry amidships one modified Marine Corps Avenger 2x4-Stinger antiaircraft mount and one AH-1 attack-helo Vulcan cannon 20/30-mm turret system, both of them as bolt-on roof–surface–mounted units that would provide a two-mile self-defense range. Additional protection would come from shipboard anti-aircraft weapons systems in the rear, from surrounding helicopters, and from carrier-based fixed-wing aircraft.

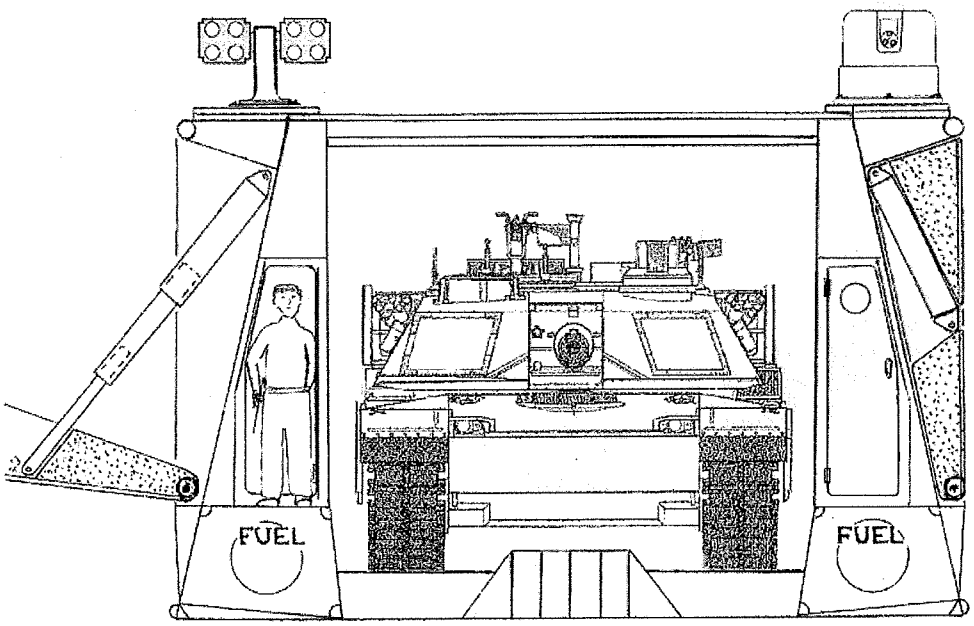
Landing. Because of its unusual configuration, the LCU-F would require an unconventional landing. Just over the horizon from the beach, the LCU-F would turn its stern-ramp to the beach and accelerate stern-first, with its vehicles and

weapons now facing the shore. Before entering the surf-zone, the estuary, or the salt-marsh tidal river, it retracts its prop-drives and moves at up to ten knots using a set of flush 360-degree main and stern thrusters, drawing just 4.5 feet.

On the beach. Once the LCU-F reaches the shore, it drops its stern ramp, and opens its cargo gate and rear-bay roof-hatch, and personnel and equipment use the stern ramp to get ashore. With its bow already facing seaward, the LCU-F uses its two thrusters to move off the beach until the prop-drives can be lowered again for the run back to the LHD or other amphibious transport ship.

Return to the ARG. Back offshore, the LCU-F remains unfolded, retracts the prop-drives and enters the amphibious support ship's well-deck stern-first under its two flush thrusters to receive the next load of MEU combat and support equipment and troops. The medium tactical vehicle replacement (MTVR) 6x6 with 20-foot container, or the 14-foot tall rough terrain container handler protrude through the after-cargo-bay's sliding roof. Longer and higher vehicles, such as 8-by-8s and 10-by-10s, ride outside on its stern.

Admittedly, the innovative concept requires some compromises: Designing the LCU-F to head toward the beach at 20 knots means equipping it with a wave-piercing bow and forgoing the traditional bow-ramp that has become an icon in World War II-era movies. So the new landing craft wouldn't be capable of drive-through operation. But its ability to back onto the beach and use its stern-ramp more than makes up for that.



COURTESY OF THE AUTHORS

A cutaway drawing shows the proposed LCU-F (from the stern-ramp) with an Abrams M1A2 tank in the cargo space and personnel passageways on each side. The design is intended to carry larger vehicles and more personnel than traditional LCUs can accommodate.

Single First Wave

An ARG that comprises one LHD (with three LCACs on board) and two LSD-41s (carrying a dozen LCU-Fs) could deploy its forces to 15 shore-side insertion points. The combination would enable the MEU's full ground-combat complement of Marines, along with their tanks and personnel carriers, to arrive together as a single first wave and proceed inland immediately without waiting for each other on or near the shore.

The addition of the LCU-F also would pave the way for significant changes in the planning and execution of amphibious assault landings. The new vessel's high heavy-lift speed, range, and number of hulls available would vastly expand dusk-to-dawn maneuvering-distances. The amphibious support ships could stay offshore at much safer distances—100, 150 and even 200 nautical miles from shore—far enough to evade adversaries' missiles. With such a large assault-radius, the Marine units would be better able to hide their intentions from enemy forces.

At the same time, however, distances closer to 100 nautical miles would pose difficulties for the combat-loaded AH and UH helicopters, which typically can't carry enough fuel to make such trips and take part in the battle also. One possible solution would have the helos fly off the LHD and for one of them to land on the stabilized stern-deck of each LCU-F right at the end of its unfolding process. The LCU-F could thus carry one AH or UH helo until the force is much closer to shore—a plan that would leave the helos with enough fuel to carry out their assault actions. Another is to keep one or two LCU-Fs near the shore to serve as forward refueling platforms for the helos until shore-based refueling facilities are in place. These concepts require further study and experimentation.

Distances of more than 100 nautical miles from the beach would exceed the capability of LCACs and SSCs as well, since both vessels consume large amounts of fuel and have shorter ranges than the LCU-F would. In such cases, the LCU-Fs could be assigned to carry the heavier loads and possibly provide partial refueling for the LCACs and SSCs.

As everyone in the amphibious operations community knows, there are plusses and minuses to all landing craft. Whatever its other advantages, the LCU-F can't possibly match the 40-knot speed of the LCAC and its unique over-the-beach capability. But the LCAC and SSC can't carry as much for as long a distance as the LCU-F can.

Part of a Family

We suggest that to provide the most flexibility and the highest likelihood of mission success the Navy establish

A Tale of Two LCUs

LCU 1610-class (per USN fact-file)		LCU-F	
Length	135'	Length, unfolded	270'
		Length, folded	143'
Beam	30'	Beam	22'
		Height, Folded in Dry Well Deck	20'6"
Full Load Hull Draft	7'	Full Load Draft w/ Flush Thrusters	4'6"
Full Load Maneuvering Draft in Beach and Estuary Shallows	9'	Full Load Draft, Prop-Drives Extended	11'
		Full Load Maneuvering Draft in Beach and Estuary Shallows	6'6"
Full Load Displacement	375 tons	Full Load Displacement	420 tons
Cargo Capacity	160-180 tons	Cargo Capacity	200 tons
Cargo Deck Area	2,185 sq ft	Cargo Bay Area, With Deck	2,217 sq ft
Power	2x 680 hp	Power	2x 1200 hp
Speed	11 kts	Speed at 420/300 Tons Displacement	19 kts-20 kts
Range	1200 nm	Range Full Load	1,500 nm

an SSC and LCU-F "family of amphibious lighterage" (FOAL) that includes landing craft with complementary capabilities. A FOAL of SSCs and LCU-Fs (or any analogous LCU-X of medium speed, heavy load capability) would provide both full amphibious capability and substantial first-wave capability at various ranges. Neither is as good as the other in their specific strengths, but each easily mitigates the other's weakness.

Another advantage: Once the first wave of the amphibious assault is over, the LCU-F could quickly be reconfigured to serve as a 55,000-gallon combat tanker or as an inshore fire-support platform for several six-tube Marine Corps HIMARS rocket artillery systems or its related 12-tube MLRS. Beyond amphibious operations LCU-F could deploy as a helo- and small–craft–equipped mother ship for special forces operations, or engage in piracy-interdiction—all dramatically increasing its tactical utility to the Navy.

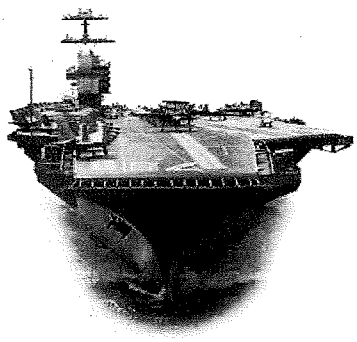
Pairing the LCU-F with the high-speed air-cushion LCAC/SSCs would give the Navy-Marine Corps Team an unparalleled capability for fast amphibious lift from well over the horizon. Amphibious assault capability remains one of the distinguishing advantages of the United States maritime forces, but it can no longer be single-purpose, exotic, or expensive. The LCU-F is one potential solution.

Ms. Altenburger and the late Phil Bolger developed the LCU-F as the principals of the design firm Phil Bolger and Friends Inc., in Gloucester, Massachusetts. Ms. Altenburger now heads the firm.

Commander Bosworth is deputy group director of the Chief Technology Office of the Naval Sea Systems Command. Previously, he was program manager of Ship and Force Architecture Concepts (SFAC), an advanced research and development program managed by NavSea. SFAC chartered the study on this topic.

Captain Junge is a professor of joint military operations at the Naval War College. He served as commanding officer of the USS *Whidbey Island* (LSD-41).

THE MOST POWERFUL



The nuclear-powered aircraft carrier is the ultimate signature of America's military might. Huntington Ingalls Industries' (HII)–Newport News Shipbuilding division is the sole shipbuilder capable of building these highly complex, technologically advanced Navy ships. The first three ships in the new class, *Gerald R. Ford* (CVN 78), *John F. Kennedy* (CVN 79), and *Enterprise* (CVN 80) and subsequent ones to follow, will each serve America for at least 50 years. The *Ford* class, designed to significantly reduce

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total ownership cost, will be the most flexible and capable demonstration of U.S. forward presence and power projection around the world. Multiple design enhancements will result in increased combat power and flexibility for future technology insertion while reducing manpower and operating cost. HII is proud to build the ships that provide Americans with the global presence and security we need—now and in the future.

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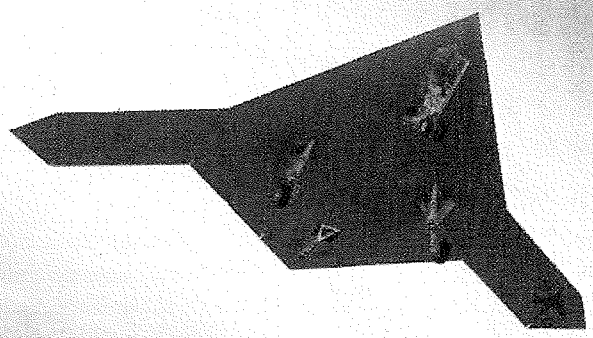


Land-Based Growlers

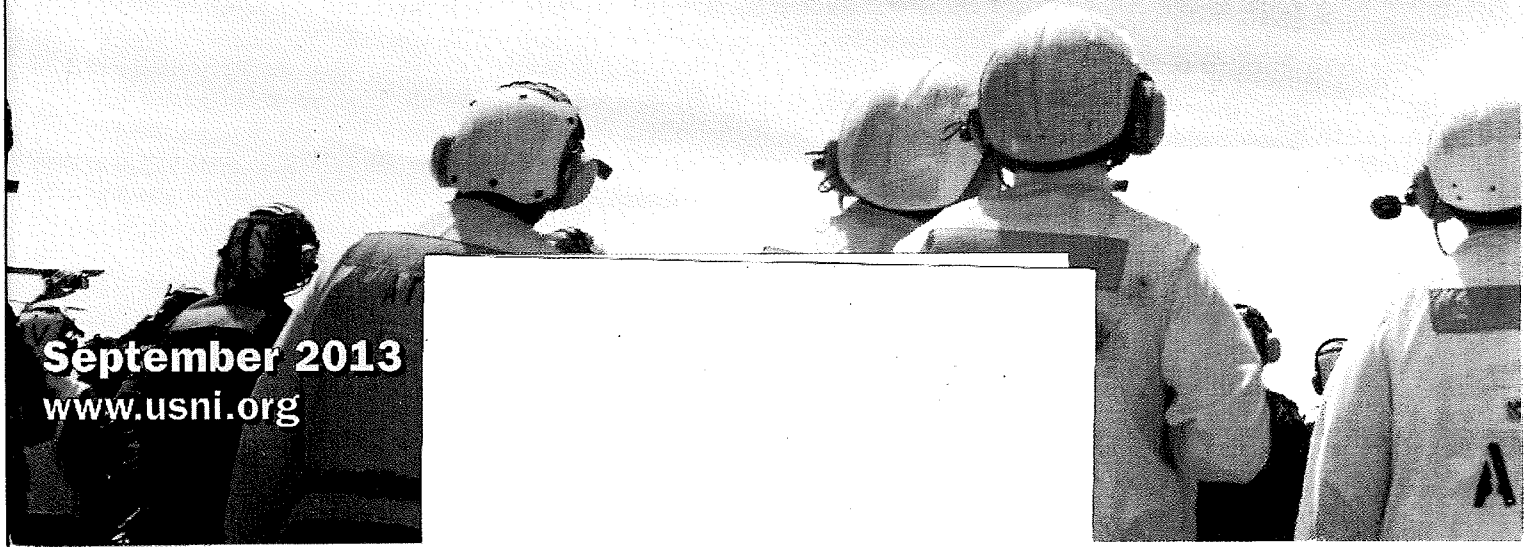
Drones on the Way

Improve Helo Tactics

Littoral Flotillas

The Power of Influence

A New Deterrent: Ballistic-Missile Defense



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Hormone Treatment for PTSD

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Reinvent the Fifth Armed Service, Quickly

The LCS Games Continue

(See J. Howe and J. Dolbow, p. 28, and N. Polmar, pp. 84–85, August 2013 *Proceedings*)

Commander Trevor A. Blow, U.S. Navy Reserve—I would like to correct a statement made in the article by Captain Howe and Lieutenant Dolbow. The Department of Homeland Security (DHS) currently has two organic air components, not three. Legacy Customs Aviation and Border Patrol Aviation were combined under U.S. Customs and Border Protection (CBP) in 2005 under CBP-Air. The combined group is currently known as CBP—Office of Air and Marine (OAM). OAM trains, organizes, and equips more than 600 air-interdiction agents (AIA) and operates more than 200 aircraft.

The argument for centralizing DHS maritime aviation resources within the U.S. Coast Guard to save cost is flawed. OAM's missions support customs enforcement and investigative support, overland and within the littorals. The Coast Guard's expansive missions and authorities don't allow for the focus or the capacity necessary to carry out CBP missions.

With regards to cost savings, CBP's AIAs serve as federal agents in a lean law-enforcement construct. These AIAs join CBP as commercial pilots fully rated by the Federal Aviation Administration; they will serve the vast majority of their 20-year service in the cockpit, because CBP does not have the sea-tour/shore-tour rotations of a traditional naval organization. A Coast Guard aviator will spend about ten years in a flight station during his or her career.

It is also interesting to note that other law-enforcement organizations have distinct aviation branches. For example, the Department of Justice has three large air branches at the Federal Bureau of Investigation, the U.S. Marshals Service, and the Drug Enforcement Agency. Experience within the Department of Defense has clearly demonstrated the need for the services to have their own air components to support their missions and not to restrict them by geography. DHS agencies are best served by several air components. Savings will not be gained by simply dividing these air branches into land and maritime groups, and most important, missions will not get done.

Remo Salta—It was stunning to read Captain Howe and Lieutenant Dolbow state that "Instead of common-sense collaboration—such as identifying a shared hull form that could be modified for the specific mission requirements of two services, and could be produced at high-volume/low-unit cost—the nation is now burdened with three highly expensive production lines (operating at relatively low volumes) and three unique maintenance-and-supply architectures, wasting billions of dollars in the process." This is an excellent example of why many Americans never seem to care about the financial problems the U.S. Navy faces. For all the whining and carping about the horrific consequences of sequestration, it's hard to make a case that the Navy needs more money for more ships when you have such programs as the problem-plagued littoral combat ship (LCS).

Think about how much money could have been saved if a common hull and a common ship were used for both the LCS program as well as the Coast Guard's national-security cutter. Not only would we have produced a far more flexible and versatile fleet of ships, but through the cost savings realized by having a common hull we probably would have been able to actually build *more* ships. Now we literally have three different types of ships and there are still no guarantees *at all* that the LCS concept will work. In fact, there are a number of warning signs that the whole LCS program is a disaster. All of these points are covered by Mr. Polmar in his column.

But given all of the shortcomings of the LCS, given all of the wasted time and money with this program, the key question still is: Will she work in battle? The LCS is beginning to look a lot like the old battlecruisers the Royal Navy had going into World War I. They were supposed to be able to outfight anything smaller than a battlecruiser, and be able to run away from anything bigger than them. And how did that concept work out

for the Royal Navy when so many battlecruisers were lost at Jutland? Worse, does anybody remember what happened to the then-outdated battlecruiser HMS *Repulse* when a technologically advanced weapon like the airplane was used against it by the Japanese in World War II? The LCS is *much* smaller than the old-time battlecruisers, but the idea seems to be the same, and it looks like we are doomed to repeat past mistakes already made by other navies.

And yet, nobody is held accountable for the LCS mess, and the only thing the Navy seems to want is more money to keep the program going. And to this day, nobody has made a compelling case for *why* we need two versions of the LCS. It's about time the Navy stops whining about needing more money and starts getting better results with the adequate funds it already has.

A Landing Craft for the 21st Century

(See S. Altenburger, M. Bosworth, and M. Junge, pp. 60–64, July 2013 *Proceedings*)

Colonel David C. Fuquea, U.S. Marine Corps (Retired); professor, U.S. Naval War College—It was a pleasure to see a peripheral area like landing craft getting publication space in *Proceedings*. I applaud the authors for providing professional, yet serious criticism of the state of the naval services' ability to move ship-to-shore (STS). The anachronistic nature of our current capabilities means we operate with the same speed/range as our grandfathers in 1943. Despite the incredible capability of the F4U Corsair, no one demands the next generation of fighters mirror this historic aircraft instead of the F-35. Yet, naval leaders are quite happy to advocate a replacement for the amphibious combat

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vehicle and landing craft, utility (LCU) that would mire the naval services' STS capability in the same slow, short-range transit that is most vulnerable to the very threat, anti-access/area denial (A2/AD), that is the major concern in the 21st century. The authors make a great case to bring this argument to the forefront of naval-procurement discussions.

I would question the authors' hypothesis of the value of their craft, however, from the perspective of "Keep It Simple." The "Swiss Army knife" design is incredibly complicated from both a deployment as well as an employment perspective. The requirement to unfold both bow and stern components after leaving the well deck will take time, even if it always works correctly. I question if the complicated fitting of the two sections to the hull could be accomplished in any sea state. Simple maintenance problems in retractable propeller drives would create challenges from which there would be no recovery. The authors are dismissive of the difficulties in the shift from running forward to turning around and going "stern first" to the beach. Coordinating current landing craft that do not have to spin 180 degrees to make a landing is already a serious challenge. This complicated design does offer additional speed and lift, but only of a marginal degree. The transit time gained from the increase to 20 knots would be lost by the complications of "unfolding" and spinning around to land. Finally, this one-trick pony would have little utility in any role or mission after departing the well deck beyond being a tanker.

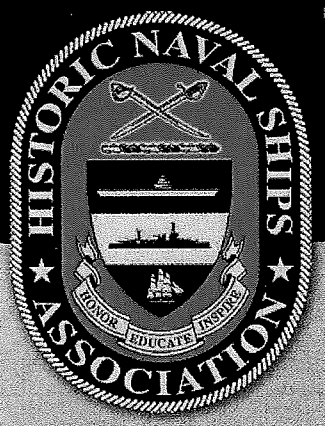
Technology today does offer alternatives to overcome the real flaws of current STS movement identified by the authors. Air-supported-vessel (ASV) technology can provide landing craft of similar lift capability as the current LCU, speeds over 50 knots, and a two-foot draft. ASVs are employed by the Russians in the Caspian Sea, with great simplicity and bow ramps. Smaller versions can be davit-mounted, allowing landing forces to be delivered with speed in a single wave. These vessels could execute security, counter-drug, and blockade missions with no reconfiguration. Ranges of 250 nautical miles provide the necessary standoff in the A2/AD environment.

The naval services need STS capability for the 21st century. The authors clearly articulate the requirement. It is time to listen to them and procure landing craft that parallel the F-35 and not the F4U.

Hormone Treatment for PTSD

(See P. R. Martin, pp. 79–80, August 2013 *Proceedings*)

Captain Jonathan L. Davis, U.S. Navy Reserve (Retired)—I am quite happy to see this article addressing a very important issue. I am, however, confused as to why "the adrenal fatigue syndrome" and bio-identical hormone-treatment therapy were included. Both are highly controversial and would require tremendously large and expensive trials to prove their efficacy. Even with this I doubt either side in these controversies would ever agree on anything.



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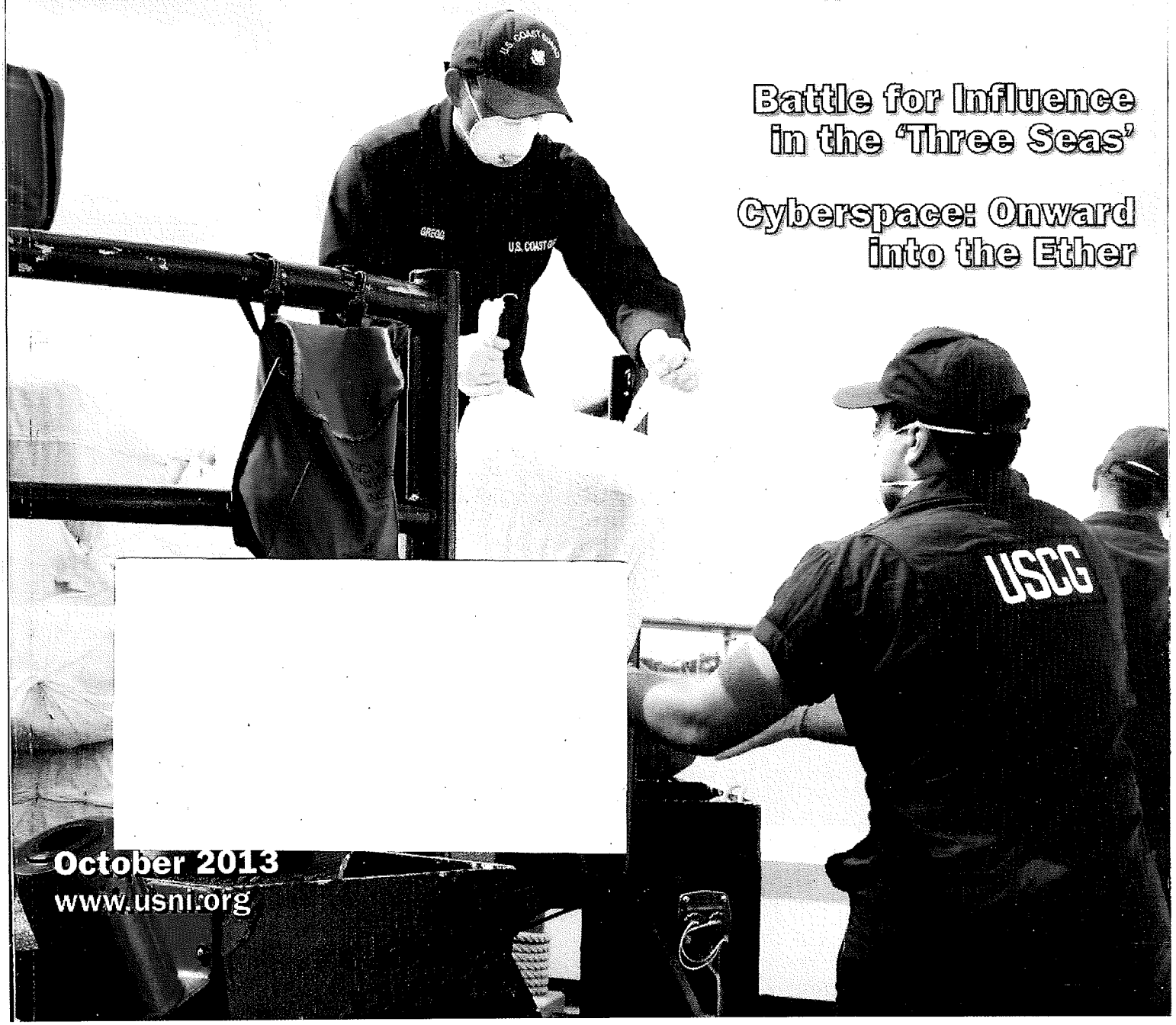

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Don't Give Up the Ship(s)!

Learning From IEDs

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'Semper CVN!'

(See S. C. Truver, p. 10, September 2013 *Proceedings*)

Commander Phillip E. Pournelle, U.S. Navy—Dr. Truver's column, like its battle-cry title, was long on emotion and short on facts. Several important points were left out.

The recurring and non-recurring costs for the *Ford*-class aircraft carrier continue to climb and may be a contributing factor as the current administration considers reducing the Fleet to eight operational carriers. A Congressional Research Service report indicates the *John F. Kennedy* (CVN-79) will cost $11.3 billion and the *Enterprise* (CVN-80) will cost $13.9 billion, far greater than the $9.5 billion per ship claimed. By focusing on payloads instead of the platforms that deliver them, the U.S. Navy may be able to escape having its fate tied to the escalating costs of aircraft and carriers.

If the *Jane's* assessment is correct and China's DF-21 missile employs a cluster of flechette penetrators, destroyers and submarines will be far less vulnerable than an aircraft carrier overlaid with thin-skinned aircraft and exposed personnel on an open flight deck. The aircraft carrier's significantly high signature makes it far easier to locate, target, and hit with a seeking weapon. More important, the aircraft carrier represents a significant concentration of capabilities into a single platform, creating an inviting target and a brittle force. This vulnerability forces destroyers and cruisers to defend it, decreasing their effectiveness in other mission areas, including strike.

It is true that looking back with a clear eye enables one to see farther ahead. The mistake of the "Battleships Forever" club was not having a clear understanding of the technological and operational forces driving their effectiveness. Let us not make the same mistakes today regarding the aircraft carrier.

Neglected Intelligence: The Japanese in the Solomons Campaign

(See J. Prados, pp. 66–71, August 2013 *Proceedings*)

Terry McKearney—Some time ago I did my thesis on the World War II Solomons campaign, specifically, what were the factors leading to American naval forces' tactical success or failure in individual battles? With the recent declassification of the "Ultra" efforts, I naturally looked at the likely impact of this new intelligence on the decision-making capability of American commanders locked in the violent battles for the waters of Iron Bottom Bay, the Slot, and even farther north to Vella Lavella and Kolombangara. While I found certain instances where American commanders likely used Ultra intercepts to stage forces, I found little direct evidence that these provided them a reliable advantage in countering Japanese efforts to move within the area. I reached this conclusion after reviewing the declassified Ultra intercepts and realizing that the processing of the information and its subsequent transmission to the tactical commanders took too long to be of much value to them.

There were certainly procedural difficulties in handling the highly classified and sensitive Ultra data, and Dr. Prados' observation that there was a general Japanese institutional and cultural reluctance to rely on tactical intelligence may have applied to the American commanders as well. In any case, the essential question is whether or not we have corrected the problem of adequately integrating signals, cryptology, or otherwise "special intelligence" into our tactical planning and decision making. I'd contend: not as well as we should have by now. Although special-intelligence detachments and facilities are more widely dispersed throughout the Fleet, I do not believe that tactical-level commanders appreciate the impact that information available from higher-level intelligence sources can have on their immediate planning and operations. The intelligence community, which I consider to be intel officers as well as information-operations officers (cryptologists), must work harder to bring their knowledge and insights into the flag plots and tactical flag command centers of the Fleet, and line officers need to see the resources of the intelligence world as theirs to use as they hunch over the chart table or tactical display.

A Landing Craft for the 21st Century

(See S. Altenburger, M. Bosworth, and M. Junge, pp. 60–64, July 2013; and D. C. Fuquea, pp. 9. 82, September 2013 *Proceedings*)

Susanne Altenburger—The Landing Craft, Utility-Folding (LCU-F) is an unorthodox proposal indeed. Colonel Fuquea is not alone in raising certain concerns. However, in terms of hydraulic circuits, electromechanicals, and articulation, the LCU-F is only about as complex as a well-equipped multifunction backhoe or certain types of higher-level farm equipment—surely no more demanding than the Marine Corps' joint-attack bridge or its high-speed/high-mobility 8x8 crane, for example.

With her stabilizing/folding/unfolding rapid movements (via simple hinge-axes across 75–180 degrees), powered by ample 2,400 diesel-electric horsepower, the LCU-F is certainly much less complex than unfolding an MV-22 Osprey on an amphibious-assault ship's flight deck. The LCU-F's commercial off-the-shelf drive train is well established in a range of smaller and larger power ratings, and in a geometry offering about double the redundancy of both an LCU or a landing craft, air cushion (LCAC). Colonel Fuquea's assumptions about "minimal" gains from much higher LCU-F speed (19 knots versus the LCU's 11 knots) reflect traditional, very short-range ship-to-shore protocols. But from a medium distance of, say, 100 miles over the horizon, taking 15 minutes to unfold and then proceeding at 19 knots hauling 200 tons of Marine Corps assault load is about equal to adding 5 miles to that distance, all part of the approximately 6.5-hour time frame allotted for disembarkation, unfolding, high-speed cruising,

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near-inshore hull reversal, high-speed cruising, and beaching—all dependent on sea-state. (Incidentally, this would leave 13 hours before the second, heavy-lift wave arrives with combat support.) So there would always be enough sea-room—*well out of shoreside sensor-view*—for a U.S. Navy helmsman to do a 90-degree hard left or right to a dead stop and to then do a matching 90-degree turn to re-accelerate, now stern-first—a 5-minute maneuver, perhaps. Landing LCAC and LCU have had to turn around either on the beach (LCAC) or in the surf zone (LCU) at likely the most tactically dangerous time so close to the adversary. In stark contrast, the LCU-F approaches the shore with a minimal air draft of 10-foot height by 22-foot beam, arriving stern first with Marine weapons facing the beach and her sharp bow facing seaward, ready to depart full-power straight ahead.

Finally, no air-supported-vessel concept can fit in as many numbers in amphibious ready-group (ARG) well decks, carry as much combat-hardware weight, nor compete with the LCU-F's limited fuel-burn profile and thus her endurance. And the more connectors are available, the greater the capacity to deliver the Marine expeditionary unit's (MEU's) "tip of the spear" *in one shot*, and still be able to absorb losses without breaking the heavy-lift ship-to-shore chain of support. The LCU-F actually offers de facto force multiplication by delivering this much MEU capability in one first-wave maneuver. Her many other non-MEU-related uses were only indicated in our July article.

For the $3 billion cost of the ill-fated Expeditionary Fighting Vehicle program, the complete LCU-F fleet might have been built, with funding left to upgrade the stalwart AAV-7 amphibious-assault vehicle one more time. Carried ship-to-shore by the LCU-F, its modest speed afloat in inland waters would serve perfectly well, while the ARG remains better protected from shore defenses by keeping it far *beyond* the horizon.

Don't Give Up the Ship(s)! Learning From IEDs

(See J. A. Craig, pp. 66–71, July 2013; and T. S. Reynolds, pp. 54–59, August 2013 *Proceedings*)

Steve Paschal—In their respective articles, Commanders Craig and Reynolds both agree on the bright future that unmanned underwater vehicles (UUVs) have in mine countermeasures (MCM). But they then diverge: Commander Reynolds conceptually argues for full speed ahead with UUV development and usage. Commander Craig conversely argues a conservative case for retaining the proven MCM surface vessels until such time as UUVs have the understood capability to fully replace them.

I agree with Commander Reynolds that UUVs have a big future in MCM, and the ongoing development efforts should continue at all possible speed. Experience to date, however, has been extremely disappointing.

Perhaps there is a lesson from the last time we transitioned the force—from the post–Korean War minesweeper-ocean

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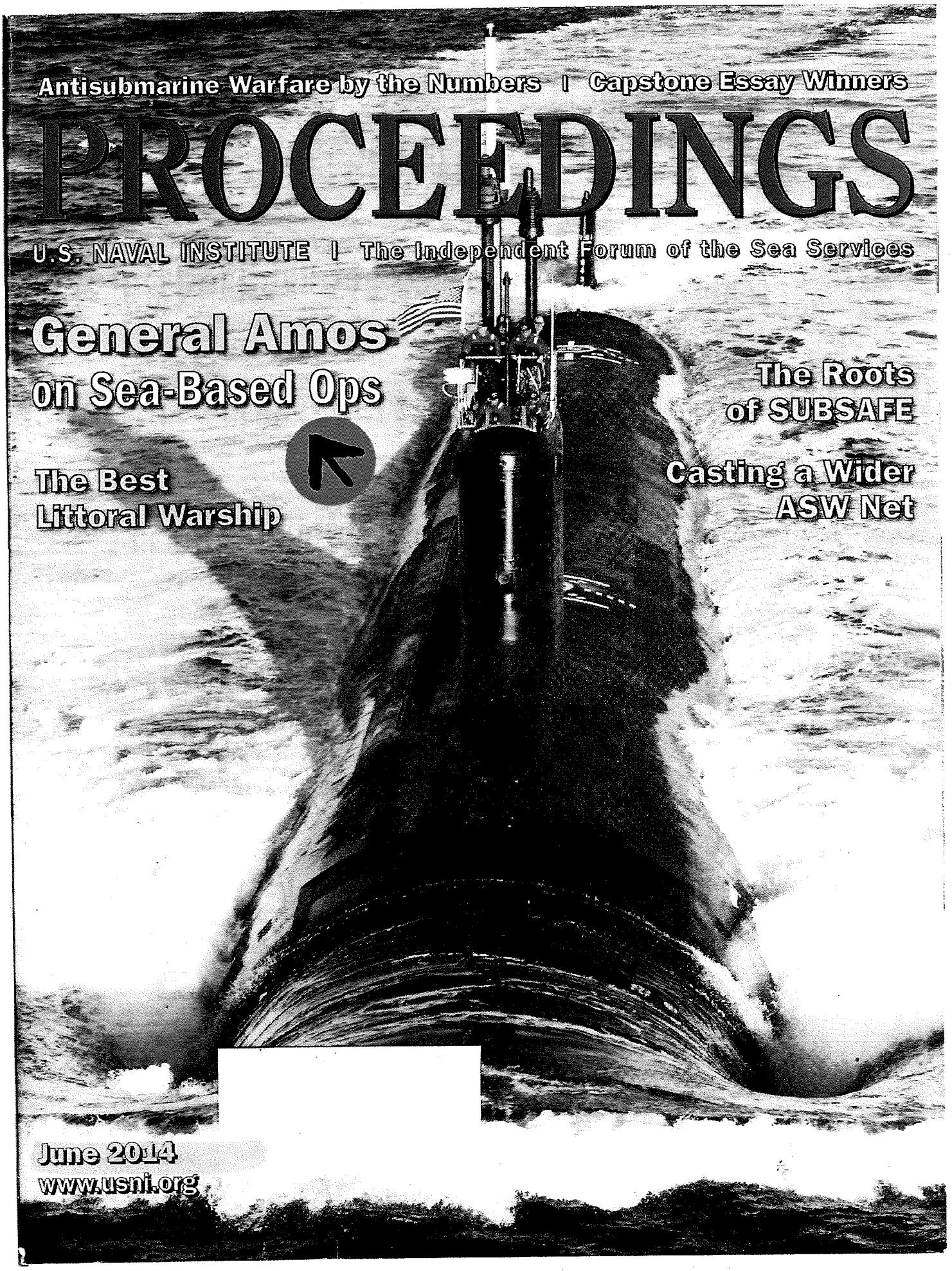

General Amos on Sea-Based Ops

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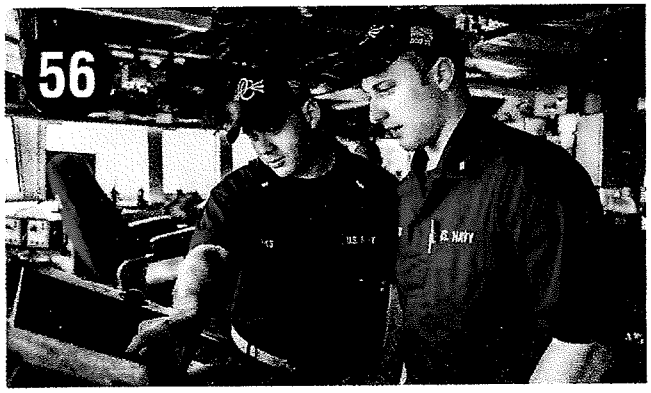

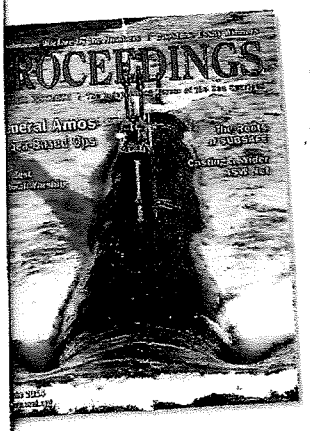

THIS MONTH'S COVER

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72 'A Project So Unique'
By A. Denis Clift
One hero of the D-Day invasion 70 years ago was a naval officer who had caissons moved across the channel for artificial harbors.

Read Online

As most readers doubtless know, the Naval Institute has numerous outlets for content in addition to *Proceedings*, whether it be our sister publication *Naval History*, the USNI News site, our robust blog, or the venerable Naval Institute Press. But the one that we share a unique relationship with is our conferences branch. Many a *Proceedings* article over the years has provided the inspiration for a panel session at a subsequent conference. Indeed, one can say that the pages of *Proceedings* "come to life" at these events. But sometimes it works the other way around, too, with comments made during a panel giving impetus to an article.

This past February's USNI-AFCEA West conference in San Diego once again featured a Sea Service leaders town-hall discussion, with Vice Chief of Naval Operations Admiral Mark E. Ferguson III, Commandant of the Coast Guard Admiral Robert J. Papp Jr., and Marine Corps Commandant General James F. Amos participating, and moderated by Institute CEO Vice Admiral Pete Daly. General Amos remarked that day on the vital importance of surface connectors to the Corps, and we thought that sounded like a fine idea for an article.

General Amos agreed, and so he returns to our pages this month with a look at the challenges, and promising possibilities, of sea-based power projection for today's and tomorrow's Navy–Marine Corps team. After more than a decade of focus on the wars in Iraq and Afghanistan, the Sea Services now face a world of new strategic imperatives calling for an old and time-honored naval capability: amphibious operations. "Surface connectors that are self-deployable and capable of long open-water transits are essential," the Commandant says, and proposes several options for use by the Corps. But he warns, "We need to change the paradigm here and not limit our thought to how we do business today."

Naval Postgraduate School professor Captain Wayne P. Hughes Jr. has a different surface capability on his mind. He advocates the use of numerous affordable single-purpose warships in dangerous littoral waters and argues that they are superior to the expensive open-ocean multipurpose vessels typically used there. "Multipurpose warships made sense 25 years ago, and they will continue to be best in situations in which the threat of attack is small," he acknowledges. But such safety is no longer a given. Using the concept of salvo equations, he demonstrates how unstable situations result when the staying power of a combat formation is small. "Ships for fighting in the littorals are a niche capability to fill a void," he reasons. "They should be numerous, yet take only a small budget fraction."

Meanwhile, the submarine community has its share of concerns as well, from safety to ensuring continued proficiency at critical tasks. Rear Admiral Michael E. Jabaley Jr., Deputy Commander for Undersea Warfare, traces the roots of the U.S. Submarine Force's safety initiatives: the Quality Assurance Submarine Safety program, the Deep Submergence Systems Scope of Certification program, and the Fly-by-Wire Ship Control System program. The first two were developed in response to tragic accidents that occurred within the last 51 years, including the loss of the USS *Thresher* (SSN-593) in 1963. However, the need for submarine safety predates those 20th-century tragedies, as a close look at the events leading to the Confederate submersible *H. L. Hunley* sinking three times reveals. "Today's challenge . . . is to maintain the standards established by submarine safety programs," Admiral Jabaley explains. "The supreme sacrifice of those who went down with the *Thresher* and other submarines can best be honored by never letting it happen again."

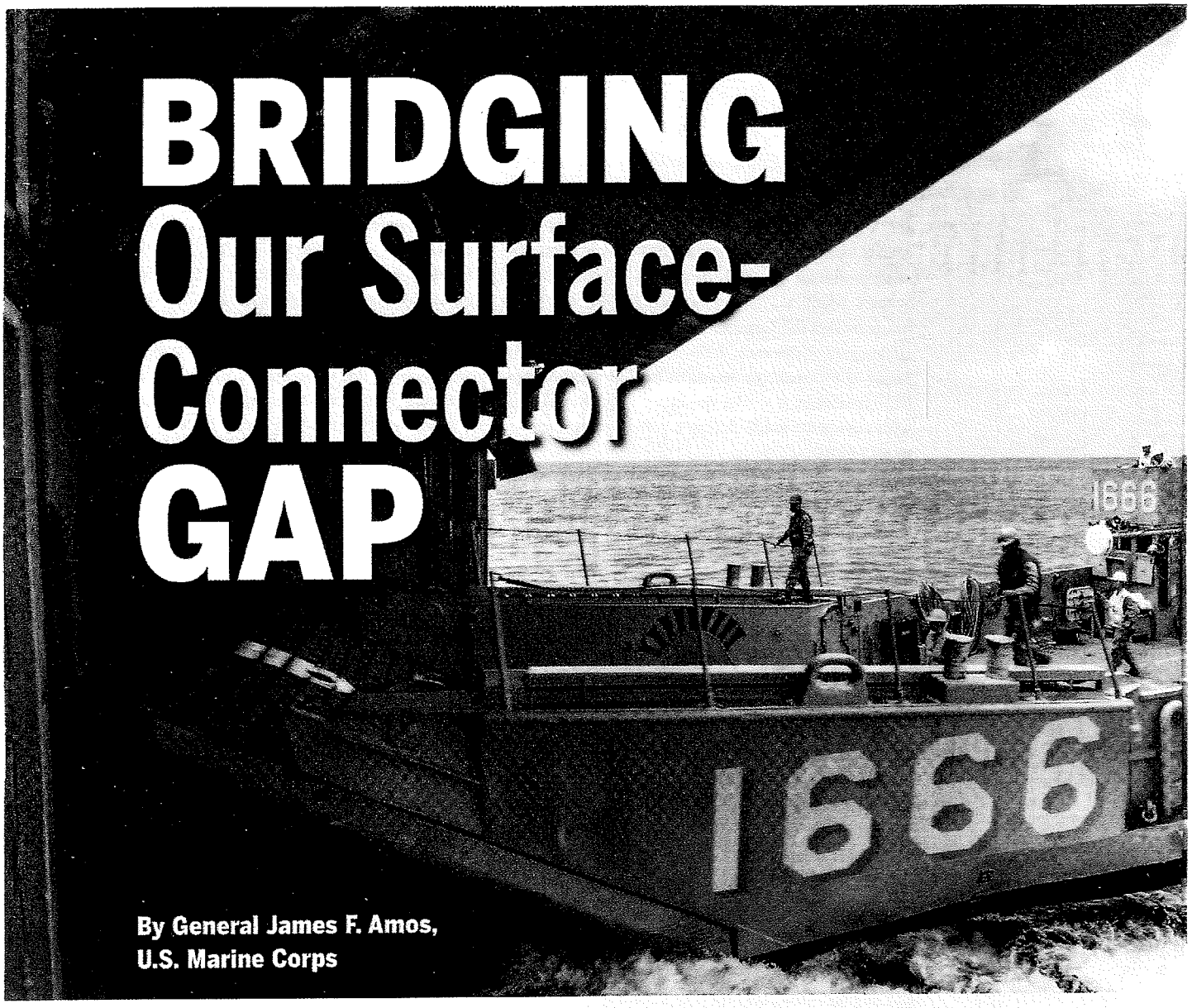
The demands of the Cold War honed the U.S. Navy's antisubmarine-warfare capability to a heightened degree. It was an essential weapon in deterring the undersea shenanigans of the Soviet Union. But with the demise of the Soviet threat, ASW fell by the wayside, too. The attention paid to this warfare specialty ebbed and flowed in the ensuing years, and nobody knows that better than retired Navy Captain Bill Toti. He looks back to 2005, when he and a group of approximately 15 other officers came up with ten antisubmarine "threads." The term used to describe them was "Full-Spectrum ASW." As he details the threads here one by one, it becomes obvious that all of them still apply today.

Lieutenant Commander Ryan Lilley would agree, worrying that "the Navy's ability to effectively search a large area of ocean for a submarine has eroded." He notes that others have stepped in to fill the void left by the Soviets, and the submarines of today are far less acoustically obvious than the boats of yesteryear. The time to recapture America's wide-area ASW search capability is now, he writes. While the U.S. Navy may still lead the world in undersea warfare, he cautions that "its ASW forces have not kept pace with the threat and are facing a potential warfighting gap just as the nation turns its attention to the challenging Asia-Pacific region."

Paul M. Merzlak

Paul Merzlak, Editor-in-Chief

BRIDGING Our Surface-Connector GAP



By General James F. Amos,
U.S. Marine Corps

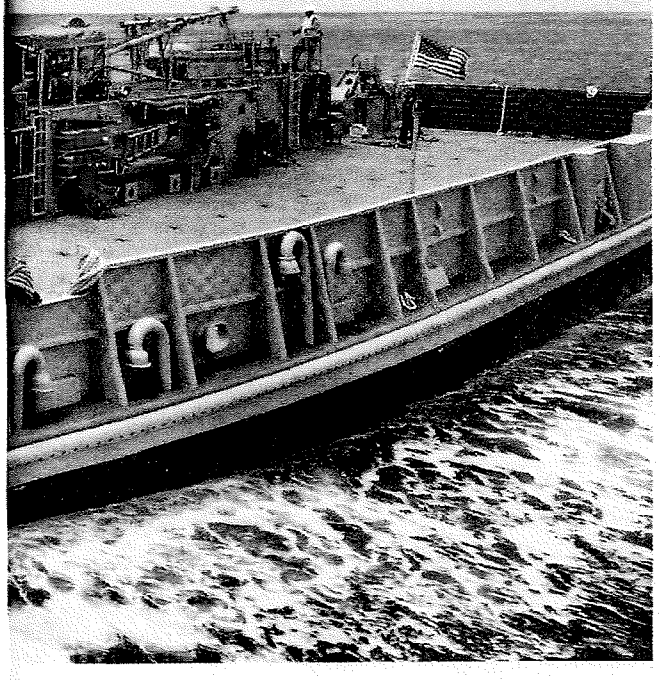
In a new strategic environment, the Marines' ability to expeditiously get people and equipment ashore may be more important than ever. Emerging platforms and technologies promise to be game-changers.

The United States, and more specifically the Department of Defense, has entered a period in which some difficult choices must be made regarding our national security strategy and the military capabilities required to execute it. Consequently, now is the time we must stay focused on not only completing our current commitments but also simultaneously preparing for an uncertain future—and we must do so in the most affordable manner. In January 2012, President Barack Obama highlighted our nation's shifting priorities when he announced a renewed emphasis on the Asia-Pacific region as the "tide of war is receding" in Afghanistan. This metaphor could not have been more apropos; not only are our strategic priorities shifting toward a maritime region, but we are again reminded that the United States is, and will remain, a maritime nation.

Throughout our history, naval forces have anticipated and adapted to meet the challenges of an ever-changing strategic environment. Perhaps one of the most significant evolutions occurred after the Allied campaign in the Dardanelles stalled on the beaches of Gallipoli in World War I. In its wake, a consensus emerged that amphibious assaults could not succeed against industrial-age defenses. Despite this, a group of contrarian Marine Corps and Navy officers believed it was a viable and necessary capability.

U.S. NAVY (TCOD C. BEHRMAN)

Landing Craft Utility (LCU) 1666 enters the well deck of the USS *Denver* (LPD-9) in the East China Sea on 19 April. While the current LCU class displays the requisite surface-connector capabilities, next-wave LCUs now in the conceptual stage have the potential "to provide the higher speed, larger payload capacity, greater fuel efficiency, and better beach-landing ability needed to fulfill today's amphibious force requirements."



In a postwar environment of lean budgets and isolationist sentiment, they persisted in their efforts and as a result perfected both the doctrine and techniques for modern amphibious operations. This would prove vital for Allied operations in the Pacific, European, and Mediterranean theaters during World War II as well as in the amphibious assault at Inchon during the Korean War.

In the decades that followed, Marines and sailors, using the emerging capabilities of the helicopter, vertical/short-takeoff-and-landing aviation, and the air-cushioned landing craft (LCAC), developed and refined a concept for future operations that we now describe as Operational Maneuver from the Sea (OMFTS). The Navy–Marine Corps team further adapted the tenets of maneuver warfare to those of amphibious operations by advancing the concepts of OMFTS and Ship to Objective Maneuver (STOM). Applying these concepts in 2001, the naval forces of Task Force 58 were the first conventional forces to strike a blow against the Taliban during Operation Enduring Freedom.

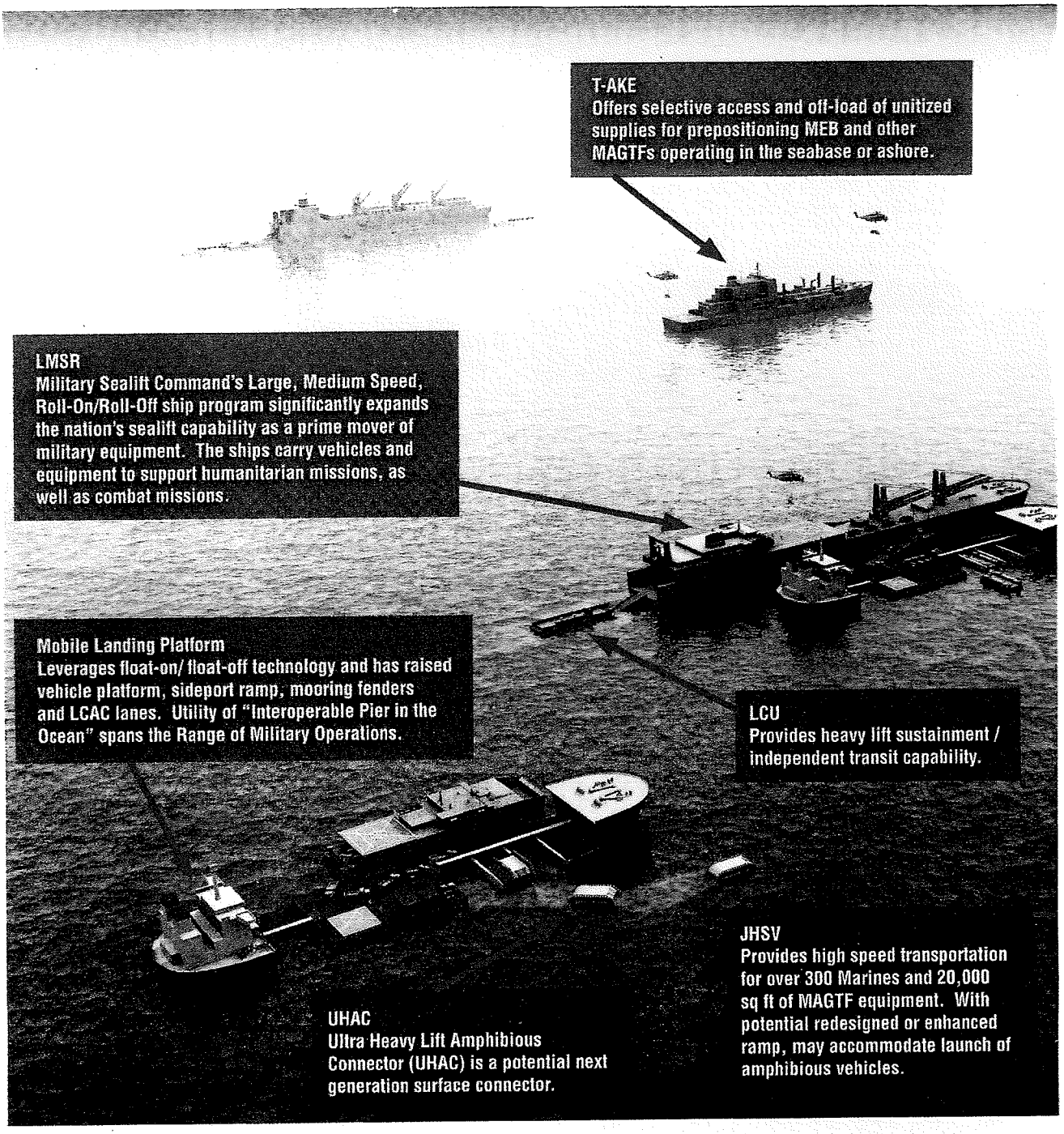
Marines and sailors today continue to search for ways to use the sea as an operational sanctuary from which they can stage forces, strike and maneuver, and support combat forces ashore. We understand the difficulties and challenges therein, and we welcome both internal debates and external ideas about how this should best be accomplished. We have made great strides in modernizing significant parts of our force for these missions, but we must focus on acquiring connectors, platforms, and other support necessary to execute these types of operations with our future force. Amphibious operations remain our signature specialty, and as such, they will continue to shape the way we operate going forward, just as they have throughout the 20th and early 21st centuries.

A Recent Approach

American naval forces have conducted sea-based operations and have projected power from the sea since Marines landed from converted merchant ships of the Continental Navy at New Providence in the Bahamas on 3 March 1776. One hundred and sixty-nine years later, the art of amphibious warfare seemed to have reached its peak with the massive late-war assaults on Iwo Jima and Okinawa in 1945. However, nearly 75 years later, both technology and creative thought have continued to evolve, providing opportunities for noteworthy advancements in sea-basing capabilities. Concepts like Expeditionary Maneuver Warfare and the future vision for how we design and develop our force, the recently signed and approved Expeditionary Force 21, are but two recent examples that represent the innovative and adaptive culture of Marines.

Today, Marines and sailors are a critical element of the nation's efforts to remain a stabilizing global force. By providing constant, visible presence and unparalleled responsiveness, Marines protect and advance our nation's maritime and economic interests. They, in tandem with other deployed naval and joint forces, enable the free flow of commerce and protect vital sea lines of communication on which the U.S. and global economic vitality depends. However, these essential arteries, which carry more than 90 percent of the world's trade, remain vulnerable to disruption in the 21st century. The "new norm" of extremism, economic disruption, and social change generate new potential security threats at an accelerating pace. Faced with perpetual conflict, instability, and humanitarian disasters, amphibious forces must remain ready and capable of quickly and effectively projecting American influence, at any time and any place.

The unpredictability of tomorrow's security challenges is clearly counterbalanced by the core competencies of a sea-based Marine Air-Ground Task Force (MAGTF). The MAGTF is the nation's expeditionary force in readiness, and responding to crisis is its purpose. Marines are organized, trained, and equipped to operate at and from the sea as part of the naval team to "engage, respond, and project." Consequently, amphibious task forces and embarked MAGTFs routinely conduct missions requiring them to *en-*



gage with a wide set of partners, forge solid relationships across cultural barriers, and promote diplomatic access—all while remaining prepared to *respond* to crises and *project* power from the sea on a moment's notice.

Given today's environment, there is an increased emphasis on the geographic combatant commanders' (GCC) requirements for security cooperation and crisis response. From 2007 to 2011, GCC demand for paired amphibious ready groups and Marine Expeditionary Units (MEUs) increased 86 percent, and the want for independent amphibious ships increased 53 percent. When steady-state requirements are factored in with the need for an assault echelon of lift, the aggregate requirement far exceeds the 33 ships agreed to several years ago. Additionally, budgetary constraints foresee the Fiscal Year 2014 programmed force level of 31 ships down to 30 by FY 15, forcing us to think differently about how we deploy and employ our forces.

We must remain flexible while still providing ready, rapidly deployable, task-organized air-ground forces. We also need to be able to composite from forward-deployed and/or rapidly deployable forces with the ability to operate in contested environments and project power ashore. As such, our old construct of "deploy as Marine Expeditionary Brigades (MEBs), fight as a Marine Expeditionary Force (MEF)" became obsolete. We had to become more efficient with our forces. Moving forward, we look to deployed MEUs, special-purpose (SP) MAGTFs, or other task-organized forces for the answer.

U.S. MARINE CORPS

Sea-Based and Ready

As stated in Expeditionary Force 21, Marines will "deploy as SPMAGTFs and MEUs for steady-state engagement activities and crisis response, composite them into an MEB for more significant crises and contingencies, and expand the MEB into an MEF to fight major operations and campaigns."[1] Critical to this notion is being able to aggregate and operate from a sea base. This is where we gain maximum efficiency and flexibility. Forces can be reconfigured for a wide array of missions and operations while retaining the ability to conduct sea control and power projection. The sea base minimizes the need to build up logistics assets ashore, reduces the operational demand for strategic sealift and airlift capabilities, and permits the forward positioning of joint forces for immediate employment.

Sea-based forces include numerous platforms, such as amphibious-warfare ships, prepositioning ships, and vertical and surface connectors. As the threat continues to develop, these forces will become even more relevant than today, but they must adapt to the changing environment. As most future crises will likely be conducted under the umbrella of a widely proliferated, accurate and integrated anti-access/area-denial threat, the sea base will be required to operate farther from shore. We know today that a combination of integrated acquisition systems, precision guidance, and coastal-defense cruise missiles can necessitate initial standoff distances as far out as 100 nautical miles. Ultimately, mission success foresees a requirement that enables the employment of contested, disaggregated, distributed, and dispersed forces maneuvering from the sea base to secure entry points. This allows an expeditious increase of combat power ashore while providing for the quick introduction of follow-on forces to maintain momentum and expand the area of operation. Accordingly, the need for connectors, landing craft, amphibious vehicles, and ships with the capability and capacity to operate in this environment becomes critical.

Our current contingent of amphibious warships consists of three basic classes: the large amphibious-assault ships (LHAs and LHDs), the amphibious transport docks (LPDs), and the dock landing ships (LSDs). All of these vessels are designed to provide command, employment, sustainment, and the ability to offload our force using a variety of connectors, both vertical and surface. Another critical element of the sea base is our Maritime Prepositioning Force and its ships. Within this category we have our mobile landing platforms (MLPs), large medium-speed roll-on/roll-off (LMSR) and dry-cargo and ammunition ships (T-AKs, T-AKRs, and T-AKEs). These prepositioning ships hold our equipment and supplies at sea such that they can be moved rapidly ashore. However, without adequate means to get our people and equipment ashore, the ability to accomplish our mission quickly diminishes. Today, there is a significant gap in the planned surface-connector fleet inventory from FY 17 to FY 26 that, in conjunction with our amphibious-ship shortfalls, will significantly limit the capacity for amphibious operations and must not be allowed to widen.

The Need for Change

The Joint Operational Access Concept acknowledges that "maintaining and expanding operational access may require entry of land forces into hostile territory for a number of reasons. These may range from limited-objective attacks, such as raids to eliminate land-based threats to friendly air and naval forces, to seizing a lodgment for a sustained land campaign."[2] The future security environment will continue to demand a force that is naval in character and capable of conducting

amphibious operations. At the core of this environment is a congested and diverse area where the sea and land merge—the littorals—where more than 80 percent of the world's population currently resides. A significant littoral dimension to future joint operations is apparent, requiring an afloat, multi-capable, rapid-response force with the capability and capacity to respond across multiple domains and the full range of military operations.

In the last few decades, there have been significant advancements in the ways and means available to conduct amphibious operations. Capabilities realized due to modernizations in Marine aviation are prime examples and represent the type of innovation we must have in our surface fleet of connectors. In much the same way the MV-22B has greatly expanded the amphibious forces' littoral maneuver options, so must our future surface connectors. Today, the MV-22B, coupled with LCACs operating from a modernized amphibious fleet, address some of the capability gaps, but not all. We notice an imbalance developing out of this growing capability gap that must be addressed, particularly as the future security environment foresees an increased requirement for greater speed, range, and littoral-maneuver capability from ship to shore. Simply put, our current and proposed surface-connector inventory does not meet the current or future requirement and ability to maneuver from increased range beyond the threat.

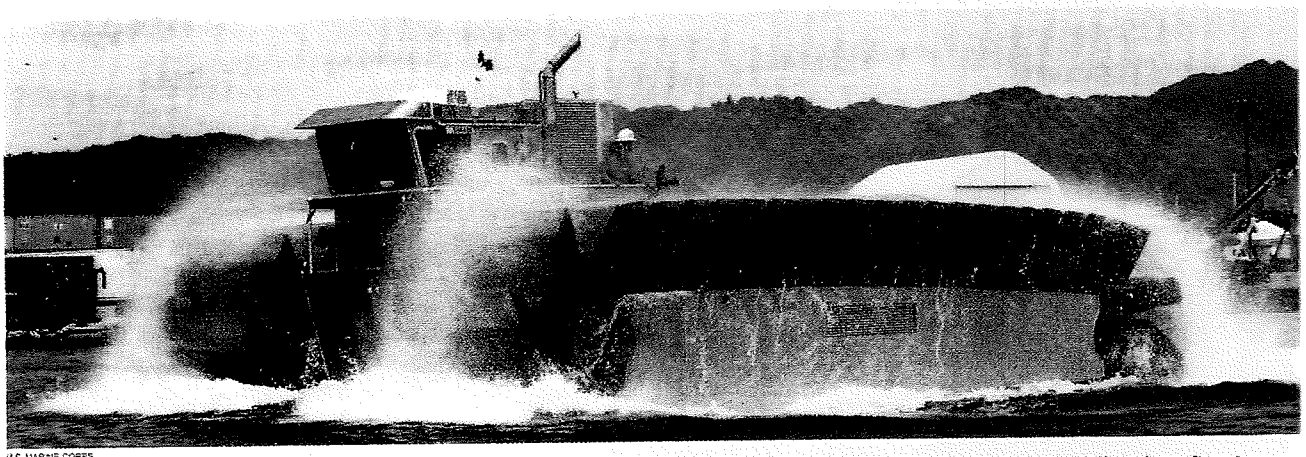
Future Requirements, Future Strategy

With our recent focus on the wars in Iraq and Afghanistan, necessary improvements in amphibious operations have lagged. Today, the naval services have a program for surface connectors, but its capability and capacity goals require updating. The fundamental operating concepts and utilization strategies for connector programs require a fresh look from a warfighting perspective. Emerging technologies and potential game-changing operational considerations might have a significant impact and must be considered.

Current connector-acquisition objectives and surface movement ashore are driven primarily by the number of well-deck spots in the amphibious-ship inventory. We need to change the paradigm here and not limit our thought to how we do business today. Expanded sea-based concepts would benefit from a connector fleet apart from those expected to be carried in amphibious shipping. For instance, connector elements husbanded and tethered to MLPs, or otherwise forward-deployed in key locations could augment those required directly for amphibious operations. These connectors or commercial alternative platforms could also augment the fleet during amphibious operations, greatly speeding throughput from the maritime assembly areas in the outer-sea echelons, while quickly closing the distances and building combat power ashore.

Surface connectors that are self-deployable and capable of long open-water transits are essential. While the existing landing craft utility (LCU) currently has this capability, other connector designs that combine the capacity/self-supportability of the LCU with the high speeds associated with the LCAC are readily available and affordable. Even though the looming connector shortfall and maturity of the LCAC ship-to-shore connector program suggest it should not be disrupted, the LCU-replacement (Sustainment & Surface Connector [X]-Recapitalization) program represents a key entry point for a larger operationally relevant connector capability.

Future concepts should increase the operational flexibility, at-sea survivability, capacity, and landing options of the amphibious force by providing the capability to commence amphibious operations from greater distances offshore than previously considered. Long-term development must be focused on maturing naval-connector technology while seeking sea-basing concepts that include alternative connectors and employment concepts (i.e., STOM and OMFTS) in order to support sea-based operations across the threat spectrum. We must also explore near-term fixes



U.S. MARINE CORPS

This ultra heavy-lift amphibious connector (UHAC) is a 4/10-scale concept demonstrator that weighs in at a "lean" 38 tons. The full-scale craft, not yet built, is projected to hit 20 knots at sea and be capable of carrying three tanks. As General Amos observes, "there are compelling emerging technologies and capabilities that could prove to be game-changers and should be explored. Platforms such as the UHAC . . . provide a glimpse of what the future holds."

such as engineering changes to current programs of record that will help bridge the gap to the "connector after next." In much the same way we have proposed a ramp modification for the ten joint high-speed vessels (JHSVs) in our current program of record—giving them a sea-state three ramp that will support the "splash" of self-deploying amphibious vehicles—we must similarly assess the feasibility for enhancement across all our existing programs. At the end of the day, we must take a renewed look at current and "leap-ahead" technologies to ensure we address both near- and long-term connector deficiencies.

For instance, the landing catamaran (L-CAT) is an innovative, fast shore-connecting concept developed by the French and produced in the United States. It is currently operated from well-decks of French LPD/LHD vessels to meet over-the-horizon logistics and force-projecting requirements. The L-CAT is designed to fit within the minimized space provided in existing well-deck spaces, provides full roll-on/roll-off capacities, and opens sea door-to-door logistics. The L-CAT has a capacity similar to the LCAC, and can travel at 20-plus knots, but it features 20 hours of endurance and can be deployed up to 200 miles from shore.

Another new capability (in the experimentation phase) is the ultra heavy-lift amphibious connector (UHAC). The UHAC is a concept connector being designed to provide a heavy-lift capability that is able to transport large amounts of cargo and/or troops from sea to shore, or directly from the sea to an objective area. It is expected to provide an over-the-beach capability with three times the payload of the LCAC as well as three or more times the obstacle clearance of the LCAC. The UHAC is being designed to carry 210 short tons at a speed exceeding 20 knots.

An alternative conceptual craft with its pedigree in the LCU-1610 class is the LCU (F). This design was described in *Proceedings* in the summer of 2013 (see "A Landing Craft for the 21st Century," by Susanne Altenburger; Commander Michael Bosworth, U.S. Navy (Retired); and Captain Michael Junge, U.S. Navy, July 2013, pp. 60–64) and currently only exists in PowerPoint, but appears worthy of further examination. It promises to provide the higher speed, larger payload capacity, greater fuel efficiency, and better beach-landing ability needed to fulfill today's amphibious-force requirements, yet the LCU (F) could be hydraulically folded in a "transformer-like" manner to fit neatly into the standard well-decks of major amphibious transport ships. In theory, conceptual connectors like this could also be flexible enough to aggregate via nonconventional means, similar to how we bring lighterage into theater via container ships today. Additionally, the LCU (F) is envisioned to carry up to 200 tons of personnel and equipment at a speed of almost 20 knots—an improvement of more than 20 tons and 10 knots when comparing it to the LCU-1610 class.

Lastly, a craft in a different class that bears further analysis and consideration is the T-CRAFT being developed by Office of Naval Research. This is a larger vessel designed for intra-theater lift or as a sea-base connector, much like the JHSV, but with one key difference: It can land on a beach. This craft is projected to have 300–700 tons of lift capacity and travel at 40 knots. This capability coupled with the speed and versatility of the smaller connectors could be a significant force multiplier in a distributed littoral maneuver environment, especially in the movement of non-self-deploying combat vehicles.

Innovating to Win

In much the same way we have traveled in the past, our institutional course into the future will not be a straight line. There have been and will continue to be obstacles that require slight deviations. We can expect the same in our conceptual and programmatic environments. History is replete with examples of how our naval forces innovated operationally and technologically to win. The advent of sea-based aviation, expeditionary amphibious capabilities, undersea warfare, and irregular warfare in complex littoral environments were all disruptive innovations that took time, experimentation, and initiative to fully exploit. As the nation rebalances its military to new strategies and new levels of defense investment, the Navy–Marine Corps team will play an even greater role in forward presence, regional deterrence and building the foundations of collective security for the global maritime commons. Our ability to swiftly respond to the demands of major contingencies will continue to make us an indispensable capability of the joint force, and it is imperative to maintain that standard.

Today's and tomorrow's security environments require a reshaping of the Marine Corps with an emphasis on the growing demand for steady-state activities and crisis response. To be the right force in the right place at the right time, we must adjust our capability with focus on improving our ability to deploy, employ, and sustain as an expeditionary force. A critical component to this will be our ability to move and sustain people and equipment ashore. Therefore, ensuring the health and continued capability and capacity improvements of connector programs is an essential interest for both the Marine Corps and the Navy.

While the potential for the procurement of entirely new fleets of connectors is unlikely in today's fiscal environment, there are compelling emerging technologies and capabilities that could prove to be game-changers and should be explored. Platforms such as the UHAC, LCU (F), and L-CAT are just a few examples that provide a glimpse of what the future holds. This is a dialogue I am devoted to and one in which I challenge industry, academia, and our naval service to further develop. We are in a period that demands innovation, and as such, we need to take a hard look at our connector strategy and ensure it is framed by sound warfighting analysis. We must step up our connectors' game for the future while ensuring our minimum combat-capacity requirement for today is maintained.

1. Expeditionary Force 21, www.defenseinnovationmarketplace.mil/resources/EF21_Capstone_Concept_12_Mar_2014%20(signed).pdf.
2. *Joint Operational Access Concept* (Washington, DC: Department of Defense 2012), 6.

General Amos is Commandant of the Marine Corps.

- IN SUPPORT OF GLOUCESTER'S *WORKING* INNER HARBOR -

Gloucester is "America's Oldest Seaport", founded in 1623 by Fishermen to be close to particularly fertile fishing grounds. Since then most of the shore-line around **the Inner Harbor has matured into Gloucester's oldest and largest fully-zoned and -permitted Industrial Park** based primarily on Commercial Fishing and its associated industries. **As a profitably-located high-value economic asset it is one of only four commercial ports so designated and protected by the Commonwealth of Massachusetts.**

In recent years Gloucester's Inner Harbor has had to absorb painful reduction of income and thus job- and tax-base due to prior fisheries' practices and resulting draconian regulations in support of resource-rebuilding. We are now at the depth of these harsh limits on this fleet.

- It is time to examine all technical opportunities to upgrade vessel- and fishing-technology *to match* resource-sustainability in an age of steadily increasing fuel cost, boat-building cost, fishing-gear cost, and cost of living in and around this Port.

- It is time to prepare the Port's infrastructure to profitably support the scientifically-projected Multiplication of Fishing Potential.

! Only advanced approaches to Sustainable Fishing and this harbor's infrastructure will support the *re-emergence* of the fleet and thus *re-establishment* of the solid commercial viability of this port to steadily grow its jobs- and tax-base for the City !

We therefore support here and now (Summer '07) **the *Federal* and *State Funding* of a Series of Experimental Fishing-Craft in Gloucester under the guidance of Gloucester's own Senior Boat-Designer Philip C. Bolger** (in business since '52, six books) **in order to present to fishermen and incubate in the Inner Harbor 'greener' and thus more sustainable business-opportunitiese**. Phil Bolger proposes

1. **To use advanced Principles of 'Green' Design, -Construction and -Operation to test and demonstrate** a broad variety of suitable vessel-configurations - including the investigation of sail-power in a *hybrid-propulsion* context - that feature **significantly enhanced fuel-economy, advanced applications of renewable resources, and which support sustainable and profitable fishing-methods.**

2. **To advance Vessel-Safety** by developing hard unsinkability, enhancing stability, and refining appropriate ergonomics.

3. **That only the Disciplined Pursuit of 'Greenest' Approaches to Fishing will help resolve destructive policy-conflicts between the fleet, its regulators, and the environmental watch-dog groups monitoring both, favoring instead more productive cooperation.**

4. **To thus incubate the *Revival of Commercial Boat-Building* that will contribute *substantial value-adding* Marine-Industrial Use to Gloucester's Inner Harbor. 97% of the current fleet of fishing boats was *not* built on Cape Ann - a serious loss of business!**

5. **To foster steady and thus profitable supply of year-round and seasonal species landings at the piers of a broad variety of local processors who *value-add* to this catch under a well-promoted Gloucester-based name-brand as a symbol of highly-evolved Fishing Stewardship offering Sustainable Quality to the local, regional, and national consumer.**

6. **To upgrade the Inner Harbor's value-adding potential by supporting multiple fish-processing facilities** through:
   a.) a stationary or mobile **pre-treatment plant**, or a self-propelled **fish-processing waste-water collection-barge** that disposes off-shore.
   b.) a railway-siding off the MBTA tracks alongside Route 127 to Rockport as the **'greenest' fast shipment of fish-product containers.**

All this is predicted to significantly enhance the Inner Harbor's marine-industrial commerce-base **to assure sustainability of both the resource, the fleet, and this port,** based on broad local ownership of diverse businesses, properties, entrepreneurial skills and drive.

The undersigned *publicly* support this proposal as timely and essential for the future of this port, vital for the sustainability of the fleet, and understand that this comprehensive perspective goes unaddressed by other organizations of research and analysis:

Name:	Signature:	Address/Phone #:	Business & Position:
1. Sam Novello	Sam Novello	9 Seavew Rd	Captain
2. Mike Riggs	Mike Riggs	10 Riggs ST	
3. [illegible]	[illegible]	10 Old Rte 9	
4. [illegible]	[illegible]	8 Reserve St FRU	COOK
5. [illegible]	[illegible]	9 [illegible] St	[illegible]
6. [illegible]	[illegible]	15 Conant St	[illegible]
7. RICHARD TAYLOR	R.L. TAYLOR	81 QUINCY ST	
8.			
9.			
10.			

Please share your support for this initiative with your friends and ask them to support this opportunity to strengthen Our Port.

This proposal by Philip C. Bolger and Friends Inc. emerged in the fall of 2002 as a pro bono expression of civic & corporate responsibility. A first version was presented Nov.3,'02 to Dale Brown, then Community Development Director for the City of Gloucester and personal Assistant to Major John Bell; he offered 20 min. of his attention on January 23rd '03. We testified in person and writing during Amendment 13 hearings. NATIONAL FISHERMAN magazine spent 10hrs interview-time and 2000+ words for the 09/04 edition (p. 42ff), calling it one of "2004's Best Ideas" (01/05). As of 12/04 National Marine Fisheries Service has offered a dedicated Research&Development fishing permit for this project. All local and many regional fisheries-chiefs have been approached. On Nov 26 '05 the Gloucester Daily Times featured a 2000+ word article on p. A11. It's been a 750hrs effort so far. Write/FAX us at 66 Atlantic Street, Gloucester, MA 01930. FAX 978-282-1349.

Growing List of Supporters (as of 6/01/08) *of Phil Bolger & Friends' Sustainable Commercial Fishing Vessel Project*

Professional Fishermen Owner/Operators

1. BORNSTEIN, Bruce, F/V "*Sandy B.*"
2. BOWE, Scott, F/V "*Miss Kelly*"
3. BROWN, B.G., F/V "*Kathryn Leigh*"
4. BROWN, William G.IV, F/V "*Gillian Ann*"
5. BREWER, Chris, F/V "*Fair Wind*"
6. BRISSON, Roger, F/V
7. GERMAIN, Doug, F/V "*Labor In Vain*"
8. HARDY, George
9. HIGGINS, Brian, F/V "*Toby Ann*"
10. LANE, James
11. LIBRO, Peter, F/V "*Cabaret*"
12. MARCIANO, David, F/V "*Hard Merchandise*"
13. McROBB, Andrew,
14. MONDELLO, Joseph, F/V "*Tally VII*"
15. MORSE, Tommy, Retired Gillnetting Owner/Capt.
16. MUNIZ, William, F/V "*Never Satisfied*"
17. NOVELLO, Sam, F/V "*Capt. Novello*"
18. ORLANDO, Joseph, F/V "*Padre Pio*"
19. PORTER, Tom, F/V "*Susan Kimberly*"
20. RAYMOND, Charles, F/V "*Kristen & Michael*"
21. RING, Mark
22. RUSSO, Matteo A., F/V "*Josephine*", F/V "*Patriot*"
23. RUSSO, Salvatore, Retired Dragger Owner/Capt.
24. SHERMAN, Russel A., F/V "*Lady Jane*"
25. SKROBACZ, William, F/V "*Toots*"
26. SILVA, Randall M., F/V "*Never Satisfied*"
27. SUTHERLAND, David
28. WONSON, Arthur, F/V "*Erika Ann*"

Professional Captains/Crew

1. CIOLINO, Sebastino, F/V "*Marie Grace*"
2. CRIVELLO, Antonio, Deckhand, F/V "*Marie Grace*"
3. DE COSTE, Michael, Captain/Sternman
4. FLAHERTY, Michael, Sternman, F/V "*Kathryn Leigh*"
5. FYRBERG, Peter, Crew/Vessel Maintenance
6. MANN, Mike, 978-821-0000, Captain/Sternman
7. RAGUSA, Mike, Deckhand, F/V "*Lady Jane*"
8. SEARS, James, Retired Fisherman
9. STONE, Joseph, Crew/Cook
10. TAYLOR, Richard, Crew
11. TOGNAZZI, Paul, Deckhand, F/V "*Marie Grace*"
12. VIEIRA, Matthew, Captain F/V "*Harvester*"

Shoreside Stakeholders

1. BROWN, Kathryn, Gardner/Fisherman's Wife
2. CIARAMITARO, Vito, Restauranteur
3. CUMMINGS, Damon E., Naval Architect, MIT (ret.)
4. DEXTER, Steven, Insurance Agent,
5. GARLAND, Joseph E., Writer/Historian
6. GILLIS, Robert J. Bank Vice-President (private citizen)
7. GUSTAVSON, Viking, "Gloucester Marine Railway Company", Gen. Manager
8. JOHNSON, Diane, "Gloucester Marine Railway Company", Bookkeeper
9. LINQUATA, Lenny, "Gloucester House/Seven Seas Wharf", Owner
10. LINQUATA, Michael, "Gloucester House/Seven Seas Wharf", Owner
11. MEMHARD, R. Scott, President,"Cape Pond Ice Co."
12. MORIN, Ernest, Artist/Photographer
13. PECKHAM, Walter, (ex) City Councillor
14. POINDEXTER, Leon, Master Shipwright
15. RICHON, Geoffrey, President,"Gloucester Maritime Heritage Center"
16. ROSE IV., Frank, General Manager "Rose Oil".
17. SHELDON, Mark, Captain/Marina Operator
18. SHERMAN, Christine, Off.Manager, "North-East Seafood Coalition"

New England Environmental Advocacy Organization
Peter Shelley, Vice-President, Massachusetts Advocacy
CONSERVATION LAW FOUNDATION
with a 3/30/08 2-page Letter of Official CLF-Endorsement.

About this 'Green' Commercial Fishing Boat Project:
We have drawn some 680 boat-designs out of Gloucester since 1952, with over 600 articles and 6 books published. As a civic exercise in responsibility we have pushed Pro-Bono this Low-Carbon-Footprint Sustainable Commercial Fishing Boat project since 11/02.

With the recent CLF-endorsement and the growing list of supportive fishermen we now have pulled now together two perspectives that only a few years ago found each other across strong lines of philosophical and regulatory division. CLF now supports the local fleet's interest in 'Greenest' Commercial Fishing-Vessel Design and Prototyping - " Conservation Law Foundation fully supports your efforts to take this vision into serious research and development phase...(...) (We) would be pleased to support your efforts in any way possible."

With this project, Gloucester's fleet is able to maximize this rare opportunity to find financial, political and regulatory support for its **future as the first advanced /low-carbon foot-print Fishing Fleet.**

- On the **state level. Senator Bruce Tarr and Representative Anthony Verga** have examined our proposal and are pursuing options to fund at least parts of it.
- Introduced by Rep. Tony Verga to **Lieutenant Governor Tim Murray** we have shared detailed material with him in the context of his leadership-role of the **Seaport Council.**
- Rep. **Tony Verga wrote a Letter of Endorsement** (5/15/08) to Congressman **John Tierney**.

- On the **federal level. we testified at a March '07 hearing on Marine Safety in New Bedford called by Congressman Barney Frank.** His office then produced an initiative to support our effort through safety-related funding in the current Coast Guard Reauthorization Bill. **His office recently stated over the phone that it would explicitly support our application for said funding.**
- The offices of **U.S. Senators Ted Kennedy and John Kerry** each have a fully-documented project-file and reported to study it.

Supporting Local, Regional, and National Publications:
- First industry-wide/nation-wide publicity on the early stages of this project in NATIONAL FISHERMAN of September '04, p 42 ff;
- "My View" perspective by us on the Future of Gloucester's Harbor as published in the GLOUCESTER DAILY TIMES of 11/26/05, p. A11;
- Short blurb of our presence at an international fisheries gear-specialist conference (ICES 2006) in Boston, captured by COMMERCIAL FISHERIES NEWS of December '06, p. 19A ff.;
- Cooperation with commercial fishing and Conservation Economy proponents (ECOTRUST CANADA) in FISHERMAN LIFE of December '07, p.26 ff, (British Columbia provincial industry magazine)
- A report in our efforts in the local equivalent of the 'Daily Times' in the WESTERLY NEWS of December 20, 07, pp 10-11, (Mid-Coast Daily on Vancouver Island, B.C.).
- GLOUCESTER DAILY TIMES of 5/27/08, p.10. "Taking 'green' to the sea".

Forth-coming supporting articles by Gloucester's own Peter Prybot in COMMERCIAL FISHERIES NEWS and an "Ebb&Flow" piece by him in the GDT.

Compiled by Phil Bolger&Susanne Altenburger (Boatdesigners), 66 Atlantic St., Gloucester, based on a 6-year project to prepare the fleet for rising fuel-cost as the resource is recovering; see GDTimes 5/27/08, p.10. *40 fishermen support us plus 20-or-so shoreside stakeholders incl. waterfront-owners.(06/01/08)

CONSERVATION LAW FOUNDATION

CLF Protecting New England's Environment

March 30, 2008

Phil Bolger
Susanne Altenburger
Phil Bolger & Friends, Inc. Boat Designers
P.O. Box 1209
66 Atlantic St.
Gloucester, MA 01930-1627

Dear Phil and Susanne:

Thank you for sharing your ideas with us about potential new directions for the New England fishing fleet. While it is premature to reach any conclusions about the role the vessels you have designed might play in the regional fishing fleet in the 21st century, we completely agree with you that market and world circumstances have shifted to such a degree that the future challenges that New England fishermen face will be shaped by a different set of factors than their predecessors faced. The vision that you have set forth of a lighter, more adaptable, and safer fishing platform that has lower capital and operating costs is worth exploring as a means for meeting these challenges. Conservation Law Foundation fully supports your efforts to take this vision into a serious research and development phase so that the benefits of your proposal can be assessed and understood more thoroughly by regional fishermen.

The modern groundfish fleet in New England was enabled by the extensive federal government grant and subsidy programs of the 1980's that encouraged fishermen to build bigger and more powerful boats. While there are many who, in hindsight, now question the ultimate wisdom of that initiative in light of the over-capitalization of the New England fleet relative to fish abundance and reproduction, the current inventory of high-horsepower, steel vessels reflects the success of that federal effort. Notably, the current New England fleet was built at a time when fuel costs were low and climate change was not even a topic of speculation.

Circumstances have changed significantly. The management system has improved so that effort is being increasingly constrained to more appropriate levels with the result that the industry is less able to support the costs of fishing on unsustainably high catch levels. At the same time, the costs of operating a fishing boat have multiplied, primarily as the result of soaring fuel expenses. While prices for fish to the boat have been slowly rising during this same time frame, the variable costs of catching those fish have increased much more rapidly. The result is declining profitability for individual operations even as fish populations rebound. Given the global demand for fuel and steel, there is little likelihood that the current high costs of boat construction and fuel consumption are ever likely to return to previous levels.

62 Summer Street, Boston, Massachusetts 02110-1016 • Phone: 617-350-0990 • Fax: 617-350-4030 • www.clf.org

MAINE: 14 Maine Street, Brunswick, Maine 04011-2026 • 207-729-7733 • Fax: 207-729-7373
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It seems to us that there are two options in these circumstances. Fishing effort can be consolidated with fewer boats and people catching more of the fish, creating increased efficiencies of operation. This has already been happening over the past decade and the recent efforts to form sectors in the groundfish industry will facilitate that consolidation even more over time. The second option—and the only option that may be available to the smaller, coastal fishermen—is to reduce costs. While we are not in a position to determine whether the designs you are advancing are the only or even the best means of reducing costs for fishermen in the hook and gill net fleets, they are certainly worth exploring.

The second structural change since the 1980's is global warming. We find the vision you offer of "greening" a significant segment of the New England fleet to be very attractive from the perspective of reducing diesel fuel consumption. We have not attempted to estimate fuel consumption in this sector but believe that it is significant. If your designs or other designs that are based on similar principles are functionally viable from a fisherman's perspective and reduce fuel consumption significantly, they may form the basis for a "green fleet" that could reduce regional greenhouse gas emissions and, perhaps, form the basis of a marketing effort built around sustainable harvesting practices.

Finally, we also appreciate and applaud your efforts to rehabilitate the Gloucester boat building tradition. While it is hard to imagine that this region will ever recapture any competitive advantages with respect to steel hull boat construction, there are a number of yards that are well situated to your construction techniques. Indeed, many fishermen themselves are likely to have more than adequate skills to build their own vessel. Although experience prevents us from being sanguine about any prospects of a rebirth of Gloucester's maritime heritage, we applaud your optimism.

We don't have to tell either of you that this is uphill battle on all fronts. There is always tremendous resistance to change and what you are suggesting is radical change by any measure. Nevertheless, your ideas are make intuitive sense, and the cost effective opportunities that you are trying to create for new entrants to the fishery and for the smaller scale coastal fishermen are important. The next key action in our view is to get a prototype vessel built so that fishermen can assess the design and understand its performance better. To that end, we would love to see some of the LNG mitigation funding that has come to Gloucester or the federal "disaster" funding be used to take some of your ideas from the drawing board to the water. Ultimately, perhaps we can look forward to another federal subsidy program that would enable a restructuring of the current fleet to one that could be competitive, safe, efficient, and "green" in the future.

Again, thank you for asking our opinion about your project. We wish you the best of luck with this effort and would be pleased to support your efforts in any way possible.

Sincerely,

Peter Shelley
Vice President and Massachusetts Advocacy Center

OCEAN ALLIANCE

www.oceanalliance.org ◦ www.pbs.org/odyssey ◦ www.icb.org.ar

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Monday, June 9, 2008

Phil Bolger & Friends Inc.
Boat Designers
66 Atlantic Street.
PO Box 1209
Gloucester MA
01930.

Dear Mr. Bolger & Friends,

We have spoken many times over the last two years about your vessel designs and your commitment to meet the challenge of creating sustainable fishing vessels.

More than just your innovative designs I admire the persistence and passion you and your team put into this project.

Keep up the good work – with the price of fuel skyrocketing, there is no better time to embrace your ideas. I wish you ever success with this worthwhile endeavor.

Sincerely

Iain Kerr

Ocean Alliance 191 Weston Road Lincoln, Massachusetts 01773 Tel: 781-259-0423 Fax: 781-259-0288

City Hall
Nine Dale Avenue
Gloucester, MA 01930

TEL 978-281-9700
FAX 978-281-9738
ckirk@ci.gloucester.ma.us

CITY OF GLOUCESTER
OFFICE OF THE MAYOR

October 29, 2008

To Whom It May Concern:

I am writing this letter as an expression of support for the "Sustainable Commercial Craft Project" developed by Phil Bolger and Susanne Altenburger of Phil Bolger & Friends, Inc., Boat Designers of Gloucester.

Gloucester's port economy, founded and still based primarily on fishing, is under serious stress due to the decline in the resource. Our tax and jobs base have already suffered seriously with immediate effects on the City of Gloucester's budget. To maintain the steady supply of seafood to this port and the nation, this City must lead in the development of low-carbon footprint resource-sustaining operation of commercial fishing craft and of our port. Only a fleet and a port prepared for the 21st century will be able to prosper, once resource sustainability is assured.

There is a need to address two major challenges: rising energy costs and the fact that the fishing industry is the last industry forced by statute to remain energy inefficient. Phil Bolger & Friends, Inc. (PB&F) is proposing to design and build several prototypes to pursue a 50% reduction in diesel fuel consumption and explore renewable energy and hybrid propulsion systems for our diverse fisheries. Since the summer of 2002, PB&F have developed this project towards conceptual integrity which has now attracted broad-based support by our fleet - from lobstermen to dragger captains - and ecological advocacy groups such as *Conservation Law Foundation* and *Ocean Alliance*. The *Gloucester Maritime Heritage Center* has agreed to see its boat-shop used for the smaller prototypes' construction with full regularly-scheduled public access to the project for the industry and our community.

By adding another major marine industry, it is hoped to reinvigorate America's oldest marine industrial port. PB&F plans to build these boats on the working waterfront, as most sizes of these vessels – leaner and longer than the current "obese" types – dictate their construction right on the Harbor, as road hauling becomes prohibitive. Across the growing number of specialized yards, commercial boatbuilding for this market offers apprenticeships to our students and opportunities for life-long careers at good wages in an industry based on sustainability of the resource and the demands for matching craft.

Reestablishing Gloucester-based vessel construction re-emphasizes the opportunities of value-adding harbor-dependent ventures such as seafood-processing for broad demand and specialty needs. Processing catch right out of the vessels eliminates quality losses and transportation cost of shipping unimproved product, a key advantage to survive in the market-place. Designing and testing these vessels will demonstrate lean geometries with minimized 'carbon footprint' and should trigger the elimination of persistent regulatory road-blocks against energy efficiencies across the fleet.

Gloucester assumes the lead in establishing the sustainability of fishing, as our port depends on it.

Sincerely,

Carolyn A. Kirk
Mayor

CAPE ANN CHAMBER OF COMMERCE

Serving Gloucester, Rockport, Essex & Manchester-by-the-Sea

February 4, 2010

To Whom it May Concern:

The Cape Ann Chamber of Commerce supports the Sustainable Commercial Craft Project developed by the late Phil Bolger and Susanne Altenburger of Phil Bolger & Friends, Inc.(PB&F).

PB&F have worked in the design of boats since 1952, building an extensive published track-record of designing craft from 40lbs to over 450 tons, including a number of commercial inshore and offshore fishing craft. I have personally been aware of this work since the 1970s due to professional connections to boat and ship-building first in the Great Lakes Region and later here in the northeast.

As 'America's Oldest Seaport', Gloucester's port economy, founded and still based primarily on fishing, has suffered serious decline in jobs and tax-base due to resource management challenges. As a consequence, many inner harbor enterprises and commercial properties have underperformed for owners and the community alike.

In addition, energy cost increases for water-borne commerce in general negatively impacts every aspect of seaborne commerce. In fact, beyond commercial fishing, tourism-related enterprises such as whale-watching, excursion-tours, charter-operations, ferries, and private and institutional craft are all affected. Declining global energy resources will further exacerbate the problems we face today.

To address these major economic challenges, PB&F has raised awareness and gathered increasing support for the need to revive commercial boat building in Gloucester by offering advanced 'low-carbon' commercial boat designs. Drawing on their extensive design experience, they have developed a sustainable design approach to address these economic and ecological challenges.

In 2008 the first entry-level design was built here in Gloucester and then commercially fished during 2009. *National Fisherman* and *Commercial Fisheries News* have reported favorably on the project. The United States Navy has engaged the company to pursue the construction of a patrol-craft prototype here in Gloucester in cooperation with the City.

The commercial fleet must move toward operational economies that secure and grow employment and strengthen the tax base in our ports. Establishing operational sustainability requires prototyping and rigorous testing of several sizes of commercial craft.

Public funding for research and development of fuel efficient, cost-effective craft will help our fishing industry to survive and create jobs and economic development for the region and the Commonwealth.

I urge support of Phil Bolger & Friends' Sustainable Commercial Craft Project.

Sincerely,

Bob Hastings, Executive Director

33 COMMERCIAL STREET | GLOUCESTER, MASSACHUSETTS 01930 U.S.A.

TEL 978-283-1601 | FAX 978-283-4740 | EMAIL info@capeannchamber.com | www.CapeAnnChamber.com www.CapeAnnVacations.com

An International Symposium on Energy Use in Fisheries | November 14-17, 2010 | Seattle, WA

ENERGY use in FISHERIES:

Improving Efficiency and Technological Innovations from a Global Perspective

Date

November 14-17, 2010

Location

Seattle Sheraton Hotel
1400 6th Avenue
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- Top 10 Green Hotels in US (Mother Nature Network)
- Good Earthkeeping Stars of the Industry Award (American Hotel & Lodging Asociation)

Call for Special Sessions, Oral Presentations, and Posters

The *Energy Use in Fisheries Symposium* will provide a forum for commercial and recreational fishermen, processors, engineers, boat and engine developers, aquaculturists, fisheries managers, administrators, scientists, and others from around the world to meet and address both the direct and indirect effects of energy costs related to fisheries. A particular emphasis of the symposium will be the transfer of energy-related information between developed and developing countries and across industry sectors. We invite interested parties with experience in energy efficiency in fisheries and aquaculture to submit abstracts for oral presentations or posters and proposals for special sessions. Detailed submission guidelines can be found at www.energyfish.nmfs.noaa.gov.

Special Sessions

Proposals should be relevant to the conference themes but can be on topics of special interest with particular relevance to current issues, new methodologies, or other topics, that merit sessions with a special format or concentrated focus.

Oral Presentations and Posters

Abstracts should refer to the following conference themes related to energy use in commercial and recreational fisheries, aquaculture operations, and the processing and marketing of fish with emphasis on improved efficiency and technological innovations:

- Increased profits by reducing energy costs
- Reducing the carbon footprint of fisheries and aquaculture production on the environment
- Near and over the horizon energy saving technologies to reduce energy costs
- Regulatory changes to reduce energy costs and greenhouse gas emissions
- Alternative fuels and distribution systems to reduce energy demands
- Changes in boat, power plant, and gear design to increase fuel efficiencies

Submission Deadlines

Those needing EARLY confirmed acceptance decisions and those proposing special sessions may submit proposals by April 30, 2010, with acceptance decisions sent by May 30, 2010. Abstracts for oral presentations and posters will be accepted through July 1, 2010, with acceptance decisions sent by August 1, 2010.

Additional information about the symposium, including abstract submission guidelines, can be found at the symposium website: www.energyfish.nmfs.noaa.gov.

www.energyfish.nmfs.noaa.gov

NOAA Fisheries Service, NOAA National Sea Grant College Program, Pacific States Marine Fisheries Commission, Pacific Marine Expo, and the World Bank with technical participation from the UN Food and Agriculture Organization (FAO).

ON THE ECOLOGY OF DESIGNING SUSTAINABLE FISHING-CRAFT

Susanne Altenburger, Philip C. Bolger (1927-2009)
Phil Bolger & Friends, Inc., Boat-Designers since 1952, Gloucester, MA, U.S.A. philbolger@comcast.net

Abstract: This is an attempt to soberly assess what are the multiple challenges of Industry-Sustainability. The challenges suggest to us, designing craft since 1952 out of Gloucester, MA - America's oldest fishing port - that there is indeed an 'Ecology of Fishing-Craft Design'.

Keywords: Tripod of Sustainability, least-carbon operations, Smart-Sizing, ecosystem-based management.

1. BEYOND HULLS AND SYSTEMS

Designing 'Sustainable Fishing-Craft' goes beyond an exclusive focus on advanced hull-shapes, materials, and specialized systems. Resource-ecology, shoreline and under-water geography, established socio-economics of industry-infrastructure, and of course regulation all matter in the design-process.

The 'Ecology of Fishing-Craft Design' is an inextricable man-made part of the ecology of the resource, once the resource is subject to industrial harvest. The attempt to govern that process is maturing as 'Eco-System-based Fisheries Management'(EBFM). Over the years my (late) husband and I had come to understand that this much referred to regulatory ambition (EBFM) must actually be seen as requiring a stable three-element foundation to be conceptually coherent and indeed 'sustainable'.

2. THE 'TRIPOD OF SUSTAINABILITY':

Its three elements are:
- Leg 1. Sustainable Resource-Management, based on stock-assessment and emerging Eco-System knowledge;
- Leg 2. Sustainable Fleet-Structure, based on Least-Carbon Vessel-Economics and Fleet-Practices;
- Leg 3. Sustainable Shore-Side Infrastructure typically in socio-economically well-evolved communities.

3. DEFINING OPERATIONAL 'EFFICIENCY'

Within that Framework many hard realities guide Sustainable Fishing Craft Design
- 1. For the US market a future of $5/gal for diesel.
- 2. The importance of Shortest Steaming-Distances to the Fishing Grounds.
- 3. The relevance of many 'Old Growth' Fishing Communities near that resource.
- 4. Extant Haul-Out and Boatbuilding Infrastructure for at best moderate size in/offshore craft.
- 5. Community Socioeconomics based on many Small Locally-Owned Operations.
- 6. Myriad of owners' initiatives favors Evolution towards Sustainability.
- 7. Fuel-cost and resource-ecology dictate Least- Carbon Operational Principles
- 8. High-Carbon Fishing limited to certain species only.
- 9. 'Smart-Sizing' the craft will be imperative.
- 10. High Flexibility to target diverse species will be vital.
- 11. Sustainable Hull-Materials will progressively matter.

4. WHAT ABOUT 'ECONOMIES OF SCALE' ?

Proposals based on "economies of scale" are typically highly-capitalized, centrally-managed operations running much fewer numbers of larger so-called 'State-of-the-Art' vessels. Often highly specialized they are deemed more 'efficient'. Some cite 'Ease' of Regulatory Fishing-Controls by drastically limiting all 'players' involved. It typically means de facto 'Corporatization' of the Industry and usually privatization of the publicly-owned seafood resource.

But that large-boat fleet's 'efficiency' has liabilities:
- It is perpetually at risk of under-responsiveness to commercial fishing's inherent uncertainties.
- It is less suited for small ports near fishing-grounds, and will typically face longer steaming-distances once nearby resources are depleted.
- Politically, corporate employees differ substantially from owner-operators rooted in community-dynamics.
- Advanced resource-detection electronics are becoming affordable and useable aboard even smaller craft.
- At $5/gal consolidated specialized fleets might have growing problems operating.

5. CONCEPTUALIZING SUSTAINABLE FISHING CRAFT FOR THE NORTH-EAST OF THE U.S.

In 2002 we had noticed how a pervasive regulatory focus/ preference for length-based limitations had produced a fleet-profile unprecedentedly wide-and-heavy-for-its-length and unavoidably fuel-intensive to operate. This status quo works with cheap fuel and abundant resource - not when catch is limited under sustainability targets and while fuel-cost rises.

We proposed to use ubiquitous travel-lifts to establish hard hull-weight numbers of the current fleet. A Fishing-Permit by

length or weight apart from horsepower limits would allow owners and designers to explore all sorts of hull-configurations on the same or less weight, from lean mono-hulls to multi-hull layouts, many pushed along by modest propulsive-power - fossil, bio or wind.

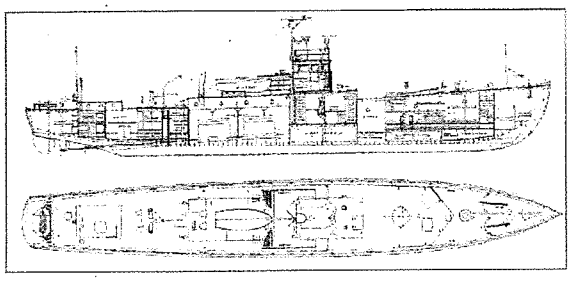

Figure 1. Precedent: Reconfigured ex-WWI US-Navy Submarine-Chasers fished for decades out of Gloucester, 110'x 15'5"x 150,000lbs x 3x220hp x 14kts with 7:1 length-to-beam-@WL ratio.

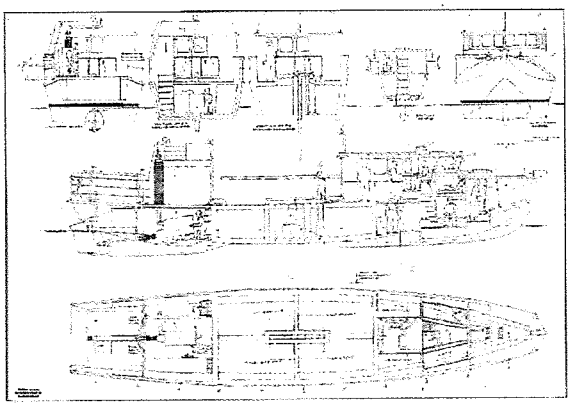

Figure 2. PB&F Offshore Type of 30,000lbs capacity/ 60,000lbs disp., 70' x 14' x 220hp x 11kts, 5:1 ratio

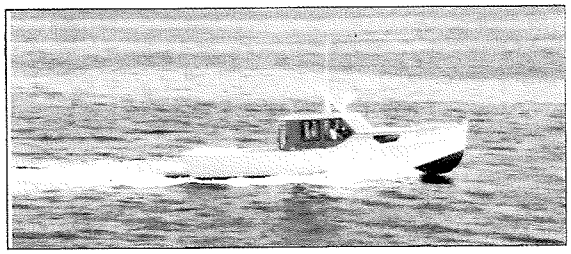

Figure 3. PB&F Light Trailer-able Inshore Type with 2000lbs capacity, 31' x 7'8" x 115hp x 27kts, 4.6:1 ratio

6. DEEP INTO 2010 A SYSTEMIC RESISTANCE TO THIS COMPREHENSIVE PERSPECTIVE

Early 2003 we offered the first of a series of testimonials before the New England Fisheries Management Council. Beyond talking to local fishermen and policy-leaders we used local, regional, national print-media to disseminate this thinking. Many concept-studies and a full design or two emerged in response to input from the fleet here and elsewhere. Few ENGOs were responsive, the majority indifferent. While by 2007 60 local fishers and port stake-holders agreed, industry-leaders never resonated.

By May 2010 a dramatic new North-East regulation known as Amendment 16 initiated a shift towards a Catch Shares System based on permanent privatization of the public ground fish resource into many fewer 'consolida-ted' hands. Resisted by the grass-root majority of the industry and most Mayors, leading proponents PEW and EDF found industry-leaders' support. Despite fuel- and hardware-cost multiplication and ailing ports, 'Tripod' Leg 2. and 3. are still not reflected in Amendment 16 - with the Resource (Leg 1.) thus put at perpetual risk as well.

7. AN ELUSIVE ECOLOGY

Most damaging is that mindset's influence over elected and appointed policy-makers who assume such laws to be the best-possible 'state of the art'-thinking - without any preparation of the fleet for $5/gal or explicit protection of the viability of shore-side fishing-industrial infrastructure.

Thus by late 2010 there is no Low-Carbon Vessel R&D Program running in the North-East, nor anywhere in the U.S. to correct decades of such poor public policy.

ACKNOWLEDGEMENTS

Dedicated to my mentor and husband Phil Bolger, and the gill-netters, long-liners, dragger-men, rod-fishermen, lobstermen and editors who supported this approach early.

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[4] Dan Edwards, Susanne Altenburger, The Sustainable Fishing Boat, Fisherman Life, Dec. 2007, pp.26-31.

[5] Prybot, Peter, Bolger offers fuel-efficient vessel-design, Commercial Fisheries News, Aug 2008, p.14C.

Fisheries Commission
City of Gloucester
www.gloucester-ma.gov
David Bergeron, Chair
(617) 680-3548

Representing the interests of 197 active commercial fishing vessels in America's oldest seaport.

May 31, 2012

To Whom It May Concern:

The Gloucester Fisheries Commission, representing the fishing industry of America's oldest fishing port, fully supports the "Sustainable Commercial Craft Project" developed by Phil Bolger & Friends, Inc. boat designers of Gloucester.

Gloucester's port economy was founded upon our fishing industry, and this proud tradition continues to be the economic engine of our working waterfront. Faced with many threats including rising costs of fuel, the fishing industry of Gloucester and our City must lead in the development of low-carbon operations of our commercial fishing vessels. It is essential for our fleet to prepare for the energy realities of the 21st century and find sustainable and economically viable fuel and energy solutions.

Phil Bolger & Friends, Inc. (PB&F) is proposing to design and build several prototypes to pursue a 50% reduction in diesel fuel consumption and explore renewable energy and hybrid propulsion systems for our diverse fisheries. Since 2002, PB&F have developed this project towards conceptual integrity which has now attracted broad-based support by our fleet and organizations such as the Conservation Law Foundation and Ocean Alliance.

Much in the same way that local processing of seafood landed locally would lower energy needs to prepare product for the market, the local construction of vessels would keep costs lower as hauling vessels over roads becomes prohibitive, and most sizes of these vessels dictate their construction on the harbor. As such PB&F plans to build these boats on Gloucester's working waterfront. Local commercial boatbuilding also offers apprenticeships to our students and opportunities for life long careers at good wages in industry based on sustainability and the inescapable economics for a more fuel efficient craft in fishing and other marine industries.

Moreover re-establishing Gloucester-based vessel innovation and construction emphasizes once again the opportunities of value-added ventures in the working harbor such as seafood processing. Designing and testing these vessels will demonstrate lean geometries with a minimized 'carbon footprint' and should trigger the elimination of regulatory road blocks against energy efficiencies across the fleet.
The Gloucester Fisheries Commission endorses the PB&F "Sustainable Commercial Craft Project" and encourages others to do the same.

Sincerely,

The City of Gloucester Fisheries Commission

The Gloucester Fisheries Commission was established in 1956 by act of the Massachusetts Legislature as an advisory body to the City of Gloucester on all matters related to the commercial fishing industry. The Commission currently consists of 10 members nominated by the Mayor and confirmed by the City Council.

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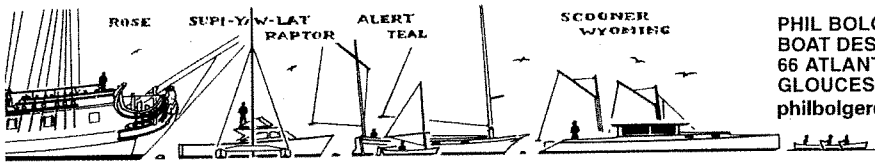
Mark Ring Sefatia Romeo-Theken Angela Sanfilippo
Gus Sanfilippo Bruce Tobey Paul Vitale



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A Whitepaper

The Persistent Legacy of High-Carbon Assumptions in the Governance and thus Practices of the Commercial Fishing Fleet in the North-East, producing pervasive Destructive Socio-Economic and Ecological Results

by

Susanne Altenburger of Phil Bolger & Friends Inc. (12/12/12 Mk.2.1)

Abstract: *1.- An extended pattern of regulatory dictates has resulted in a Commercial Fishing Fleet that remains structurally and operationally mired in high-carbon parameters once based on 1970s-'80s-era cheap fuel and ample fish-resource-availability - none of which hold true any longer.*
2.- While harshly-enforced regulations prohibited any 'natural' evolution of fishing-craft and operations to match this mounting challenge, the industry has been exposed to deal with a 380% diesel-cost inflation from late-90s $1.1.- to currently $4.2.-/gal = 26.5% / year.
3.- Still, no federal, state nor public or private academic research & development has taken place into defining and prototyping 21st-century low-carbon commercial fishing craft.
4.- It seems that only we at PB&F have since 2002 undertaken at substantial cost the only one such effort with an extended public track-record in word and print both raising awareness of this growing calamity and pushing to see two modest related hulls built.
5.- This dictated arrest of development towards much 'greener' types has added significantly to the 'Economic Disaster' recently declared in the North-East Ground-Fish Fleet and thus its shore-side communities.
6.- Next to ensuring the sustainability of the fish-resource, laying the groundwork towards a 'Least-Carbon Fleet' must be the major management ambition.
7.- To that end PB&F propose to set aside a 1-1.5% share of the actual/'net' Relief-Budget slated for the North-East to fund design, construction, extensive testing and demonstrating to the Fleet in New England of one 15,000lbs(light) inshore-type, one 40,000lbs (light) offshore-type, and one 80,000lbs type to cover much of the fleet's basic needs. This would at long last establish an advanced Low-Carbon 21st-century fleet-economic and -ecological baseline upon which then to craft coherent ecosystem-based fisheries policies.
8.- With concurrent regulatory adjustments to support such types, this knowledge-base would allow the fleet to migrate to these craft to reestablish both fleet- and Seafood-Supply Sustainability - in part leveraging re-focused extant NMFS industry-support programs.

Over many decades the Daily Practice and corresponding Governance in this Commercial Fishing Fleet was based on cheap fuel for vessels-&-raw-materials and daily/annual operations on the one hand, and the idea of a seemingly endless fish-resource to pay for expenses and profits on the other hand. Fishing boats and thus fleets were built to those principles, with most vessels typically expected to work at least 2-3 decades. Inevitably, both operational and respective regulatory assumptions would indeed come to be reflected in the fleet's physical structure thus inevitably defined in its operational profile for decades to come deep into this new century.

Efforts towards Controlling 'Overfishing'

As science however came to eventually document the phenomenon of apparent 'Overfishing' of certain species, regulations emerged to restrict the fleet's fishing-effort in order to allow the recovery of the affected sectors of seafood harvesting. In the *Ground-Fish Industry* for instance several regulatory concepts were deemed appropriate to address that challenge. Two major approaches would come to be applied in parallel:

A.) Limits on the fleet's relative growth-potential.
Federal Permits to go fishing commercially would limit any associated vessel in three significant ways:
- 1. the given vessel's length,
- 2. the vessel-engine's current horsepower,
- 3. the vessel's current 'volume-tonnage'.
Should a vessel have to be retired or otherwise disposed of, the new vessel could not exceed the old vessel's length, horsepower, or tonnage by any more than a maximum of a one-time 10% increase. The underlying assumption was that limiting the 'size' of any vessel would limit the overall technically-possible 'lethality' to the fish-resource, thus presumable protecting the fish-stock from ever larger vessels.

B.) Limits on the Annual Effective Fishing-Action.
Spatial and temporal limits were initiated in various forms and intensity
- 1. Permanent and 'Rolling' Closures would keep certain quite sizable areas of the ocean out of bounds to fishing to allow the fish-stocks to rebuild in the protection of the vast swatches of ocean-territory over whatever time nature requires.
- 2. So-called Days-At-Sea (DAS) regimes would use a formula to limit the actual days and even hours any fishing-craft could be operating fishing commercially every calendar-year.

High-Carbon Regulatory Consequences

Several of these regulations have *fostered High-Carbon Fleet-Attributes and Operations*:

- A.1. would *freeze* the given vessel-length under the *erroneous assumption* that the vessel's length equals its 'size'.
However, as a matter of the Laws of Physics and thus fundamental Boat- and Ship-Design-Principles *any given vessel's 'Size' is actually its Weight*! Experience has demonstrated in general that the operationally *most efficient vessel-geometries* would tend to be *Long-For-The-Given-Weight*, as reflected in the de facto global consensus on the hull-geometries deemed desirable in both commercial shipping- and especially naval-vessels where speed and range are paramount requirements. In comparison to shorter-&-wider hulls (regulation-limited), long-&-lean-*per-same-weight* hull-shapes simply run faster per given weight at typically less power, or require even less power for the same speed carrying the same weight - be it cargo, people or fish.

- B.2. dictated *higher-speed-centric* and thus *high-horsepower/high fuel-burn* operational practices that favored the extant craft that could go fastest within the A.1-through A.3. limitations, with inevitable cases of de jure illegal but near-undetectable engine-modifications towards higher speed yet.

'Catch Share' Regimes can not be successfully based on this High-Carbon Fleet-Structure

After many years of increasingly effective self-policing, alongside regulatory enforcement, certain key-species though did not come to reflect recovery-rates that scientific modeling had predicted. Thus the 'Catch Share' notion of Privatizing the Public Fish-Resource was developed and put into regulatory dictate under the assumption that 'owning' the fish-resource would somehow motivate the fishing-fleet towards fish-resource-sustainability. But without addressing any of the hard fleet-structural high-carbon legacy, this conceptually thus *inherently incomplete regulatory model* fails as well.

The Mid-to-Long-Term Hard Structural 'High-Carbon' Results

For the Ground-Fish Industry:
- Harshly-enforced *A.-type restrictions effectively* Shut-Down *any otherwise* Natural Industrial Evolution towards more fuel-efficient and thus lower-carbon hull-geometries.
- High-Speed-centric *B.2-type dictates* only added to the carbon-intensity of routine operations.

For the sizable New England State(s) and Federal Lobster-Industry:
- Due to the long-standing practices as a matter of economic necessity of using a given boat-type *across various fisheries* through the seasonal and regulatory variations of the year or regulatory periods, **that fleet has inevitably often acquired quite similar 'high-carbon' vessel-attributes and operational practices, *de facto multiplying the damage of ill-considered regulations in one fisheries across others as well !***

A Long-Term Bi-Partisan Destructive *Regulatory* High-Carbon Legacy

Between the projected life-span of each fishing-boat and the disastrous momentum of regulatorily-prohibited fleet-evolution towards lower-carbon opportunities the Fleet in the Northeast - in fact across many sectors across the nation - **we have by 2012 arrived at a persistent High-Carbon Fleet-Structure and Operational Parameters that neither the Bush nor the Obama-Administration have taken measures to mitigate against.**

Just about every other fossil fuel-intensive industry has sought to upgrade its hardware- and operational profile towards greater fuel-efficiencies, often with indirect and direct public support through measures ranging from tax-incentives and grant-funding to extensive R-&-D in-house and via partnerships with universities etc. into advanced options.

In stark contrast, this commercial fishing industry remains frozen in this remarkably-backwards state of potentially catastrophic exposure to rising fuel-cost and thus cost for hull-materials such as steel, aluminum, fiberglass, wire, rope, paint, lube-oil, grease, and the rising likelihood of dedicated statutory penalties for Carbon-*Overuse*, however defined - all before factoring in the cost of ice, transportation of the fish to processing and then to the market etc. etc.

As it presents itself to the world today in its High-Carbon Fleet-Profile, this industry suffers from the most serious political embarrassment of having a Deep Fleet-Structural Liability against ever appearing any time soon as the 'Stewarts of the Fish-Resource' via low-carbon vessel-attributes and matching fishing-methods.

Since its current Fleet-Structure violates fundamental basics of any definitions of 'Sustainability', this industry as it stands by late 2012 can not be integrated into any regulatory efforts towards 'Eco-System-based Fisheries Management'.

And yet, signatures by the fleet here in Gloucester and now the Fisheries Commission indicate that individual fishermen would indeed strongly favor vessel-economic 'sustainability', as the typical mom-&-pop operations-model has served the market so well due to its agility in response to the vagaries of weather, market, ecological cycles and regulations. (For more on this see p. 4-5)
Here are some hard numbers as a 'Reality-Check'.

Diesel Fuel Cost multiplied by 380% from a 1990s plateau of $1.1/gal to $4.2/gal in late 2012

- In 1994 Diesel-Fuel cost around $1.10.- per gallon and would stay near that level until June 1999 when it began to move upwards towards $1.75.- by early December 2000 to drop again towards $1.30.- by early 2002
- Between mid-2002 and late 2012 New England Diesel-Fuel prices rose from around $1.40.- to a peak-cost by June 2008 of $4.88.- back down to $2.39.- by May 2011 and gradually up again to $4.22 by early December 2012.

Across well over 15 years diesel-fuel expenses grew by over 380% - without a matching increase in fish-prices !

How does the High-Carbon-Reality Compare with one projected Low-Carbon Future ?

To illustrate the economic benefits of shifting from *Length* to *Weight* as the primary hull-size defining regulation, here one currently active ***High-Carbon craft*** (HC) as compared to a 21st-century ***Low-Carbon craft concept*** (LC).

Both examples are for commercial (*already lower-carbon fishing-methods-based*) Gill-Netting/Long-Lining/Lobstering/ Jigging/Rod-&-Reel fishing duty.
[Stern-Dragging/Scalloping is a much more energy-intensive approach to fishing with its own technical challenges towards achieving LC-status - and yet reasonably addressable as well under the approach laid out here!]

Several Notes on the Data below:
- For easier faster reading, the red and green numbers and text will offer the *short-form* realities !
- They are 'desk-top' quality, reflecting personal practical experience and historic data on low-power craft.
Deeply rooted in $1/gal assumptions, the HC-type constitutes a particularly profligate example of the effects of **High-Carbon-reflexes borne of decades of under-development and outright stagnation induced by Length-based regulatory constraints. Compare HC to a 80s-era car and LC to state-of-the-art Hybrid cars!**
[Spec.-Sheet Turbo-Charged Diesel-Engine Efficiency Assumption:0.34lbs/hr/hp at peak torque,0.38lbs/hr/hp WOT (Wide Open Throttle); U.S. Gallon of #2 Diesel = 7.25lbs; Gallons per hours=GPH; Miles per Hour= MPG (all numbers rounded upwards)]

- HC example is a representative smaller inshore Day-boat measuring **32'x11'x15.000lbs x300HP x15kts light.**
Carrying Capacity in actual use is 10.000lbs iced fish on deck (no fish-hold available) **for 25.000lbs @ 7.6kts.**
- LC example is a *notional* inshore/offshore Day-/Trip-boat measuring **50'x 10' Beam x15.000lbs x75HP x9.2kts.**
Carrying Capacity is closer to 15.000lbs in fish-hold plus some on deck, for 30.000lbs all-up weight @ 9kts.
(From personal experience the projected 75HP is a conservative approach to this lean hull-geometry per given weight.)

Here is one legacy of B.2. "Days-at-Sea Regulation" -type operational dictates *prohibiting* LC-types:

- **GOING OUT Empty** maximizing the given hull's speed
  Gallons per Hour (**GPH**) of Operation (assuming 50% WOT during transit and high-idle during net-hauling)
  HC-type: 7.5nm burning 7.85 gals = **0.96MPG** (with 30mins idling per hr deemed negligible) = approx. **8.0 GPH**
  LC-type: 4.6nm burning 1.97 gals = **2.33MPG** (with 30mins idling per hr deemed negligible) = approx. **2.1 GPH**

  Consumption *per Equal Distance* 7.5nm: HC= **8.0 gals/7.5 nm** = .96MPG
  (*30 min @ 15kts of HC*) **LC= 3.42 gals/7.5nm = 2.19MPG = 2.28x efficiency/mile**
  Corrected Time to travel same Distance: HC = **30mins** to travel 7.5nm
  LC = **49mins** to travel 7.5nm

- **COMING IN w/Full-Load Catch.** Note how the short, wider, deeper HC-type hull suffers in full-load condition vs. the slender LC-type:
  HC-type at **25.000 lbs total weight** *cannot make 15kts(!)*, perhaps 10kts WOT @ 15.73gals/hr = 0.64MPG
  LC-type at **30.000 lbs total weight** (with greater capacity!) will make 9.2kts WOT@ 3.93 gals/hr = 2.34MPG

  Consumption *per Equal Distance*: HC=**7.85 gals/5 nm** = .64MPG
  LC=**1.97 gals/4.5nm** (x1.1=5nm) = **2.17gals = 2.3MPG** = *3.59x efficiency/mile*
  Corrected Time to travel same Distance: HC = **30mins** to travel ***5 nm*** LC = **33.5mins** to travel ***5 nm***

- ***Averaging* these MPG:** HC-type = **0.8MPG versus** LC-type =**2.24MPG = 2.81x efficiency per mile traveled.**

- ***Most Fuel-Efficient Speed* for both per Distance @ *Full Load* (HC 25.000lbs , LC 30.000lbs) @ 'Unity Speed':**
  - HC-Type: 1.1 x √32' waterline length = 6.23kts using 91HP = **4.26 GPH = 1.46 MPG**
  - LC-Type: 1.1 x √47' waterline length = 7.54kts using 24HP = **1.13 GPH = 6.67 MPG = 4.57x efficiency/mile !**

This unarguable Daily Damage to each business's economics seems very hard to justify from any regulatory perspective. How a particular business would attempt to make up for this dictated constant loss could range from only returning to port with the most lucrative species - at whatever by-catch discards - to 'grey-zone' boat/gear manipulations.

<u>The Unavoidable Long-Term Vessel-Economical Consequences under $2.5/gal, $4.-/gal and $5.-/gal</u>:
Per Hours of Annual Operation the Cost-Savings of LC-craft over current HC-types also illustrates the mid-term protection from price-spikes:
- **HC-type @ 4.26GPH (or 1.46MPG)** - 1500hrs = 6390gals Annual Consumption
- **LC-type @ 1.13GPH (or 6.67MPG)** - 1500hrs = 1695gals Annual Consumption
Annual Cost @ 1994-level $1.1.- = $7,029.-, **@ $2.5.-** = $15,975.-, **@ $4.-** = $25,560.-, **@ $5.-** = $31,950.-
Annual Cost @ 1994-level $1.1.- = $1,865.-, **@ $2.5.-** = $ 4,237.-, **@ $4.-** = $ 6,780.-, **@ $5.-** = $ 8,475.-

<u>Conclusions</u>:
- 1. Classifying vessels in various Codes by Weight is *imperative* to the evolution towards LC-type efficiencies.
- 2. In a *Speed-Independent* regulatory system freed from False Definitions of 'Size', the most favorable vessel-economics would be determined by *MPG at the most efficient hull-speed-to-power-to-load interaction in the context of* enhanced vessel-safety, work-ergonomics, systems-reliability and fundamental *economic affordability*.
- 3. Therefore the LC-type will be the sole viable approach to cope with the concurrent realities of limited and uncertain access to the fish-resource due to Climate Change and the full range of rising Energy-related Expenses.

Note: These numbers do not reflect *additional options* to further push towards '*Least-Carbon*' geometries/propulsion.
Note: LC's lower-HP drive-train will cost less than half in *initial* cost and always less in maintenance & repair.
Note: We'd expect the LC-type's advantage over HC-type to *degrade* some in harsh operating conditions !

In light of these compelling data-points, who is leading towards a Low-Carbon Commercial Fishing Fleet-Structure in 2012 ?

Well into the 21st century there are few industrial ventures dependent upon liquid fossil fuel which have not seriously pursued a range of efforts to reduce their operation's exposure to fuel-cost increases.
Working since 1952 out of 'America's Oldest Seaport', PB&F unambiguously engaged the challenge head-on by 2002.

PB&F's Efforts towards Low-Carbon Options for the Commercial Fishing Fleet in Gloucester

Since the Summer of 2002 PB&F has engaged the challenge with in-house discussions, concept-studies, in-office conversations with fishermen in regards to needs, workflow ergonomics aboard, differences between HC-types and LC-types via sketches, studies, numbers, publications. **Here the 10+years 2700+ pro-bono hours effort in short form**:

- **2002-12** 3-digit number discussions with ship-borne and shore-side stakeholders on Gloucester's Working Waterfront.

- by **Spring 2003** going public for the first time testifying before the New England Fisheries Management Council,

- nation-wide coverage in the **Sept.2004** issue of **NATIONAL FISHERMAN,**

- **Dec.2004** workshop with fishers, academics, ENGOs and NMFS staff at the Gloucester Maritime Heritage Center,

- Invite by ECOTRUST of Canada to a **Nov.2006** 6-day Field-Trip to Vancouver B.C. and Vancouver Island.

- **2007 Petition-gathering of some 60 signatures from Gloucester fishers and shore-side industry-stakeholders.**

- **Dec.2007** Feature in **'FISHERMAN LIFE'** monthly.

- **March 2008** Endorsement by New England's CONSERVATION LAW FOUNDATION.

- **June 2008** Endorsement by OCEAN ALLIANCE.

- **Aug. 2008 COMMERCIAL FISHERIES NEWS** feature.

- **Oct. 2008** Endorsement by GLOUCESTER'S MAYOR CAROLYN KIRK.

- **Feb. 2010** Endorsement by CAPE ANN CHAMBER OF COMMERCE.

- **Nov. 2010 PB&F was the sole Small Business from the North East** asked to give a presentation at the first **International Conference 'Energy Use in Commercial Fishing' in Seattle 11/14-17/'10** convened by NOAA, UN-FAO, World Bank with 18 nations attending. We presented the perspective outlined below on p.6ff.

- *March 2011* start of construction of an experimental 39'x7'5" boat-type **for the US Navy in collaboration with the City of Gloucester and the Commonwealth of Massachusetts' Division of Marine Fisheries** which - once USN has completed testing - will own the craft **as likely their greenest marine-biological research-craft.**
This effort demonstrated design and construction-principles with *direct relevance* to R&D towards Low-Carbon Fishing Craft !

- **May 2012** Endorsement by the **GLOUCESTER FISHERIES COMMISSION.**

For context - US-Navy collaboration with PB&F: By mid-2002 the US Navy hired PB&F to consult on a number of challenges and produced advanced design-concepts to unusual requirements - a productive relationship on-going today.

By late 2012 despite the obvious need in the Fleet - and PB&F's efforts - there still is no R&D anywhere

in the North-East or the Nation towards making this fleet-structure much less carbon-intensive and thus more economically, socio-economically and of course ecologically sustainable - despite the progressively unarguably dire

economic realities. **By late 2012 the North-East Ground-Fisheries was declared a Federal Economic Disaster.** The following industry-'players' have persistently proven *non-resonant* with the unarguable urgency for such work. **These typically very vocal 'players' have each an extended track-record of never voicing or publishing initiatives or recommendations or any form of position in favor of the idea of a fleet-structurally 'Sustainable Fishing Fleet'.**

As far back as 2003 the UN stated that any type of 'Eco-System-based Fisheries Management' has to include the 'anthropogenic' elements in the fish-resource's eco-system, i.e. the fishing-fleet - plus by now likely man-made effects of climate change. The following organizations however have typically insisted on keeping the conversation focused on just the status of the fish-resource and respective access to it by the fishing-fleet and its infrastructure. **Therefore no proposals to integrate R&D into least-carbon fishing-craft and respective supporting incentives for the Fleet were ever integrated into debate and regulatory provisions that have so severely affected the fleet and its communities !**

Reflecting an apparently pervasive philosophical preoccupation with pretty much just the fish-resource only:
- ***No support by NOAA*** *in Silver Springs MD nor the Gloucester office of the National Marine Fisheries Service* ***NMFS.***
- ***No interest at the New England Fisheries Management Council (NEFMC)***, whether under John Pappalardo, his predecessors or successors, with the exception of certain few individual Council Members.
- ***No interest even at the NEFMC's Science & Statistical Committee (!?).***

In the regional (and national !) academic/research arena again there seems to be not even any technical curiosity (?!).
- ***No interest at the North East SEAGRANT*** *system and apparently no other sister-organization elsewhere either.*
- ***No interest at MIT, UMASS/SMAST, UCONN, URI, UNH, UME*** *etc.*
- ***No Interest at NOAA's Woods Hole oceanic research facility.***

No interest amongst leading national Environmental Non-Governmental Organizations (ENGOs) either:
- ***No interest at PEW.***
- ***No interest at EDF.***
- ***No interest at OCEANA*** *etc.etc* They neither show interest in Low-Carbon Approaches nor coherent 'management'.

While senior members support the PB&F effort *Gloucester's* ***NORTH-EAST SEAFOOD COALITION*** won't engage.

Only MA's Division of Marine Fisheries *has shared in a 4-party collaboration on a somewhat-related PB&F project.*

Thus, by late 2012 there still is ***no dedicated project*** neither here in the North-East nor **nationally to take on R-&-D opportunities towards a range of low-carbon approaches.**

In Summary, without any apparent attention to the Sustainability of the water-borne industrial backbone - the Fishing Fleet itself - much of any political and scientific energy is applied to what amounts to just one half of what actually makes for a Fishing-Industry ! With this fractured ambition, this disaster was indeed likely to occur...

PB&F's Comprehensive Low-Carbon Approach to 'Eco-System-based Fisheries Management'

1. Beyond Hulls and Systems

The challenge of developing a Low-Carbon Commercial Fishing Fleet by designing 'Sustainable Fishing-Craft' goes beyond the exclusive focus on advanced hull-shapes, materials, and specialized systems. Fish-resource-ecology, shoreline and under-water geography, established socio-economics of industry-infrastructure, and of course regulation all matter in addressing this challenge and thus indeed the design-process as well.

Whether High-Carbon- or Low-Carbon-based, the Commercial Fishing Fleet is an inextricable man-made part of the ecology of the fish-resource, once the fish-resource is subject to industrial harvest. The attempt to govern that process is indeed maturing as 'Eco-System-based Fisheries Management'. Over the years PB&F had come to understand that **this much referred-to regulatory ambition must actually be seen as requiring a stable** ***Three-Element Foundation*** **to be conceptually coherent and thus indeed 'sustainable' on its own proclaimed terms.**

2. The 'Tripod of Sustainability':

Its three elements are:

- Leg 1. **Sustainable Fish-resource-Management**, based on stock-assessment and emerging Eco-System knowledge;
- Leg 2. **Sustainable Fleet-Structure**, based on Least-Carbon Vessel-Economics and Fleet-Practices;
- Leg 3. **Sustainable Shore-Side Infrastructure** typically in socio-economically well-evolved communities.

3. Defining Operational 'Efficiency'

Within that Framework many hard realities guide Sustainable Fishing Craft Design

- 1. For the US market a future of $5/gal for diesel.

- 2. The importance of *Shortest Steaming-Distances* to the Fishing Grounds.

- 3. The corresponding importance of *'Old Growth' Fishing Communities near that fish-resource.*

- 4. Extant Haul-Out and Boatbuilding Infrastructure for at best moderate size in- and off-shore craft.

- 5. Community Socioeconomics based on many nimble since *Small Locally-Owned Operations.*

- 6. Myriad of owners' initiatives favors Evolution towards Sustainability.

- 7. Fuel-cost and fish-resource-ecology dictate *Least-Carbon Operational Principles from Catch to Plate.*

- 8. *High-Carbon Fishing limited to certain species only.*

- 9. *'Smart-Sizing'* the craft will be imperative.

- 10. High Flexibility to target diverse species will be vital.

- 11. *Sustainable Hull-Materials* will progressively matter.

4. What about '*Economies-of-Scale*' Models of Industry-Organization?

Proposals based on "economies of scale" are typically highly-capitalized, centrally-managed operations running much fewer numbers of larger so-called 'State-of-the-Art' vessels. Often highly specialized they are deemed more 'efficient'. Some cite 'Ease' of Regulatory Fishing-Controls by drastically limiting all 'players' involved. It typically means de facto 'Corporatization' of the Industry and usually de facto privatization of the publicly-owned seafood resource.

But that large-boat fleet's 'efficiency' has liabilities:

- It is perpetually at risk of under-responsiveness to commercial fishing's inherent uncertainties.
- It is less suited for small ports near fishing-grounds, and will typically face longer steaming-distances once nearby stocks depleted.
- Politically, corporate employees differ substantially from owner-operators rooted in community-dynamics.
- Advanced fish-detection electronics are becoming affordable and useable aboard even smaller craft.
- At $5/gal consolidated specialized fleets might have growing problems operating in that overall context.

5. Conceptualizing Sustainable Fishing Craft for the North-East of the U.S.

Since the pervasive regulatory focus/preference for length-based limitations has produced a fleet-profile unprecedentedly wide-and-heavy-for-its-length and unavoidably fuel-intensive to operate. This status quo works with cheap fuel and abundant fish-stocks - not when catch is limited under sustainability targets with fuel-cost rising as it did in recent years.

Since 2002 we proposed to use ubiquitous travel-lifts to establish hard hull-weight numbers of the current fleet. A Fishing-Permit by length or weight apart from horsepower limits would allow owners and designers to explore all sorts of hull-configurations on the same or less weight, from lean mono-hulls to multi-hull layouts, many pushed along by modest propulsive-power - fossil, bio or wind.

Fortunately the North-East's rich history of fishing-craft evolution offers solid examples of what we'd now call 'Low-

Carbon' hull- and drive-train geometries. Significantly updated for much greater safety, current ergonomic dictates, using more modern materials and construction-methods, and leveraging contemporary propulsion-options, a 21st-century Low-Carbon Commercial Fishing-Craft is within immediate reach - **de facto 'Shovel-Ready'**.

6. Towards Establishing a Low-Carbon 21st.-century Fleet-Economic and -Ecological Baseline.

A Three-Element Approach :

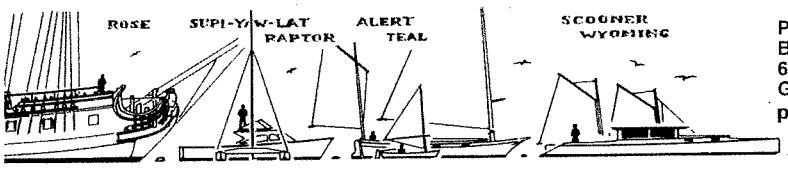
- **PB&F proposes to set aside a 1-1.5% share of what would be the *actual/net* Disaster-Relief-Budget slated for the North-East. This would fund the R&D-Process of design, construction, extensive testing here in Gloucester, MA and then demonstrating to the Fleet in New England of one 15,000lbs(light) inshore-type, one 40,000lbs (light) offshore-type, and one 80,000lbs (light) type to cover much of the fleet's basic needs.**

- **Concurrently, within the context of scientifically strictly-defined catch-limits, it would take a comprehensive purging of numerous *high-carbon assumptions-based* regulatory obstacles across *several* Federal Codes that have so deeply damaged the Fleet's ecological and economic sustainability and thus its respective homeports' socio-economics. Without such low-carbon-supporting regulatory adjustments - no new types could operate.**

- **Based on this first evolutionary wave, the fleet would be able to consider rapidly migrating towards such types to reestablish both fleet and seafood-supply sustainability - in part leveraging extant NMFS-programs.**

Next to ensuring the Sustainability of the Fish-Resource, establishing a 'Least-Carbon Fleet' must be a *co-equal* Fisheries-Management ambition.

As a consequence of this destructive *'High-Carbon' Public-Policy Legacy*, it will indeed take publicly-funded R&D to begin to correct its pervasive ills - *whether out of the NOAA/NMFS budget or about 1-1.5% of the (net) Disaster-Relief Budget headed to these parts.*



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Comment

on

Omnibus Amendment to Simplify Vessel Baselines (DRAFT published July'14 2014)

by

Susanne Altenburger of Phil Bolger & Friends Inc. (PB&F) (09/22/14)

- 1. Who are we ?

Since 1952 we have been in the business of designing boat with the Archive featuring plans for craft ranging in size of between 40lbs and 1.050.000lbs, 5'6" to 270', for human-power, sail, inboard- and outboard-power, steam, gasoline, diesel, in a range of materials from conventional wooden-construction over various types of wood-composite, solid and cored fiberglass, ferro-cement, steel and aluminum. Clients include children, commercial operators, yachtsmen, research-institutions, governmental agencies.

With the first national exposure actually in a glossy national periodical in March of 1948, a growing number of publications has by come to include well over 600 such articles on our work in about every format, mostly for North-American readership, with certain efforts by and in overseas periodicals as well. That significant output led to McGraw-Hill proposing the first of what would be a series of 6 books on our work starting in 1972. More manuscripts are in the process of editing.

For more, examine for instance WIKIPEDIA: http://en.wikipedia.org/wiki/Phil_Bolger

This body of work led in 2002 the US Navy to reach to us – with Phil Bolger then at 74 years of age (!) - to consider resumption of an earlier modest series of USN-sponsored (USN) consultancies then reaching back several decades. This time however, a much denser sequence of work would come to emerge.

Some of our thinking was substantial enough to recently see very public support by an active-duty USN CAPT and Prof. at the Naval War College in Newport RI along with a retired CDR, now a mid-level civilian technologist at USN's Naval Sea Systems Command (NAVSEA). In co-authorship with me, Susanne Altenburger of PB&F as the Lead-Author, this article on PB&F's proposal for an advanced medium-speed heavy-lift assault landing-craft, named LCU-F, appeared in the top-level Monthly on matters US Navy, US Marine Corps (USMC) and US Coast Guard (USCG) - the "PROCEEDINGS of the US Naval Institute". Here is the link to our piece in the July'13 issue http://www.usni.org/magazines/proceedings/2013-07/landing-craft-21st-century Also GOOGLE *'LCU-F'*.

This presentation to the USN/USMC community then resulted in the direct personal attention by the Commandant of USMC, General Amos, explicitly referring to our work as one of four projects to focus further attention on.
http://www.usni.org/magazines/proceedings/2014-06/bridging-our-surface-connector-gap
Our thinking has thus reached the direct personal and fully-publicized attention of one of the highest level of decision-makers in the Pentagon - the boss of the Marines, the Commandant.

- 2. Why would we want to comment on this Vessel Baselines Amendment ?

As our civilian published record reflects – only a good fraction of our actual output - , we've had opportunity to design a range of Inshore- and Offshore Fishing-Craft, along with several marine-scientific research-craft.

Since the Summer of 2002 PB&F has been concerned with the emerging deterioration in the economics of our local fishing-fleet here in Gloucester, MA and its impact upon the port's economy and thus our jobs- and tax-base. Examining the local, then regional inshore and offshore fleet we became increasingly alarmed at the growing disconnect between the inherent task of any level of 'Ecosystem-Based Fisheries Management' (EBFM) and the

actual technical state of the fleet.

We learned that distinct regulatory assumption had caused the increasing 'carbon-intensity' of each operation while (remarkably !) explicitly prohibiting most forms of innovation towards lesser carbon-intensity. These regulatory assumptions were Length, 'Tonnage', Horsepower. *As formulated since the mid-90s and then legally enforced, there assumptions had come to drive the relative increase in carbon-intensity of the commercial fishing fleet in ways and to levels unlike during any other period of fishing certainly in New England.* ***In an age when increasing fuel-costs made most other industries seek technical solutions to compensate for cost-increases of energy, the NOAA/NMFS/NEFMC/SSC community of regulators and enforcers insisted upon legal dictates that either froze the then current carbon-intensity or indicated even higher levels of it.***

Since we saw little chance under that multi-layered body of de facto and de jure high-carbon dictates to see any technical and regulatory improvements develop, we pursued on a consistently pro-bono basis very serious and in-depth efforts away from that destructive range of policies. We engaged the challenge of examining the option towards a much Lower-Carbon (LC-) fishing fleet than dictated by law. Via in-house discussions, concept-studies, in-office and fishing-craft conversations with fishermen in regards to needs, workflow ergonomics aboard, we explored the differences between High-Carbon (HC)-types and LC-types via sketches, studies, numbers, with a good amount of that work eventually being published in print. At this point in time – late Summer of 2014 – there is enough in-house work and public track-record for a full-fledge book on our efforts.

Here the 11+years 3000+ pro-bono hours effort in short form:

- **2002-12** 3-digit number discussions with ship-borne and shore-side stakeholders on Gloucester's Working Waterfront.
- by **Spring 2003** going public for the first time testifying before the New England Fisheries Management Council,
- nation-wide coverage in the **Sept.2004** issue of **NATIONAL FISHERMAN,**
- **Dec.2004** workshop with fishers, academics, ENGOs and NMFS staff at the Gloucester Maritime Heritage Center,
- Invite by ECOTRUST of Canada to a **Nov.2006** 6-day Field-Trip to Vancouver B.C. and Vancouver Island.
- **2007 Petition-gathering of some 60 signatures from Gloucester fishers and shore-side industry-stakeholders.**
- **Dec.2007** Feature in **'FISHERMAN LIFE'** monthly.
- **March 2008** Endorsement by New England's CONSERVATION LAW FOUNDATION.
- **June 2008** Endorsement by OCEAN ALLIANCE.
- **Aug. 2008 COMMERCIAL FISHERIES NEWS** feature.
- **Oct. 2008** Endorsement by GLOUCESTER'S MAYOR CAROLYN KIRK.
- **Feb. 2010** Endorsement by CAPE ANN CHAMBER OF COMMERCE.
- **Nov. 2010 PB&F was the sole Small Business from the North East** asked to give a presentation at the first **International Conference 'Energy Use in Commercial Fishing' in Seattle 11/14-17/'10** convened by NOAA, UN-FAO, World Bank with 18 nations attending.
- ***March 2011*** start of construction of an experimental 39'x7'5" boat-type **for the US Navy in collaboration with the City of Gloucester and the Commonwealth of Massachusetts' Division of Marine Fisheries.**

This effort has **demonstrated design and construction-principles with** ***direct relevance*** **to R&D towards Low-Carbon Fishing Craft** !

- **May 2012** Endorsement by the **GLOUCESTER FISHERIES COMMISSION**.

However, by 2014 still no level of discussion within the NOAA/NMFS/NEFMC/SSC was allowed to establish via at least a basic presentation of our seasoned perspective a shared level of knowledge, and thus capacity to reassess the relative utility of the notions that Length/Tonnage/Horsepower could ever coherently serve the Fleet, scientific ambitions or related regulatory principles under Magnusson-Steven Act (MS). Neither SSC under EDF's Jake Kritzer nor NEFMC under Messrs. Hill/Pappalardo/Stockwell III, nor the Council bureaucracy under executives Paul Howard nor Tom Nies, nor in-house NMFS staff, nor Regional Administrators Kurkul or Bullard, or for that matter Jane Lubchenco, Eileen Sobek or Sam Rauch. None of them have found any of this thinking of enough interest to engage on it.

And yet, at least on the federal level via Administrator Rauch, sweeping claims of EBFM-policies as already successfully initiated are quoted before the Industry, such as the Maine Fishermen Meeting in Rockland ME last January'14. It sounded as if fundamental principles of EBFM were well-established across all administrative districts. But at least here in New England the regulatory high-carbon dictates massively impacting the daily operations and thus overall economic sustainability ***remained more or less in place*** **– and thus continued to inherently affect negatively the relative sustainability of the resource as well.**

Ironically, the work for USN and USMC has been much more demanding than the more or less obvious path towards a low-carbon-fleet in keeping with basic unarguable principles of resource-sustainability.

And more ironically so, LCU-F is by explicit design massively less 'carbon-intensive' per given unit, combat-cargo hauled, tactical speed attained, and distance travelled than any earlier and just about all known competing concepts. The boss of the Marine Corps publicly supports further work on it.

In stark contrast to this naval forum of deliberations, apparently deeply-held convictions within the NOAA/NMFS/ NEFMC/SSC universe have so far kept scientists, council-members, and regulators from deviating from this **inherently high-carbon course of dictates applied to an industry** ***that by its very nature must unavoidably be as low-carbon as technically, operationally and fiscally-conceivable to both match economic and ecological challenges*****, and to lead in the fundamentally unevadable path towards climate-change-reflecting operational parameters.**

One of the more tragic episodes was Council President Pappalardo's dismissal of the idea of an 'Energy-Summit' for the Fleet in the immediate aftermath of the 2008 oil-price spike of up to $147,50/barrel; and yet today his Cape Cod organization continues to accept funding from EDF and like-minded 'green' supporters… as that fleet continues to work its more or less unreconstructed fleet and business-model. **So, instead of using this calamity to move regs and fleet towards at least 'less-carbon' models,** ***we lost another 5 years to fleet-structural high-carbon stagnation*** **while neither the Fleet's economics nor the Resource - as now so well-documented – had a chance to benefit from a comprehensive EBFM-approach that includes the Fleet in its structure, operations, long-term sustainability.**

In this larger context certainly much less relevant – but noteworthy as a sign of the prevailing mindset - even though formally submitted to the administrative record of the Council, Council President Pappalardo also found it appropriate to return to us our carefully selected, reproduced and bound body of work on this issue across then 7 years, with the attached note that we might have use for the 3-Ring binder… Clearly, in his perspective as New England Fisheries Council President, our efforts were of no concern; at least he paid for the postage.

- 3. The *Vessel Baseline Amendment* and our long-standing perspective on the inherently problematic utility of 'Tonnage', 'Horsepower', and 'Length' ?

Much of this has been discussed in our 2012 Whitepaper for NOAA's Capt. Mark Abloni entitled "*The Persistent Legacy of High-Carbon Assumptions in the Governance…*" already shared with Mr. Nies and Mr. Bullard amongst quite a few others.

And somewhat comfortingly so, there has in recent years apparently emerged some inkling on the Council–level that these 3 elements may not have quite as much technical, scientific nor regulatory – never mind political – justifiability than for whatever reasons initially assumed when they were embraced around and since 1994.

- Tonnage: To be blunt, 'gross-' and 'net-tonnage' were never either unarguably-quantifiable and therefore legally-solid parameters nor would superimposing these 'big-ship' concepts have any use in the commercial fishing industry. Painfully obvious essentially since Day-1 some 20 years ago when inexplicably-so 'Tonnage' was deemed remotely meaningful in this industry by a previous Council, at long last this Omnibus Amendment and the Councils choice for Alternative 4 as outlined under Sections 3.4. and 5.1.7. confirmed not only what 'everybody' already knew but offers hope to eliminate equally un-constructive assumptions. Good riddance !

- Horsepower is indeed much less ambiguous than 'Tonnage' ever was. But even engine-power is subject to a certain range of informal options available to the owner/operator of a given fishing-vessel to quietly enhance it within certain expectations of reliability. Perfectly trackable by the interesting phenomenon that over, say, 20 years of engine-development, often the same physical engine (long-)block is advertised to actually at times produce up to twice the power. With less conspicuous measures than prominent 'black boxes', since many older engines are rebuildable multiple times, taking cues from 'modern' engines allows 'quiet' enhancement of output without immediately obvious indications on the engine. Therefore a certain 'informal' variability of actual versus 'original' output is part of the spectrum of options for a good number of engines in the fleet. Of course, making more power typically requires a commensurate amount of additional fuel which adds to operating-costs, and relative fuel-burn tell-tales per satellite-based Vessel Monitoring System (VMS) data sets.

One plausible conclusion on 'Horsepower' thus is that it is not necessarily reflecting a 'hard' set of data but is

much less flexible than 'Tonnage' where a given vessel might see its numbers possibly *double or half* through its life-time without any serious physical alterations and no immediate obvious impact of actual catch-capability and thus resource-mortality.

- Which leaves **'Length'** – ***and therein likes a much more challenging range of issues.***
To see this 'Omnibus Amendment' not address the deeply-dubious claim that 'Length' could serve as a plausible indicator of *Vessel-Size* reflects remaining entrenched unquestioning acceptance of the most astonishing fundamental inconsistency of Length-Limitation within any EBFM-ambitions of any scale - local, regional, national, global.
To put it bluntly 'Length' is not 'Size' - no matter how many times this AMENDMENT-DRAFT document reflexively treats length as any reliable indication of the vessel's actual size and thus (presumed) impact upon the resource.

Whether pacing the length of the craft on a pier or stringing the tape-measure from stem to stern, length does not capture 'Size' either. Where 'Tonnage' failed with its amorphous definitions, 'Length' *seems* less ambiguous – but ultimately fails to control the fishing-effort also:
- A 60-foot x 2'-wide eight-oared shell is thoroughly incomparable to a 60-foot by 20-foot-beam stern-dragger. And yet a 60-foot 'permit' 'Length' is deemed to be 'meaningful' in any ambitions to control fishing-effort.
- The fact that throughout the recent history of fishing there have been 60' x 13' fishing-craft as there are 60' x 25' – *likely more than doubling the craft's structural weight and thus gear- and catch-carrying capacity* – clearly demonstrates the futility to ever have deemed 'Length' any plausible regulatory factor, never mind the path towards EBFM.

So far at least, length-limitations have typically led to wider, deeper, heavier, harder-to-drive hulls - often with decreasing seaworthiness and reduced ergonomics – while supporting a multiplication of fishing-effort at the expense of greater power-requirements and inherently much larger fuel-cost. In the times when the resource was deemed inexhaustible and fuel cheap, some might have claimed such 'obese' craft to the most 'efficient per crew to be paid. However, neither resource-availability, nor fuel-cost levels would support this thinking as 'ecologically sustainable today.

Weight remains the sole directly and 'honestly' measurable indicator of any vessel's 'size' – whether SSC/NEFMC/NMFS/NOAA formulae reflect this or not.

As discussed in some useful numbers *below*, how ever you shape it, an officially-permitted 'Weight' per Permit is directly measurable with say 50% fuel-load, no gear, no crew, no ice, as the craft would hang in an officially certified and routinely re-confirmed travel-lift, most of which have built-in reliable indicators of the weight in their lifting-slings. In recent 3-4 decades this technology has become ubiquitous in near every port, here in New England in a rich range of capacities ranging up to in excess of 400-tons of lifting-capability – covering 99.99% of all conceivable fishing-vessel types likely to be active in this region. **Thus even in 1994 only stark indifference to the value of 'displacement'/weight of the craft in the water would have kept this readily-quantifiable measure out of SSC/NEFMC/NMFS/NOAA legally-binding definitions of plausible fleet-restrictions.**

- 4. The Economic and Ecological Cost of short, wide, deep i.e. 'obese' boats dictated by any 'Length'-based system of (presumed) Catch-Limitations

Here are some hard numbers – as of early 2013 - as a 'Reality-Check' that have been faced by these mostly Small Businesses on the Working Waterfront.

Diesel Fuel Cost multiplied by 380% from a 1990s plateau of $1.1/gal to $4.2/gal in late 2012

- In 1994 Diesel-Fuel cost around $1.10.- per gallon and would stay near that level until June 1999 when it began to move upwards towards $1.75.- by early December 2000 to drop again towards $1.30.- by early 2002
- Between mid-2002 and late 2012 New England Diesel-Fuel prices rose from around $1.40.- to a peak-cost by June 2008 of $4.88.- back down to $2.39.- by May 2011 and gradually up again to $4.22 by early December 2012.

Across well over 15 years diesel-fuel expenses grew by over 380% - *without a matching increase in fish-prices* !

How does the current High-Carbon-Reality Compare with one projected Low-Carbon Future ?
To illustrate the economic benefits of shifting from *Length* to *Weight* as the primary hull-size defining regulation, here one currently active ***High-Carbon craft*** (HC) as compared to a 21st-century ***Low-Carbon craft concept*** (LC). Both examples are for commercial (*already lower-carbon fishing-methods-based*) Gill-Netting/Long-Lining/Lobstering/ Jigging/Rod-&-Reel fishing duty.
[Stern-Dragging/Scalloping is a much more energy-intensive approach to fishing with its own additional technical challenges towards achieving LC-status - *and yet reasonably addressable as well under the approach laid out here*!]

Several Notes on the Data below:
- For easier faster reading, the red and green numbers and text will offer the *short-form* realities !
- They are 'desk-top' quality, reflecting personal practical experience and historic data on low-power craft.
Deeply rooted in $1/gal assumptions, the HC-type constitutes a particularly profligate example of the effects of **High-Carbon-reflexes borne of decades of under-development and outright stagnation induced by Length-based regulatory constraints. Compare HC to a 80s-era car and LC to state-of-the-art Hybrid cars!**
[Spec.-Sheet Turbo-Charged Diesel-Engine Efficiency Assumption:0.34lbs/hr/hp at peak torque,0.38lbs/hr/hp WOT (Wide Open Throttle); U.S. Gallon of #2 Diesel = 7.25lbs; Gallons per hours=GPH; Miles per Hour= MPG (all numbers rounded upwards)]

- HC example is a representative smaller inshore Day-boat measuring **32'x11'x15.000lbs x300HP x15kts light. Carrying Capacity in actual use is 10.000lbs iced fish on deck** (no fish-hold available) **for 25.000lbs @ 7.6kts.**
- LC example is a *notional* inshore/offshore Day-/Trip-boat measuring **50'x 10' Beam x15.000lbs x75HP x9.2kts. Carrying Capacity is closer to 15.000lbs in fish-hold plus some on deck, for 30.000lbs all-up weight @ 9kts.**
(From personal experience the projected 75HP is a conservative approach to this lean hull-geometry per given weight.)

Here is one legacy of e.g. "Days-at-Sea Regulation" -type operational dictates *prohibiting* LC-types:

- **GOING OUT Empty** maximizing the given hull's speed
  Gallons per Hour (**GPH**) of Operation (assuming 50% WOT during transit and high-idle during net-hauling)
  HC-type: 7.5nm burning 7.85 gals = **0.96MPG** (with 30mins idling per hr deemed negligible) = approx. **8.0 GPH**
  LC-type: 4.6nm burning 1.97 gals = **2.33MPG** (with 30mins idling per hr deemed negligible) = approx. **2.1 GPH**

  Consumption *per Equal Distance* 7.5nm: HC= **8.0 gals/7.5 nm = .96MPG**
  (*30 min @ 15kts of HC*) **LC= 3.42 gals/7.5nm = 2.19MPG = 2.28x efficiency/mile**
  Corrected Time to travel same Distance: HC = **30mins** to travel **7.5nm**
  LC = **49mins** to travel **7.5nm**

- **COMING IN w/Full-Load Catch**. Note how the short, wider, deeper HC-type hull suffers in full-load condition vs. the slender LC-type:
  HC-type at **25.000 lbs total weight** *cannot make 15kts(!)*, perhaps 10kts WOT @ 15.73gals/hr = **0.64MPG**
  LC-type at **30.000 lbs total weight** (with greater capacity!) will make 9.2kts WOT@ 3.93 gals/hr = **2.34MPG**

  Consumption *per Equal Distance*: HC=**7.85 gals/5 nm = .64MPG**
  LC=**1.97 gals/4.5nm** (x1.1=5nm) = **2.17gals = 2.3MPG =** *3.59x efficiency/mile*
  Corrected Time to travel same Distance: HC = **30mins** to travel ***5 nm*** LC = **33.5mins** to travel ***5 nm***

- ***Averaging* these MPG:** HC-type = **0.8MPG versus** LC-type = **2.24MPG = 2.81x efficiency per mile traveled.**

- ***Most Fuel-Efficient Speed* for both per Distance @ *Full Load* (HC 25.000lbs , LC 30.000lbs) @ 'Unity Speed':**
  - HC-Type: 1.1 x √32' waterline length =6.23kts using 91HP = **4.26 GPH = 1.46 MPG**
  - LC-Type: 1.1 x √47' waterline length =7.54kts using 24HP = **1.13 GPH = 6.67 MPG = 4.57x efficiency/mile!**

This unarguable Daily Damage to each business's economics seems very hard to justify from any regulatory perspective. How a particular business would attempt to make up for this dictated constant loss could range from only returning to port with the most lucrative species - at whatever by-catch discards - to 'grey-zone' boat/gear manipulations.

The Unavoidable Long-Term Vessel-Economical Consequences under $2.5/gal, $4.-/gal and $5.-/gal: Per Hours of Annual Operation the Cost-Savings of LC-craft over current HC-types also illustrates the mid-term protection from price-spikes:
- HC-type @ 4.26GPH (or 1.46MPG) - 1500hrs = 6390gals Annual Consumption
- LC-type @ 1.13GPH (or 6.67MPG) - 1500hrs = 1695gals Annual Consumption
Annual Cost @ 1994-level $1.1.- = $7,029.-, **@ $2.5.-** = $15,975.-, **@ $4.-** = $25,560.-, **@ $5.-** = $31,950.-
Annual Cost @ 1994-level $1.1.- = $1,865.-, **@ $2.5.-** = $ 4,237.-, **@ $4.-** = $ 6,780.-, **@ $5.-** = $ 8,475.-

Conclusions:
- 1. Classifying vessels in various Codes by Weight is *imperative* to the evolution towards LC-type efficiencies.
- 2. In a *Speed-Independent* regulatory system freed from False Definitions of 'Size', the most favorable vessel-economics would be determined by *MPG at the most efficient hull-speed-to-power-to-load interaction in the context of* enhanced vessel-safety, work-ergonomics, systems-reliability and fundamental *economic affordability*.
- 3. Therefore the LC-type will be the sole viable approach to cope with the concurrent realities of limited and uncertain access to the fish-resource due to Climate Change and the full range of rising Energy-related Expenses.

Note: These numbers do not reflect *additional options* to further push towards '*Least-Carbon*' geometries/propulsion.
Note: LC's lower-HP drive-train will cost less than half in *initial* cost and always less in maintenance & repair.
Note: We'd expect the LC-type's advantage over HC-type to *degrade* some in harsh operating conditions !

- 5. The SSC/NEFMC/NMFS/NOAA 50%-approach to a comprehensive 100% ecological Challenge - not-to-mention Industry-Economic- and of course Socio-Economic Demands

With Length/Tonnage/Horsepower the 'preferred' regulatory tools since at least 1994 according to the DRAFT's Section 1.2., the long-term impact on the fleet has been indeed diametrically-opposed to any plausible claims of EBFM. Between the projected life-span of each fishing-boat and the disastrous momentum of ***regulatorily-prohibited* fleet-evolution towards lower-carbon opportunities** for the Fleet in the Northeast - in fact across many Council-Regions across the nation - **we have by 2014 arrived at a persistent High-Carbon Fleet-Structure and Operational Parameters that neither the Bush nor the Obama-Administration have taken measures to mitigate against. And no EBFM-oriented scientist could plausibly support this spectacle.**

Just about every other fossil fuel-intensive industry has sought to upgrade its hardware- and operational profile towards greater fuel-efficiencies, often with indirect and direct public support through measures ranging from tax-incentives and grant-funding to extensive in-house R-&-D and via partnerships with universities etc. into advanced options.

In stark contrast, this commercial fishing industry remains frozen in this remarkably-backwards state of potentially catastrophic exposure to rising fuel-cost, and thus **cost for hull-materials** such as steel, aluminum, fiberglass, **and consumables** such as wire, rope, paint, lube-oil, grease, **along with the rising likelihood of dedicated ecology-driven statutory penalties for Carbon-*Overuse*,** however defined - **all before factoring in the equally-affected cost** of ice, transportation of the fish to processing and then to the market etc. etc.

As it presents itself to the world today in its High-Carbon Fleet-Profile, this industry suffers from the most serious political embarrassment of having a *Deep Fleet-Structural Liability* against ever appearing any time

soon as the 'Stewarts of the Fish-Resource' via low-carbon vessel-attributes and matching fishing-methods. And fishers have SSC/NEFMC/NMFS/NOAA to thank for these obstructions to both economic and ecological operations and the absence of politically-uncontestable standing as 'Stewards of the Resource'.
The fact that many of their leaders – such as the North-East Seafood Coalition – have never challenged these dubious dictates only underscores the tragically limited range of policies these 'leaders' have been willing to pursue.

Since from a fisheries management perspective these dictates structuring the current Fleet-Structure violate fundamental basics of any definitions of 'Sustainability', **this industry, as it stands by 2014, can actually not be integrated into any immediate regulatory efforts towards 'Eco-System-based Fisheries Management' - whatever the breezy language by some may want to suggest.**

<u>It would take two steps to remotely begin to match the optimistic language around claims of (presumably) ongoing system-wide and successful EBFM-measures:</u>
1. The *immediate jettisoning of 'Length' from any formulae,* in direct exchange for 'Displacement/Actual Vessel-Weight' long with retaining the somewhat less reliable 'Horsepower' to indeed plausibly limit fishing-efforts.
2. A 'Manhattan-Program'-style decade+ effort to radically restructure the fleet towards matching EBFM-standards – assuming massive federal fiscal support.

And, as for instance signatures by the fleet here in Gloucester and the position of the Gloucester Fisheries Commission indicate, many local fishermen would indeed strongly favor vessel-economic 'sustainability', as the typical mom-&-pop operations-model has served the market so well due to its agility in response to the vagaries of weather, market, ecological cycles and regulations.
However, neither the North-East's SSC nor this NE-Council have taken these concerns seriously. Astonishingly so, neither has the North-East Seafood Coalition.

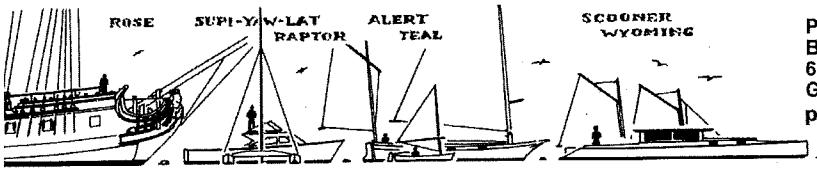
***Alas*, now in the latter half of 2014, 20 years after the thoughtless embrace of technically indefensible 'measures' of 'Tonnage' and 'Length' as any form of EBFM-plausible fleet-structural tool, this DRAFT "Omnibus Amendment to Simplify Vessel Baselines" still *reflects a fundamental incomprehension of the astonishing destructiveness to any fleet-economic- and fleet-ecological maturing these (presumed) tools have wrought upon the focus of the MS, the Council-process and Fishing-communities.* Ironically/tragically so, since SSC apparently never did challenge the utility of these 'tools', 'Tonnage' and 'Length' have stymied any substantial fleet-innovation in direct resonance with scientific advances and associated EBFM-ambitions.**

Taking 20 years to finally jettison 'Tonnage' is bad enough for a body of governance presiding over an inherently sustainability-based industry of extraction. To then continue on with the acceptance of 'Length' as any plausible measure 'of whatever' only makes the destructiveness of these last two decades even more palpable, more obvious – and thus more subject to at least political review.

There remain few industries in which this level of 'scientifically-supported', governmentally-dictated and harshly-enforced massive and mounting High-Carbon Inefficiencies are deemed acceptable by 2014.

There is likely no other body of industrial governance in which lofty eco-centric terminology like EBFM are routinely used by top-level regulators, all-the-while having de facto spent over 20 years *obstructing any efforts* to indeed see the industry structurally and operationally adapt to EBFM-based principles, whether out of conviction or just driven by fuel-cost increases.

With NEFMC's favoring 'Alternative 4', progress is indeed being made towards a distant chance at EBFM for both Council and science via SSC.
But the 50% approach exemplified by the retention of 'Length' will continue the damage to fleet and resource and stalls out anybody's hopes towards actually ever getting near EBFM.



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Comment

on

Omnibus Amendment to Simplify Vessel Baselines (DRAFT published July'14 2014)

by

Susanne Altenburger of Phil Bolger & Friends Inc. (PB&F) (09/22/14)

- 1. Who are we ?

Since 1952 we have been in the business of designing boat with the Archive featuring plans for craft ranging in size of between 40lbs and 1.050.000lbs, 5'6" to 270', for human-power, sail, inboard- and outboard-power, steam, gasoline, diesel, in a range of materials from conventional wooden-construction over various types of wood-composite, solid and cored fiberglass, ferro-cement, steel and aluminum. Clients include children, commercial operators, yachtsmen, research-institutions, governmental agencies.

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This body of work led in 2002 the US Navy to reach to us – with Phil Bolger then at 74 years of age (!) - to consider resumption of an earlier modest series of USN-sponsored (USN) consultancies then reaching back several decades. This time however, a much denser sequence of work would come to emerge.

Some of our thinking was substantial enough to recently see very public support by an active-duty USN CAPT and Prof. at the Naval War College in Newport RI along with a retired CDR, now a mid-level civilian technologist at USN's Naval Sea Systems Command (NAVSEA). In co-authorship with me, Susanne Altenburger of PB&F as the Lead-Author, this article on PB&F's proposal for an advanced medium-speed heavy-lift assault landing-craft, named LCU-F, appeared in the top-level Monthly on matters US Navy, US Marine Corps (USMC) and US Coast Guard (USCG) - the "PROCEEDINGS of the US Naval Institute". Here is the link to our piece in the July'13 issue
http://www.usni.org/magazines/proceedings/2013-07/landing-craft-21st-century

This presentation to the USN/USMC community then resulted in the direct personal attention by the Commandant of USMC, General Amos, explicitly referring to our work as one of four projects to focus further attention on. http://www.usni.org/magazines/proceedings/2014-06/bridging-our-surface-connector-gap
Our thinking has thus reached the direct personal and fully-publicized attention of one of the highest level of decision-makers in the Pentagon - the boss of the Marines, the Commandant.

- 2. Why would we want to comment on this Vessel Baselines Amendment ?

As our civilian published record reflects - a good fraction of our actual output - , we've had opportunity to design a range of Inshore- and Offshore Fishing-Craft, along with several marine-scientific research-craft.

Since the Summer of 2002 PB&F has been concerned with the emerging deterioration in the economics of our local fishing-fleet here in Gloucester, MA and its impact upon the port's economy and thus our jobs- and tax-base. Examining the local, then regional inshore and offshore fleet we became increasingly alarmed at the growing disconnect between the inherent task of any level of 'Ecosystem-Based Fisheries Management (EBFM) and the actual technical state of the fleet.

We learned that distinct regulatory assumption had caused the increasing 'carbon-intensity' of each operation while (remarkably !) explicitly prohibiting most forms of innovation towards lesser carbon-intensity. These regulatory assumptions were Length, 'Tonnage', Horsepower. *As formulated since the mid-90s and then legally enforced, there assumptions had come to drive the relative increase in carbon-intensity of the commercial fishing fleet in ways and to levels unlike during any other period of fishing certainly in New England.* ***In an age when increasing fuel-costs made most other industries seek technical solutions to compensate for cost-increases of energy, the NOAA/NMFS/NEFMC/SSC community of regulators and enforcers insisted upon legal dictates that either froze the then current carbon-intensity or indicated even higher levels of it.***

Since we saw little chance under that multi-layered body of de facto and de jure high-carbon dictates to see any technical and regulatory improvements develop, we pursued on a consistently pro-bono basis very serious and in-depth efforts away from that destructive range of policies. We engaged the challenge of examining the option towards a much Lower-Carbon (LC-) fishing fleet than dictated by law. Via in-house discussions, concept-studies, in-office and fishing-craft conversations with fishermen in regards to needs, workflow ergonomics aboard, we explored the differences between High-Carbon (HC)-types and LC-types via sketches, studies, numbers, with a good amount of that work eventually being published in print. At this point in time – late Summer of 2014 – there is enough in-house work and public track-record for a full-fledge book on our efforts.
Here the 11+years 3000+ pro-bono hours effort in short form:
- **2002-12** 3-digit number discussions with ship-borne and shore-side stakeholders on Gloucester's Working Waterfront.
- by **Spring 2003** going public for the first time testifying before the New England Fisheries Management Council,
- nation-wide coverage in the **Sept.2004** issue of **NATIONAL FISHERMAN,**
- **Dec.2004** workshop with fishers, academics, ENGOs and NMFS staff at the Gloucester Maritime Heritage Center,
- Invite by ECOTRUST of Canada to a **Nov.2006** 6-day Field-Trip to Vancouver B.C. and Vancouver Island.
- **2007 Petition-gathering of some 60 signatures from Gloucester fishers and shore-side industry-stakeholders.**
- **Dec.2007** Feature in **'FISHERMAN LIFE'** monthly.
- **March 2008** Endorsement by New England's CONSERVATION LAW FOUNDATION.
- **June 2008** Endorsement by OCEAN ALLIANCE.
- **Aug. 2008 COMMERCIAL FISHERIES NEWS** feature.
- **Oct. 2008** Endorsement by GLOUCESTER'S MAYOR CAROLYN KIRK.
- **Feb. 2010** Endorsement by CAPE ANN CHAMBER OF COMMERCE.
- **Nov. 2010 PB&F was the sole Small Business from the North East** asked to give a presentation at the first **International Conference 'Energy Use in Commercial Fishing' in Seattle 11/14-17/'10** convened by NOAA, UN-FAO, World Bank with 18 nations attending.
- ***March 2011*** start of construction of an experimental 39'x7'5" boat-type **for the US Navy in collaboration with the City of Gloucester and the Commonwealth of Massachusetts' Division of Marine Fisheries.**
This effort has **demonstrated design and construction-principles with *direct relevance* to R&D towards Low-Carbon Fishing Craft** !
- **May 2012** Endorsement by the **GLOUCESTER FISHERIES COMMISSION**.

By 2014 however no level of discussion within the NOAA/NMFS/NEFMC/SSC was allowed to establish via at least a basic presentation of our seasoned perspective a shared level of knowledge, and thus capacity to reassess the relative utility of the notions that Length/Tonnage/Horsepower could ever coherently serve the Fleet, scientific ambitions or related regulatory principles under Magnusson-Steven Act (MS). Neither SSC under EDF's Jake Kritzer nor NEFMC under Messrs. Hill/Pappalardo/Stockwell III, nor the Council bureaucracy under executives Paul Howard nor Tom Nies, nor in-house NMFS staff, nor Regional Administrators Kurkul or Bullard, or for that matter Jane Lubchenco, Eileen Sobek or Sam Rauch. None of them have found any of this thinking of enough interest to engage with us on it.

And yet, at least on the federal level via Administrator Rauch, sweeping claims of EBFM-policies as already successfully initiated are quoted before the Industry, such as the Maine Fishermen Meeting in Rockland ME last January'14. It sounded as if fundamental principles of EBFM were well-established across all administrative districts. **And yet, the regulatory high-carbon dictates massively impacting the daily operations and thus overall economic sustainability remained more or less in place – and thus continued to negatively affect the relative sustainability of the resource.**

Ironically, the work for USN and USMC has been much more demanding than the more or less obvious path towards a low-carbon-fleet in keeping with basic unarguable principles of resource-sustainability.
And more ironically so, LCU-F is by explicit design massively less 'carbon-intensive' per given unit, combat-cargo hauled, tactical speed attained, and distance travelled than any earlier and just about all known competing concepts. And a Four-Star General publicly supports further work on it.

In stark contrast to this forum of deliberations, apparently deeply-held convictions within the NOAA/NMFS/ NEFMC/SSC universe have so far kept scientists, council-members, and regulators from deviating from this **inherently high-carbon course of dictates applied to an industry that by its very nature must unavoidably be as low-carbon as technically, operationally and fiscally-conceivable to both match economic and ecological challenges, and to lead in the fundamentally unevadable path towards climate-change-reflecting operational parameters.**

One of the more tragic episodes was Council President Pappalardo's dismissal of the idea of an 'Energy-Summit' for the Fleet in the immediate aftermath of the 2008 oil-price spike of up to $147,50/barrel; today his Cape Cod organization continues to accept funding from EDF and like-minded 'green' supporters… as that fleet continues to work its more or less unreconstructed fleet and business-model. **So, instead of using this calamity to move regs and fleet towards at least 'less-carbon' models, *we lost another 5 years to fleet-structural high-carbon stagnation* while neither the Fleet's economics nor the Resource - as now so well-documented – had a chance to benefit from a comprehensive EBFM-approach that includes the Fleet in its structure, operations, long-term sustainability.**

In this larger context certainly much less relevant – but noteworthy as a sign of the prevailing mindset - even though formally submitted to the administrative record of the Council, Council President Pappalardo also found it appropriate to return to us our carefully selected and bound body of work on this issue across then 7 years, with the attached note that we might have use for the 3-Ring binder… Clearly, in his perspective as New England Fisheries Council President, our efforts were of no concern; at least he paid for the postage.

- 3. The *Vessel Baseline Amendment* and our long-standing perspective on the inherently problematic utility of 'Tonnage', 'Horsepower', and 'Length' ?

Much of this has been discussed in our 2012 Whitepaper for NOAA's Capt. Mark Abloni entitled "*The Persistent Legacy of High-Carbon Assumptions in the Governance…*" already shared with Mr. nies and Mr. Bullard amongst quite a few others.

And somewhat comfortingly so, there has in recent years apparently emerged some inkling on the Council–level that these 3 elements may not have quite as much technical, scientific nor regulatory – never mind political – justifiability than for whatever reasons initially assumed when they were embraced around and since 1994.

- **Tonnage**: To be blunt 'gross-' and 'net-tonnage' were never either unarguably-quantifiable and therefore legally-solid parameters nor would superimposing these 'big-ship' concepts have any use in the commercial fishing industry. Painfully obvious essentially since Day-1 some 20 years ago when inexplicably-so 'Tonnage' was deemed remotely meaningful in this industry by a previous Council, at long last this Omnibus Amendment and the Councils choice for Alternative 4 as outlined under Sections 3.4. and 5.1.7. confirmed not only what 'everybody' already knew but offers hope to eliminate equally un-constructive assumptions. Good riddance !

- **Horsepower** is indeed much less ambiguous than 'Tonnage' ever was. But even engine-power is subject to a certain range of informal options available to the owner/operator of a given fishing-vessel to quietly enhance it within certain expectations of reliability. Perfectly trackable by the interesting phenomenon that over, say, 20 years of engine-development, often the same physical engine (long-)block is advertised to actually at time produce up to twice the power. With less conspicuous measures than prominent 'black boxes', since many older engines are rebuildable multiple times, taking cues from 'modern' engines allows 'quiet' enhancement of output without immediately obvious indications on the engine. Therefore a certain 'informal' variability of actual versus 'original' output is part of the spectrum of options for a good number of engines in the fleet. Of course, making more power typically requires a commensurate amount of additional fuel with adds to operating-costs, relative fuel-burn tell-tales per satellite-based Vessel Monitoring System (VMS) - data set. One plausible conclusion on 'Horsepower' thus is that it is not necessarily reflecting a 'hard' set of data but is much less flexible than 'Tonnage' where a given vessel

might see its number possibly double or half through its life-time without any serious physical alterations and no immediate obvious impact of catch-capability and thus resource-mortality.

Which leaves **'Length'** – *and therein likes a much more challenging range of issues.*
To see this 'Omnibus Amendment' not address the deeply-dubious claim that 'Length' could serve as a plausible indicator of *Vessel-Size* reflects remaining entrenched unquestioning acceptance of the most astonishing fundamental inconsistency of Length-Limitation with any EBFM-ambitions of any scale, local, regional, national, global.
To put it bluntly 'Length' is not 'Size' - no matter how many times this AMENDMENT-DRAFT document reflexively treats length as any reliable indication of the vessel's actual size and thus (presumed) impact upon the resource.

Whether pacing the length of the craft on a pier or stringing the tape-measure from stem to stern, length does not capture either what 'Tonnage' was (presumably) intended to capture. A 60-foot x <2'-wide eight-oared shell is thoroughly incomparable to a 60-foot by 20-foot-beam stern-dragger. And yet a 60-foot 'permit' 'Length' is deemed to be 'meaningful' in any ambitions to control fishing-effort. The fact that throughout the recent history of fishing there have been 60' x 13' fishing-craft as there are 60' x 25' – likely more than doubling the craft's structural weight and thus gear- and catch-carrying capacity – clearly demonstrates the futility to ever have deemed 'Length' any plausible factor in EBFM. So far at least, length-limitations have typically led to wider, deeper, heavier, harder-to-drive hulls - often with decreasing seaworthiness and reduced ergonomics – while supporting a multiplication of fishing-effort at the expense of greater power-requirements and inherently much larger fuel-cost. In the times when the resource was deemed inexhaustible, some might have claimed such 'obese' craft to the most 'efficient per crew to be paid. However, neither resource-availability, nor fuel-cost levels would support this thinking as 'ecologically sustainable today.

Weight remains the sole directly and 'honestly' measurable indicator of any vessel's 'size' – whether NEFMC/NMFS/NOAA formulae reflect this or not.

As discussed in some useful numbers below, however you shape it, an officially-permitted 'Weight' per Permit is directly measurable with say 50% fuel-load, no gear, no crew, no ice, as the craft would hang in an officially certified and routinely re-confirmed travel-lift, most of which have built-in reliable indicators of the weight in their lifting-slings. In recent 3-4 decades this technology has become ubiquitous in near every port, here in New England in a rich range of capacities ranging up to in excess of 400-tons of lifting-capability – covering 99.99% of all conceivable fishing-vessel types likely to be active in this region. **Thus even in 1994 only stark indifference to the value of 'displacement'/weight of the craft in the water would have kept this readily-quantifiable measure out of SSC/NEFMC/NMFS/NOAA legally-binding definitions of plausible fleet-restrictions.**

- 4. The economic and ecological Cost of short, wide, deep i.e. 'obese' boats dictated by any 'Length'-based system of (presumed) Catch-Limitations

Here are some hard numbers – as of early 2013 - as a 'Reality-Check' that have been faced by these mostly Small Businesses on the Working Waterfront.

Diesel Fuel Cost multiplied by 380% from a 1990s plateau of $1.1/gal to $4.2/gal in late 2012

- In 1994 Diesel-Fuel cost around $1.10.- per gallon and would stay near that level until June 1999 when it began to move upwards towards $1.75.- by early December 2000 to drop again towards $1.30.- by early 2002
- Between mid-2002 and late 2012 New England Diesel-Fuel prices rose from around $1.40.- to a peak-cost by June 2008 of $4.88.- back down to $2.39.- by May 2011 and gradually up again to $4.22 by early December 2012.

Across well over 15 years diesel-fuel expenses grew by over 380% - *without a matching increase in fish-prices* !

How does the High-Carbon-Reality Compare with one projected Low-Carbon Future ?

To illustrate the economic benefits of shifting from *Length* to *Weight* as the primary hull-size defining regulation, here one currently active ***High-Carbon craft*** (HC) as compared to a 21st-century ***Low-Carbon craft concept*** (LC).

Both examples are for commercial (*already lower-carbon fishing-methods-based*) Gill-Netting/Long-

Lining/Lobstering/ Jigging/Rod-&-Reel fishing duty.
[Stern-Dragging/Scalloping is a much more energy-intensive approach to fishing with its own technical challenges towards achieving LC-status - *and yet reasonably addressable as well under the approach laid out here*!]

Several Notes on the Data below:
- For easier faster reading, the red and green numbers and text will offer the *short-form* realities !
- They are 'desk-top' quality, reflecting personal practical experience and historic data on low-power craft.
Deeply rooted in $1/gal assumptions, the HC-type constitutes a particularly profligate example of the effects of **High-Carbon-reflexes borne of decades of under-development and outright stagnation induced by Length-based regulatory constraints. Compare HC to a 80s-era car and LC to state-of-the-art Hybrid cars!**
[Spec.-Sheet Turbo-Charged Diesel-Engine Efficiency Assumption:0.34lbs/hr/hp at peak torque,0.38lbs/hr/hp WOT (Wide Open Throttle); U.S. Gallon of #2 Diesel = 7.25lbs; Gallons per hours=GPH; Miles per Hour= MPG (all numbers rounded upwards)]

- HC example is a representative smaller inshore Day-boat measuring **32'x11'x15.000lbs x300HP x15kts light. Carrying Capacity in actual use is 10.000lbs iced fish on deck** (no fish-hold available) **for 25.000lbs @ 7.6kts.**
- LC example is a *notional* inshore/offshore Day-/Trip-boat measuring **50'x 10' Beam x15.000lbs x75HP x9.2kts. Carrying Capacity is closer to 15.000lbs in fish-hold plus some on deck, for 30.000lbs all-up weight @ 9kts.**
(From personal experience the projected 75HP is a conservative approach to this lean hull-geometry per given weight.)

Here is one legacy of e.g. "Days-at-Sea Regulation" -type operational dictates *prohibiting* LC-types:

- **GOING OUT Empty** maximizing the given hull's speed
  Gallons per Hour (**GPH**) of Operation (assuming 50% WOT during transit and high-idle during net-hauling)
  HC-type: 7.5nm burning 7.85 gals = **0.96MPG** (with 30mins idling per hr deemed negligible) = approx. **8.0 GPH**
  LC-type: 4.6nm burning 1.97 gals = **2.33MPG** (with 30mins idling per hr deemed negligible) = approx. **2.1 GPH**

  Consumption *per Equal Distance* 7.5nm: HC= **8.0 gals/7.5 nm = .96MPG**
  (30 min @ 15kts of HC) **LC= 3.42 gals/7.5nm = 2.19MPG = 2.28x efficiency/mile**
  Corrected Time to travel same Distance: HC = **30mins** to travel **7.5nm**
  LC = **49mins** to travel **7.5nm**

- **COMING IN w/Full-Load Catch.** Note how the short, wider, deeper HC-type hull suffers in full-load condition vs. the slender LC-type:
  HC-type at **25.000 lbs total weight** *cannot make 15kts(!)*, perhaps 10kts WOT @ 15.73gals/hr = **0.64MPG**
  LC-type at **30.000 lbs total weight** (with greater capacity!) will make 9.2kts WOT@ 3.93 gals/hr = **2.34MPG**

  Consumption *per Equal Distance*: HC=**7.85 gals/5 nm = .64MPG**
  LC=**1.97 gals/4.5nm** (x1.1=5nm) = **2.17gals = 2.3MPG = *3.59x efficiency/mile***
  Corrected Time to travel same Distance: HC = **30mins** to travel ***5 nm*** LC = **33.5mins** to travel ***5 nm***

- ***Averaging* these MPG:** HC-type = **0.8MPG versus** LC-type = **2.24MPG = 2.81x efficiency per mile traveled.**

- ***Most Fuel-Efficient Speed* for both per Distance @ *Full Load* (HC 25.000lbs , LC 30.000lbs) @ 'Unity Speed':**
  - HC-Type: 1.1 x √32' waterline length =6.23kts using 91HP = **4.26 GPH = 1.46 MPG**
  - LC-Type: 1.1 x √47' waterline length =7.54kts using 24HP = **1.13 GPH = 6.67 MPG = 4.57x efficiency/mile!**

This unarguable Daily Damage to each business's economics seems very hard to justify from any regulatory perspective. How a particular business would attempt to make up for this dictated constant loss could range from only returning to port with the most lucrative species - at whatever by-catch discards - to 'grey-zone' boat/gear manipulations.

The Unavoidable Long-Term Vessel-Economical Consequences under $2.5/gal, $4.-/gal and $5.-/gal: Per Hours of Annual Operation the Cost-Savings of LC-craft over current HC-types also illustrates the mid-term protection from price-spikes:
- HC-type @ 4.26GPH (or 1.46MPG) - 1500hrs = 6390gals Annual Consumption
- LC-type @ 1.13GPH (or 6.67MPG) - 1500hrs = 1695gals Annual Consumption
Annual Cost @ 1994-level $1.1.- = $7,029.-, **@ $2.5.-** = $15,975.-, **@ $4.-** = $25,560.-, **@ $5.-** = $31,950.-
Annual Cost @ 1994-level $1.1.- = $1,865.-, **@ $2.5.-** = $ 4,237.-, **@ $4.-** = $ 6,780.-, **@ $5.-** = $ 8,475.-

Conclusions:
- 1. Classifying vessels in various Codes by Weight is *imperative* to the evolution towards LC-type efficiencies.
- 2. In a *Speed-Independent* regulatory system freed from False Definitions of 'Size', the most favorable vessel-economics would be determined by *MPG at the most efficient hull-speed-to-power-to-load interaction in the context of* enhanced vessel-safety, work-ergonomics, systems-reliability and fundamental *economic affordability*.
- 3. Therefore the LC-type will be the sole viable approach to cope with the concurrent realities of limited and uncertain access to the fish-resource due to Climate Change and the full range of rising Energy-related Expenses.

Note: These numbers do not reflect *additional options* to further push towards '*Least-Carbon*' geometries/propulsion.
Note: LC's lower-HP drive-train will cost less than half in *initial* cost and always less in maintenance & repair.
Note: We'd expect the LC-type's advantage over HC-type to *degrade* some in harsh operating conditions !

- 5. The SSC/NEFMC/NMFS/NOAA 50%-approach to a comprehensive 100% ecological Challenge - not-to-mention Industry-Economic- and of course Socio-Economic Demands

With Length/Tonnage/Horsepower the 'preferred' regulatory tools since at least 1994 according to Section 1.2., the long-term impact on the fleet is diametrically-opposed to any plausible claims of EBFM. Between the projected life-span of each fishing-boat and the disastrous momentum of ***regulatorily-prohibited* fleet-evolution towards lower-carbon opportunities** the Fleet in the Northeast - in fact across many Council-Regions across the nation - **we have by 2014 arrived at a persistent High-Carbon Fleet-Structure and Operational Parameters that neither the Bush nor the Obama-Administration have taken measures to mitigate against.**

Just about every other fossil fuel-intensive industry has sought to upgrade its hardware- and operational profile towards greater fuel-efficiencies, often with indirect and direct public support through measures ranging from tax-incentives and grant-funding to extensive R-&-D in-house and via partnerships with universities etc. into advanced options.

In stark contrast, this commercial fishing industry remains frozen in this remarkably-backwards state of potentially catastrophic exposure to rising fuel-cost, and thus cost for **hull-materials** such as steel, aluminum, fiberglass, wire, rope, paint, lube-oil, grease, and **the rising likelihood of dedicated statutory penalties for Carbon-*Overuse*,** however defined - all before factoring in the cost of ice, transportation of the fish to processing and then to the market etc. etc.

As it presents itself to the world today in its High-Carbon Fleet-Profile, this industry suffers from the most serious political embarrassment of having a Deep Fleet-Structural Liability against ever appearing any time soon as the 'Stewarts of the Fish-Resource' via low-carbon vessel-attributes and matching fishing-methods. And fishers have SSC/NEFMC/NMFS/NOAA to thank for these obstructions to both economic and ecological operations. The fact that many of their leaders – such as the North-East Seafood Coalition – have never challenges these dubious dictates only underscores the limited range of policies of these 'leaders'.

Since from a fisheries management perspective these dictates structuring the current Fleet-Structure violate fundamental basics of any definitions of 'Sustainability', **this industry as it stands by 2014 can actually not be integrated into any regulatory efforts towards 'Eco-System-based Fisheries Management', whatever the breezy language by some may want to suggest.** It would a decade+-effort to gradually restructure the fleet to match EBFM-standards – assuming massive federal fiscal support, and an immediate jettisoning of 'Length' as well in direct exchange for 'Displacement/Actual Vessel-Weight' and the somewhat less reliable 'Horsepower' to indeed limit fishing-effort.

For instance signatures by the fleet here in Gloucester and now the Gloucester Fisheries Commission (2012) indicate that individual fishermen would indeed strongly favor vessel-economic 'sustainability', as the typical mom-&-pop operations-model has served the market so well due to its agility in response to the vagaries of weather, market, ecological cycles and regulations. However, neither the North-East's SSC nor this NE-Council have taken these concerns seriously.

Now in the latter half of 2014, 20 years after the predictably indefensible 'measures' of 'Tonnage' and Length' as any form of EBFM-plausible fleet-structural tool, this DRAFT "Omnibus Amendment to Simplify Vessel Baselines" still *reflects a fundamental incomprehension of the astonishing destructiveness to any fleet-economic- and fleet-ecological maturing these presumed tools have wrought upon the focus of the MS and the Council-process in particular*. 'Tonnage' and 'Length' have stymied appropriate fleet-innovation in keeping with any scientific advances, EBFM-ambitions, and of course fuel-cost increases.

Taking 20 years to finally jettison 'Tonnage' is bad enough for a body of governance presiding over an inherently sustainability-based industry of extraction. To then continue on with the acceptance of 'Length' as any plausible measure 'of whatever' only makes the destructiveness of these last two decades even more palpable, more obvious – and thus more subject to at least political review.

There remain few industries in which this level governmentally-dictated and harshly-enforced massive and mounting inefficiencies are deemed acceptable by 2014. There is likely no other body of industrial governance in which lofty eco-centric terminology like EBFM are routinely used by regulators, all-the-while having spent over 20 years *obstructing any efforts* to indeed see the industry structurally and operationally adapt to EBFM-based principles, whether out of conviction or just driven by fuel-cost increases.

With NEFMC's favoring 'Alternative 4' progress is indeed being made towards a distant chance at EBFM for both Council and science via SSC. But the 50% approach exemplified by the retention of 'Length' will continue the damage to fleet, resource and anybody's hopes towards actually ever getting near EBFM.

Gloucester's I4-C2 'Ocean Innovation Campus' Project

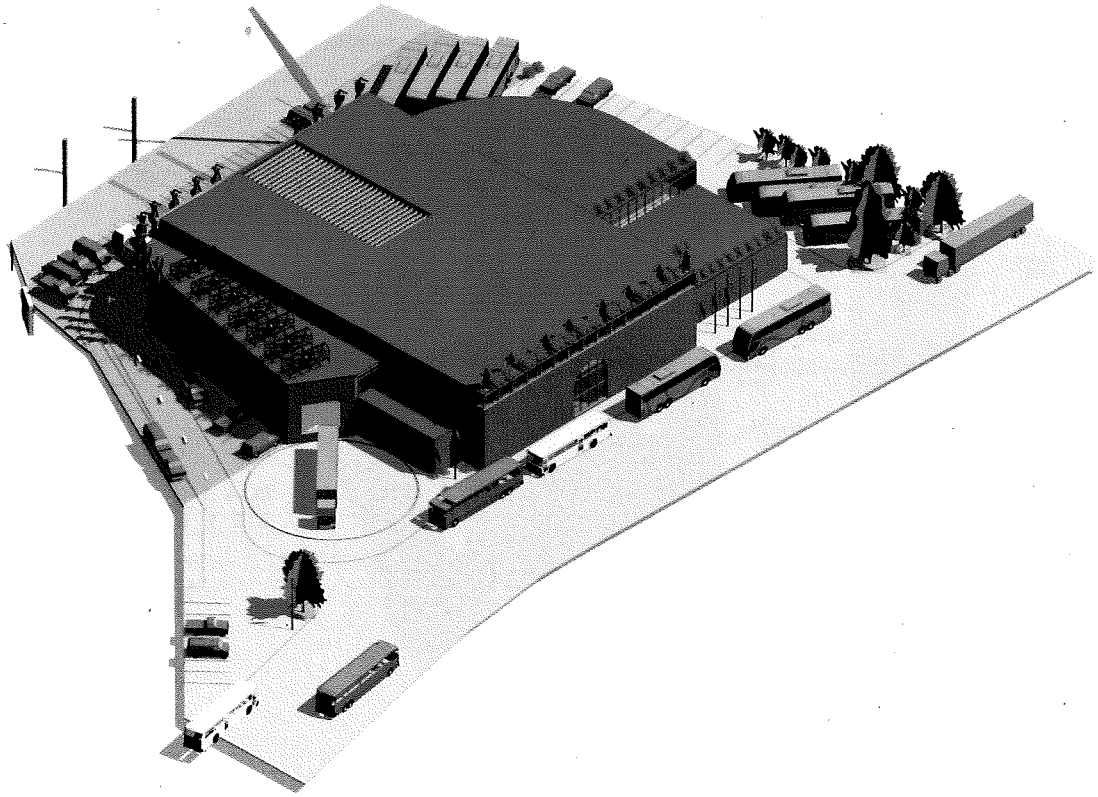
Owning I4-C2 is a unique opportunity for this community to demonstrate unambiguously to the world that Gloucester is indeed a Port-Economy moving forward in the 21st-century. Between down-town and the harbor, and with its broad footprint featuring over 220-feet of working waterfront right on Harbor Cove, it is Gloucester's best location for a dedicated marine-industrial and marine-scientific 'Ocean Innovation Campus'. Here in the Port's heart, ocean-centered jobs-training, all levels of related research, and most importantly well-paying full-time jobs have to be pursued with determination by all of us.

From Governor Patrick's emphasis on boosting vocational- and community-college training to our schools' growing STEM-curriculum (Science, Technology, Engineering, Math), the ' I4-C2 Ocean Innovation-Campus' would offer a dense ocean-industrial cluster of concurrent vocational and commercial work actually unique in this Commonwealth.

For sound fiscal sustainability, a significant part of the site would be dedicated to building advanced fuel-efficient boats, first for the nation's fishing-operations, then whale-watching and party-fishing-boat owners, governmental research-craft, and finally this the world's largest pleasure-boat market.

Drawing on these industrial man-power demands and its opportunities for direct hands-on full-immersion training, that site could become the *North Shore Voke's and/or a Community-College's 'Saltwater-Campus'*, offering right on this Working Waterfront a broad ocean-centric curriculum for internships, apprenticeships, life-long careers - *a facility unique in Massachusetts.*

(Here a view from the North-East across Rogers Street)



With this community owning I4-C2, Gloucester is now for the first time entitled to a much greater

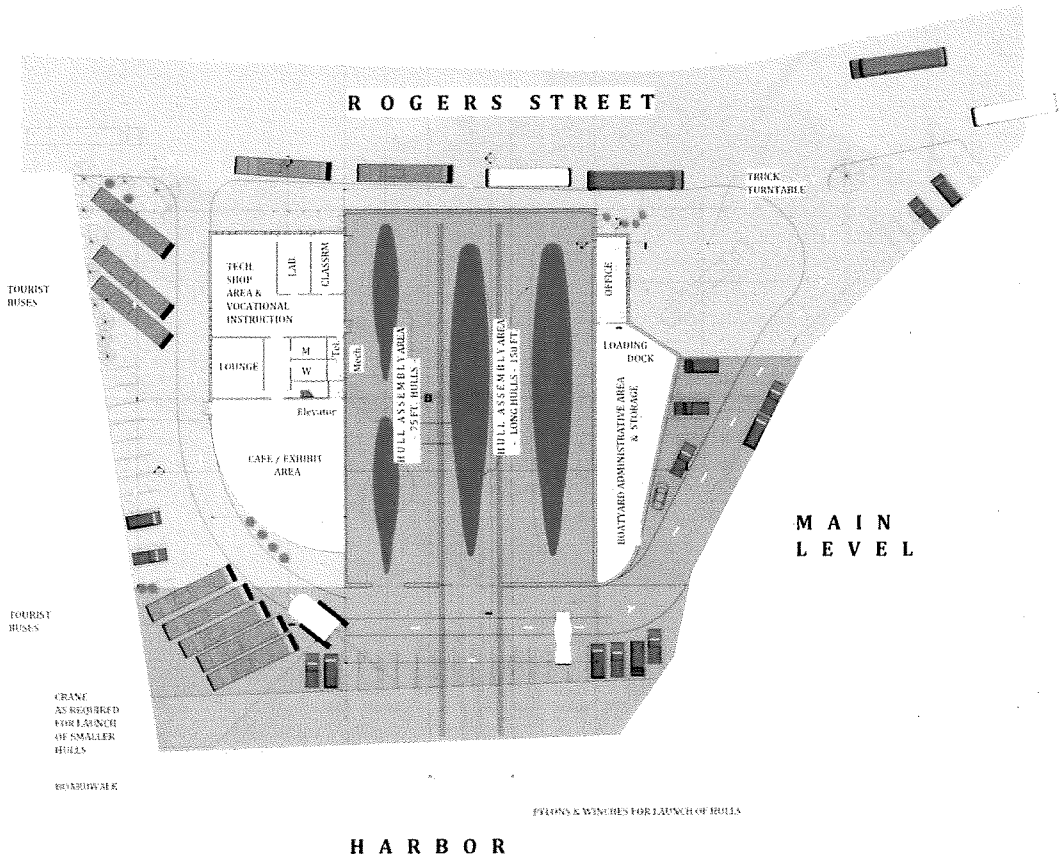
funding stream under the protective and financially-supportive provisions of the Designated Port Area Compact (DPA) we co-signed with the State in 1978. Collaborating with the State and likely the Feds this 21st-century reestablishment of a vital port-industry would *'in-source'* jobs and income, add industrial diversity and tax-base to the Port - and become a distinct Working-Port Tourism-Attraction.

<u>What would such a facility look like ? Here is a first definition.</u>
On the City's website under the Community-Development tab and then 'I4-C2 Design Submissions' you'll find the 'Boatyard' proposal (copy attached). *This proposal was conceived by Phil Bolger & Friends Inc. (PB&F), Boat-Designers of Gloucester since 1952 and drawn by Michael David Rubin, Harvard-trained Architect & Planner, CSI/LEED-AP, also of Gloucester and a long-serving volunteer on our planning- and permitting boards.* This proposal reflects all regulatory site-dictates.

For starters, ***our I4-C2 parcel happens to be the only property on the harbor with a foot-print that allows this Port to build modern high-efficiency hulls that are long and lean for their weight.*** None of the other 4 marine railways (Rocky Neck, Rose's, G.M., Montgomery's) are interested in or would have the physical foot-print or facilities to build 21.-century boats to match our local fleet demands.

To address the market-needs just in the Port alone in the Fishing and Whale-Watching industries ***to replace the current carrying-capability with much less fuel-intensive models*** they would measure up to 150 *lean* feet in length with at most 30-feet in beam, this requires an open unobstructed shop-floor plan of near 180- by near 120-feet to allow multiple smaller and larger projects to proceed side-by-side. Using a version of Rose Marine's approach, I4-C2 would not need a marine-railway and only launch hulls via a platform and only at high tide, not impacting the existing commercial fishing-craft marina.

(Here is the Plan-View of the First Level of the facility)

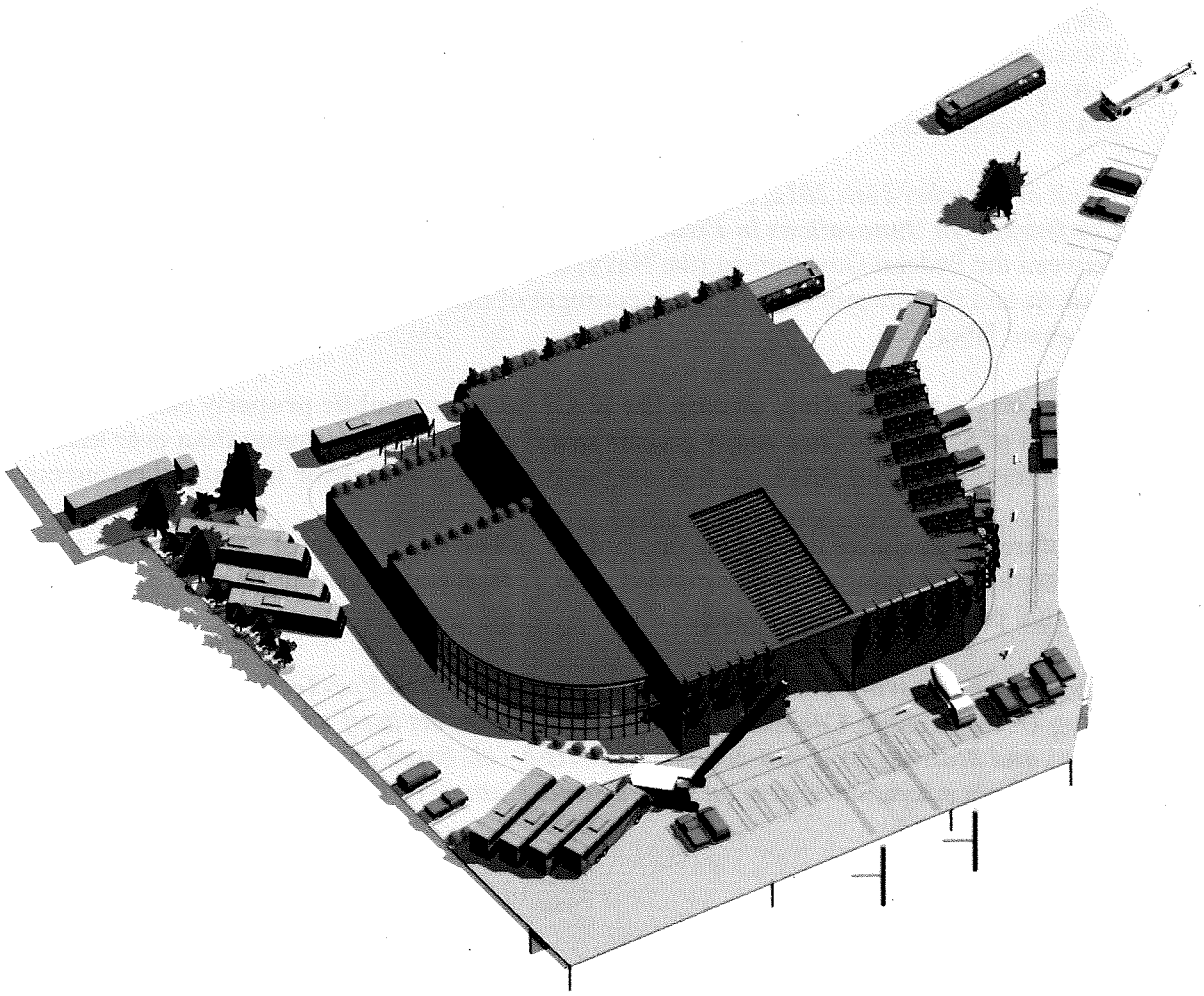


On this main-level all industrial and vocational activities take place with class-rooms and sub-assembly shops to the 'west' and materials- and hardware-stowage to the east. The marine-industrial trades involved are boat-building in a range of materials, gasoline and diesel and hybrid propulsion systems, hydraulics, electrics, painting, glazing, electronics, etc. Plus science-related skill-sets etc.

Across all four building-levels there are facilities for tourists to observe all stages of building boats, two office/laboratory-suites, and of course the yard administrative offices. On the large roof-structure a Community Roof-Top Garden would serve visitors, residents, and workers alike, full of volunteer-based botanical displays, art-installations, small performance spaces and solid security after hours - all overlooking the harbor. We could see our visual artists community adorn this industrial building on all sides with murals depicting Gloucester's maritime history, or fishing-vessel types since colonial times...

This Innovation Magnet on I4-C2 would attract like-minded scientists and entrepreneurs to Gloucester and produce multiple spin-off ventures on now under-utilized properties along the Inner Harbor, eventually making Gloucester a 'Go-To' ocean-centric commercial and scientific destination where you'd exchange 5- to 7+-digit payments for advanced craft and scientific expertise.

And right on the Harbor Walk, it would indeed be a Working-Port Tourism Destination unique on the East-Coast. *(Here a view from the South-West)*



How to get this off the ground ?

We have many vital political, legal and fiscal elements already in place:

- ***As early as 2007 many in the local fishing-fleet expressed the need*** to prototype and then build for local and later regional customers modern fishing craft able to be productive in times of rising fuel-cost and constructing regulatory provisions. (see attachment)

- ***Mayor Kirk had understood the path to revitalize this port as far back as October 2008*** when she stated unambiguously"... this City must lead in the development of low-carbon footprint resource-sustaining operation of commercial fishing craft and our port. Only a fleet and a port prepared for the 21st century will be able to prosper...(...) I am writing this letter as an expression of support for the Sustainable Commercial Craft Project developed by Phil Bolger and Susanne Altenburger of PB&F Inc. Boat Designers of Gloucester." (see attachment)

- ***The Cape Ann Chamber of Commerce came to agree with her perspective*** when **it stated in February 2010**: " The commercial fleet must move toward operational economies that secure and grow employment and strengthen the tax-base of our port. Establishing operational sustainability requires prototyping and rigorous testing of several sizes of commercial craft... (...) The Cape Ann Chamber of Commerce supports the Sustainable Commercial Craft Project by PB&F..." (see attachment)

- ***By May 2012 the newly re-established Gloucester Fisheries Commission put the serious challenge to this port as follows***: "Faced with many threats including rising costs of fuel, the fishing industry of Gloucester and our City must lead in the development of low-carbon operations of our commercial fishing vessels.(...) The Gloucester Fisheries Commission endorses the PB&F Sustainable Commercial Craft Project' and encourages you to do the same." (see attachment)

- ***And on October 16th 2012, during her Keynote-Address at the Gulf of Maine Research Institute's Conference on 'Innovations in Fisheries', Mayor Kirk mentioned*** the recent model of collaboration between the Federal Government (the Navy) the State, the City and PB&F in order to distribute fiscal burdens and the inherent risks of the experiment of building a modest but advanced boat with local untrained labor.

- After 40 years of waiting, owning the I4-C2 lot as our public property *entitles us* under the benefits of MA's DPA *to a much greater steady grant funding-stream* than ever before to boost this Port's fortunes. And this City-&-State partnership would draw in Federal resources as well.

Therefore, to maximize this unique opportunity of I4-C2, we all must put our weight into pulling together a broad coalition of like-minded state, federal and private agencies to pool resources and build this vital port-infrastructure project.

'The Ocean Innovation Campus' ***would permanently link Voc-Tech-and -Science Training with on-going Ocean-Centric Commerce and -Science to support itself with a growing client-base ordering boats, and drawing on ocean-centered expertise - all based on Ocean-Centric Skills with deep roots in Gloucester's education system and our distinct Culture of Working the Ocean since 1623 !***

Presented 11/4/12 by

Susanne Altenburger
Phil Bolger & Friends Inc.
66 Atlantic Street
Gloucester, MA 01930-1627
978-282-1341 philbolger@comcast.net

Mark Ring
P.O. Box 3034
Gloucester Ma.

OCT 8 2014
COASTAL ZONE MANAGEMENT

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

The Plan continues protections of the DPA and appropriate supporting uses while clarifying jurisdiction and will help move investment in the working waterfront forward.

I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Mark W. Ring

Jeff Amero
5 Westbrook Lane
Gloucester Ma.

OCT 8 2014
COASTAL ZONE MANAGEMENT
Executive Office of Energy &
Environmental Affairs

Hello Kathryn,

Just wanted to say thank you for all of your support over the last several years in helping us better understand the workings of a Municipal Harbor Plan and all of the complex components within it. I hope the end results move Gloucester forward and we can be proud to have been part of the process.

Please find attached letters of support for the plan

Best

Jeff Amero

Jeffrey Amero
5 Westbrook Lane
Gloucester, Ma. 01930

Oct 6, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to you in full support for the current Draft of the Municipal Harbor Plan submitted by the City of Gloucester to Coastal Zone Management.

Over the last several years I have been a member of the Harbor Plan Committee and have carefully listened to the experts whom the city had hired to gather important data as well as listened to the many Gloucester citizens expressing their concerns. I believe this draft as outlined is following the wishes of both the State and the majority of the citizens of Gloucester. I realize not everyone is in support of this draft but I believe it demonstrates an effort to compromise while adjusting and adapting to current times.

We look forward to approval of the 2014 Gloucester Harbor Plan by your agency.

Sincerely

Jeffrey S Amero

Harbor Planning Committee Member
Waterfront Property Owner
Marine Fabrication Business Owner

OCT 8 2014
COASTAL ZONE MANAGEMENT
Executive Office of Energy &
Environmental Affairs

Michael Bergmann
49 Hartz Street
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

The Plan continues protections of the DPA and appropriate supporting uses while clarifying jurisdiction and will help move investment in the working waterfront forward.

I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely, Michael Bergmann

Name Michael Bergmann

OCT 8 2014
COASTAL ZONE MANAGEMENT
Executive Office of Energy &
Environmental Affairs

Thomas Nolan
32 Norseman Ave
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

The Plan continues protections of the DPA and appropriate supporting uses while clarifying jurisdiction and will help move investment in the working waterfront forward.

I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Name Thomas Nolan

OCT 8 2014
COASTAL ZONE MANAGEMENT
Executive Office of Energy &
Environmental Affairs

Wayne Russell
48 Grove Street
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

OCT 8 2014
COASTAL ZONE MANAGEMENT

Steven C Joyce
4 Sylvan Court
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

OCT 8 2014
COASTAL ZONE MANAGEMENT

Joseph Mercier
11 ½ Cleveland Street
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

The Plan continues protections of the DPA and appropriate supporting uses while clarifying jurisdiction and will help move investment in the working waterfront forward.

I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Name Joe Mercier

OCT 8 2014
COASTAL ZONE MANAGEMENT
Executive Office of Energy &

Michael Murphy
14 Brierwood Court
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Name Michael Murphy

OCT 8 2014
COASTAL ZONE MANAGEMENT

Michael Russo
6 Fleetwood Drive
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

The Plan continues protections of the DPA and appropriate supporting uses while clarifying jurisdiction and will help move investment in the working waterfront forward.

I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

OCT 8 2014
COASTAL ZONE MANAGEMENT
Executive Office of Energy &
Environmental Affairs

John Wright
100 Essex Ave
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Name

OCT 8 2014
COASTAL ZONE MANAGEMENT
Executive Office of Energy &

Salvatore Nicastro
7 Russell Ave
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

OCT 8 2014
COASTAL ZONE MANAGEMENT

Frank Parisi
70 Eastern Ave
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Name Frank Parisi

OCT 8 2014

Brian O'Connor
41 East Main Street
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

OCT 8 2014

Grace E Joyce
4 Sylvan Court
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Grace E Joyce

OCT 8 2014

Gil Roderick
6 Youngs Ave
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

OCT 8 2014

Lillian A. Amero
5 Westbrook Rd
Gloucester, MA 01930

October 2, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

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I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Lillian Amero

Name

OCT 8 2014

Reply | Reply to All | Forward

2014 Draft Gloucester Harbor Plan - comments

Port Advacacy [voiceoftheport@gmail.com]

Sent: Friday, October 10, 2014 3:57 PM

To: M
Glenn, Kathryn (EEA)

Attachments: MHP petition - CZM.docx (139 KB)[Open as Web Page]

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Please find attached a petition in opposition to the approval of the 2014 Draft Gloucester Harbor Plan.

We hereby petition the Commonwealth of Massachusetts to reject the City of Gloucester's proposed Harbor Plan as submitted

Petition by Denise Foley

To be delivered to **Secretary Maeve Vallely Bartlett, Executive Office of Energy and Environmental Affairs, Kathryn Glenn, CZM, Eric Worrall, DEP, Mary Griffin, DFG, Jack Murray, DEP, Marc Draisen, MAPC, Claire King, Mass Development, Petitioner, deniseofoley@gmail.com, and Lealdon Langely, DEP**

We hereby petition the Commonwealth of Massachusetts to reject the City's Harbor Plan as submitted and to stand firm in protecting the working port of Gloucester, including a rebuilding of the fishing industry and other ocean trades.

For further information on the proposed plan: www.voiceoftheport.org

To read the entire Harbor Plan ~

http://www.env.state.ma.us/mepa/mepadocs/2014/091014em/pn/8.pdf

There are currently 141 signatures. NEW goal - We need 200 signatures!

PETITION BACKGROUND

Gloucester's proposed new Harbor Plan would allow for hotels, restaurants, shops and galleries to proliferate and would reduce the area of the industrial working waterfront by over 50%. The City's proposal would violate state regulations and decades of practice in the state's designated ports. Please sign and share by October 9, 2014. Thank you.

CURRENT PETITION SIGNERS

- 141. **Barbara Densmore** from charlestown, MA signed this petition on Oct 10, 2014.
- 140. **rosann testaverde** from gloucester, MA signed this petition on Oct 10, 2014.

no condo's

- 139. **thomas testaverde** from gloucester, ME signed this petition on Oct 10, 2014.
- 138. **Pat Tocci** from Lancaster, MA signed this petition on Oct 9, 2014.
- 137. **Jordan** from Gloucester, MA signed this petition on Oct 3, 2014.
- 136. **Matthew Beam** from Danvers, MA signed this petition on Oct 2, 2014.
- 135. **steven germain** from Gloucester, MA signed this petition on Oct 2, 2014.
- 134. **Lydia Anderson** from gloucester, MA signed this petition on Oct 2, 2014.
- 133. **Kristin** from Bridgton, ME signed this petition on Oct 2, 2014.
- 132. **Sophie Russell** from Gloucester, MA signed this petition on Oct 2, 2014.
    - 131. **Sophie Russell** from Gloucester, MA signed this petition on Oct 2, 2014.
    - 130. **Michael francis** from Gloucester, MA signed this petition on Oct 2, 2014.
    - 129. **Dominic Nicastro** from gloucester, MA signed this petition on Oct 2, 2014.

Save the fort

- 128. **Kenneth Sonia** from Gloucester, MA signed this petition on Oct 2, 2014.
- 127. **Virginia Kennard** from Alpena, MI signed this petition on Oct 2, 2014.

Born in Gloucester. Save the liveliness of the fishermen and their families.

- 126. **chris vaccaro** from Auburn, WA signed this petition on Oct 1, 2014.
- 125. **Dwayne Milne** from Essex, MA signed this petition on Oct 1, 2014.

BORN AND RAISED IN GLOUCESTER TO FAMILIES THAT WERE & ARE FISHERMEN, AND BY DESTROYING THE WORKING WATERFRONT THEY'D BE DESTROYING GLOUCESTER'S NATURAL BEAUTY.

- 124. **Taylor Cognato** from Gloucester, MA signed this petition on Oct 1, 2014.
- 123. **Salvatore Russo** from Gloucester, MA signed this petition on Oct 1, 2014.
- 122. **Rachel Allen** from Gloucester, MA signed this petition on Oct 1, 2014.
- 121. **tasha** from gloucester, MA signed this petition on Oct 1, 2014.

Isnt gloucester suppose to be all about fishing, hence the fisherman status

- 120. **tyler mahoney-eggers** from gloucester, MA signed this petition on Oct 1, 2014.

SAVE THE FORT!!

- 119. **Maryan Augusta** from Gloucester, MA signed this petition on Oct 1, 2014.

Gloucester was founded on the fishing industry, it makes no sense to take away the livelihood of those families who have kept the tradition going!

- 118. **Joshua Leissner** from gloucester, MA signed this petition on Oct 1, 2014.
- 117. **Kyle Richard** from Magnolia, MA signed this petition on Oct 1, 2014.
- 116. **Andreaz m Saputo** from Gloucester, MA signed this petition on Oct 1, 2014.

I disagree with the plans to change a tradition that has been set for over 100 years. I also do not accept the fact that the plan also intends to gate off the fort.

- 115. **Alexis Chipperini** from Gloucester, MA signed this petition on Sep 30, 2014.

Keep Gloucester as Gloucester! Save the industry and the galleries!

- 114. **Leneai Stuart** from Gloucester, MA signed this petition on Sep 30, 2014.

Save the fishing industry!

- 113. **Ali Sova** from Gloucester, MA signed this petition on Sep 29, 2014.
- 112. **Diane Hahn** from Fairhaven, MA signed this petition on Sep 29, 2014.

From Sister Port New Bedford REJECT

- 111. **Arne Oittinen** from Ft Collins, CO signed this petition on Sep 29, 2014.
- 110. **Elaine Mosesian** from Gloucester, MA signed this petition on Sep 28, 2014.
- 109. **Justine Beaudoin** from Gray, ME signed this petition on Sep 28, 2014.
- 108. **Michael Oppelt** from Gloucester, MA signed this petition on Sep 28, 2014.

This in not just a quiant industry, the fishing industry from Gloucester ties us to the past and brings us into the future where hard working fisherman and the supporting industries reap a harvest from the sea. Regulations to keep fishing and the fish stock viable is a reasonable thing, but to change the harbor plan in this way you are "attemtping" to put more nails in the coffin of a struggling industry, one which Gloucester's proud herritage is based on and has the right to continue well into the future with care.

- 107. **Patricia A. Bell** from Haverhill, MA signed this petition on Sep 28, 2014.

We hereby petition the Commonwealth of Massachusetts to reject the City's Harbor Plan as submitted and to stand firm in protecting the working port of Gloucester, including a rebuilding of the fishing industry and other ocean trades.

- 106. **ANN BANKS** from GLOUCESTER, MA signed this petition on Sep 28, 2014.

SAVE OUR HARBOR FOR THE WORKERS ON THE MARITIME ASPECTS OF THIS OLD PORT.

- 105. **laura Petrick** from Ft Collins, CO signed this petition on Sep 28, 2014.
- 104. **Patti Amaral** from Magnolia, MA signed this petition on Sep 28, 2014.

Save our Harbor

- 103. **Eleanor** from Chicago, IL signed this petition on Sep 27, 2014.
- 102. **kathleen downer** from rockport, MA signed this petition on Sep 27, 2014.
- 101. **Henry Allen** from Gloucester, MA signed this petition on Sep 27, 2014.
- 100. **Colleen bishop** from gloucester, MA signed this petition on Sep 27, 2014.
- 99. **Ronda Middleton** from Gloucester, MA signed this petition on Sep 27, 2014.
- 98. **Louise Welch** from Gloucester, MA signed this petition on Sep 27, 2014.
- 97. **Susan Schutz** from Newbury, MA signed this petition on Sep 27, 2014.

Why strip a tightly knit community of its identity?

- 96. **June Cook- Madruga** from Gloucester, MA signed this petition on Sep 27, 2014.
- 95. **Jane M Gibbs** from Newburyport, MA signed this petition on Sep 27, 2014.

Gloucester native and future resident

- 94. **shelley vincent** from Rockport, MA signed this petition on Sep 27, 2014.
- 93. **Nikki lewis** from Gloucester, MA signed this petition on Sep 27, 2014.
- 92. **Don Pollard** from Newburyport, MA signed this petition on Sep 27, 2014.
- 91. **amands grissom** from gloucester, MA signed this petition on Sep 27, 2014.
- 90. **Scott R. Anderson** from Gloucester, MA signed this petition on Sep 27, 2014.
- 89. **Austin Allgire** from Gloucester, MA signed this petition on Sep 27, 2014.
- 88. **laura byard** from gloucester, MA signed this petition on Sep 27, 2014.

Signed

- 87. **Audrey Molloy** from Gloucester, MA signed this petition on Sep 27, 2014.
- 86. **Christine Agostini** from Gloucester, MA signed this petition on Sep 27, 2014.
- 85. **Melissa kippen** from Gloucester, MA signed this petition on Sep 27, 2014.
- 84. **Tom Molloy** from Gloucester, MA signed this petition on Sep 27, 2014.
- 83. **Kathleen molloy** from Gloucester, MA signed this petition on Sep 27, 2014.

- 82. **Ann** from Magnolia, MA signed this petition on Sep 27, 2014.
- 81. **Jennifer Cullen** from Gloucester, MA signed this petition on Sep 27, 2014.
- 80. **Catherine Quill** from Beverly, MA signed this petition on Sep 26, 2014.

FOR THE PEOPLE! PLEASE!

- 79. **kyrstin lavelle** from Gloucester,, MA signed this petition on Sep 26, 2014.
- 78. **Andrew Innes** from Gloucester, United States signed this petition on Sep 26, 2014.
- 77. **Susan Bulba Carvutto** from Winthrop, ME signed this petition on Sep 25, 2014.
- 76. **Rosemary Ciulla** from Gloucester, MA signed this petition on Sep 25, 2014.
- 75. **Irene** from Gloucester, MA signed this petition on Sep 23, 2014.
- 74. **Judith W. Walcott** from Gloucester, MA signed this petition on Sep 23, 2014.
- 73. **Joanne Silva** from Gloucester, MA signed this petition on Sep 23, 2014.
- 72. **Amy Olson** from Cambridge, MD signed this petition on Sep 23, 2014.
- 71. **Helen Weatherall** from Ipswich, MA signed this petition on Sep 22, 2014.
- 70. **Deborah Barnwell** from South Hamilton, MA signed this petition on Sep 22, 2014.
- 69. **Eileen Murphy** from Gloucester, MA signed this petition on Sep 22, 2014.
- 68. **Jean Victoria Miller** from Orlando, FL signed this petition on Sep 21, 2014.

I was born in Gloucester, MA come from a fishing family part of the Dahlmer family

- 67. **Kent Bowker** from Essex, MA signed this petition on Sep 21, 2014.
- 66. **Keri** from Lee, NH signed this petition on Sep 21, 2014.
- 65. **William D. Hubbard** from Rock Hill, SC signed this petition on Sep 21, 2014.

I grew up in Gloucester and visit as often as possible. Please reject the City's petition to destroy the port of Gloucester and take steps to protect it.

- 64. **Lynn Shipley** from Lynn, MA signed this petition on Sep 20, 2014.
- 63. **Lee Marshall** from Gloucester, MA signed this petition on Sep 20, 2014.
- 62. **patricia welch** from camillus, NY signed this petition on Sep 20, 2014.

I left my heart in Gloucester harbor. Gloucester was home for most of my life, living on and in the harbor.

- 61. **Jeanne Gallo** from Magnolia, MA signed this petition on Sep 20, 2014.
- 60. **Bing McGilvray** from Gloucester, MA signed this petition on Sep 20, 2014.

This is not a plan…this is a disaster.

- 59. **Judith Goldman** from Gloucester, MA signed this petition on Sep 20, 2014.
- 58. **Linda Cardinal** from Somerville, MA signed this petition on Sep 20, 2014.
- 57. **Michael S Scola** from Gloucester, MA signed this petition on Sep 20, 2014.
- 56. **John C. Pierce** from Gloucester, MA signed this petition on Sep 20, 2014.

- 55. **kathleen** from gloucester, MA signed this petition on Sep 20, 2014.

Save Gloucester ,ma

- 54. **susan steiner** from Gloucester, MA signed this petition on Sep 20, 2014.
- 53. **Alison Safford** from Jamaica Plain, MA signed this petition on Sep 20, 2014.
- 52. **Annette Tarantino** from Gloucester, MA signed this petition on Sep 20, 2014.
- 51. **daniellecharney** from SM, CA signed this petition on Sep 19, 2014.

Same mindless uncreative destruction of every good place there is- stop this now

- 50. **Sean Desmond** from Gloucester, MA signed this petition on Sep 19, 2014.
- 49. **paul mcniff** from Rockport, MA signed this petition on Sep 19, 2014.
- 48. **Jane** from Buckeye, AZ signed this petition on Sep 19, 2014.

Im from Gloucester Massachusetts. ..please don't take that beautiful view away. ..so much is gone already!!!

- 47. **Christine Keegan** from Gloucester, MA signed this petition on Sep 19, 2014.
- 46. **Stephen Harris** from Ipswich, MA signed this petition on Sep 19, 2014.
- 45. **Anne Rearick** from Gloucester, MA signed this petition on Sep 19, 2014.
- 44. **david calvo** from gloucester, MA signed this petition on Sep 19, 2014.
- 43. **Tom Denman** from Gloucester, MA signed this petition on Sep 19, 2014.

This petition should also recognize the importance of supporting local Sporting Anglers. Commercial Fishermen and Supporting Businesses need to be cognizant of this tradition and how DUAL USE of the waterfront supports both. I am tired of hearing "the foreigners did it" when it comes to closing off access to the water for RESPONSIBLE Anglers.

- 42. **Shelley J Nugent** from Gloucester, MA signed this petition on Sep 19, 2014.
- 41. **Katherine Prum** from Gloucester, MA signed this petition on Sep 19, 2014.
- 40. **Jo-Ann Castano** from Gloucester, MA signed this petition on Sep 19, 2014.
- 39. **Paul Cary Goldberg** from Gloucester, MA signed this petition on Sep 19, 2014.
- 38. **Melinda M. Illingwortg** from Montclair, NJ signed this petition on Sep 19, 2014.
- 37. **Steven Parkes** from North Andover, MA signed this petition on Sep 19, 2014.
- 36. **Chris Mabe** from Winthrop, MA signed this petition on Sep 19, 2014.
- 35. **Catherine Gunn** from Magnolia, MA signed this petition on Sep 19, 2014.
- 34. **Valerie Nelson** from Magnolia, MA signed this petition on Sep 19, 2014.
- 33. **Frank D'Amico** from Gloucester, MA signed this petition on Sep 19, 2014.
- 32. **martha keddy** from lunenburg, Canada signed this petition on Sep 19, 2014.
- 31. **Dale Keddy** from Lunenburg, Canada signed this petition on Sep 19, 2014.
- 30. **Jennifer Kellogg** from Brighton, MA signed this petition on Sep 19, 2014.
- 29. **Nathaniel Mulcahy** from United States, MA signed this petition on Sep 19, 2014.

If the city administration had actually tired to help marine industry and failed then it would be time to look for a change but over the past six years they did not apply for any Marine Industry funding even when the state had set aside millions for fishing communities and port cities like Gloucester. 80%-90% of the fish we eat in this country is imported it is beyond absurd to think there is no future in fishing. As for tourism, many of the surveys conducted of tourists in Gloucester show that one of the primary attractions is the working waterfront. If you are serious about tourism then, you should not eliminate the maine thing people come to see. It would appear our city's administration knows as much about tourism as it does fishing ....

- 28. **Dian Francesca Cuccinello** from Carlisle, MA signed this petition on Sep 19, 2014.

I adore Gloucester, and want to protect the working port, including the rebuilding of the fishing industry and other ocean trades. Do not put the City of Gloucester and all of its inhabitants out of work. There will be nothing left of the history that has been made here, and will become just another non-working, vegetative tourist town. Don't suck the life out of Gloucester! Please.

- 27. **Steven Asaro** from Gloucester, MA signed this petition on Sep 19, 2014.
- 26. **Linda** from south dennis, MA signed this petition on Sep 19, 2014.
- 25. **Lindsey Rogers** from Gloucester, MA signed this petition on Sep 19, 2014.
- 24. **Charlee Bianchini** from Magnolia, MA signed this petition on Sep 19, 2014.
- 23. **maryellen lutcavage** from Gloucester, MA signed this petition on Sep 19, 2014.
- 22. **Christine Sherman** from Gloucester, MA signed this petition on Sep 19, 2014.
- 21. **Aja Heussi** from Essex, MA signed this petition on Sep 19, 2014.
- 20. **Laurel E. Tarantino** from Gloucester, MA signed this petition on Sep 19, 2014.
- 19. **Rona Tyndall** from Gloucester, MA signed this petition on Sep 19, 2014.
- 18. **Julie Adkins** from Gloucester, MA signed this petition on Sep 18, 2014.
- 17. **debbie** from Dorchestr Ctr, MA signed this petition on Sep 18, 2014.
- 16. **Jim Tarantino** from Magnolia, MA signed this petition on Sep 18, 2014.

Don't let a town be raped of it's Heritage by Greed.

- 15. **Natalie A Simon** from Gloucester, MA signed this petition on Sep 18, 2014.
- 14. **Barbara Koen** from Magnolia, MA signed this petition on Sep 18, 2014.
- 13. **Brenda Malloy** from Magnolia, MA signed this petition on Sep 18, 2014.

If you want Newport, move to Newport. If you're looking to get rich catering to the big bucks, look within for the richest riches of them all. Is there something off shore that is seductive with return on investment that would motivate the systematic destruction of our fishing industry. What motivates people, how diminished must one be to want more and and more of what one does not have. Greed, money for moneys sake is crazy making, for sure.

- 12. **Rober Allen** from Holden, MA signed this petition on Sep 18, 2014.

Stop screwing with peoples livelihoods and the purpose of what the area was meant or the people come to your backyard and screw with it.

- 11. **Sharon Lowe** from GLOUCESTER, MA signed this petition on Sep 18, 2014.
- 10. **Alexandra d"maris** from gloucester, MA signed this petition on Sep 18, 2014.
- 9. **Robert** from Harvard, MA signed this petition on Sep 18, 2014.
- 8. **Sondra Libro** from gloucester, MA signed this petition on Sep 18, 2014.
- 7. **Lisa Baker** from South Waverly, PA signed this petition on Sep 18, 2014.
- 6. **Emily North** from Brattleboro, VT signed this petition on Sep 18, 2014.
- 5. **Peter Parsons** from Gloucester, MA signed this petition on Sep 18, 2014.

Save the Gloucester Fisheries!! Farmers of the Sea, for over 400 years!!

- 4. **John Hautala** from Magnolia, MA signed this petition on Sep 18, 2014.
- 3. **Lois McNulty** from Gloucester, MA signed this petition on Sep 18, 2014.

the proposed harbor plan is short-sighted and wrong-headed. Gloucester's 350+- year strong fishing industry abides and deserves support, not abandonment

- 2. **Willie Alexander** from gloucester, ma, MA signed this petition on Sep 18, 2014.
- 1. **Peter Anastas** from Gloucester, MA signed this petition on Sep 18, 2014.
- 0. **Denise Foley** from Gloucester, MA signed this petition on Sep 17, 2014.
-

Reply | Reply to All | Forward

RE: Comments on Gloucester's Harbor Plan

Peter Anastas [panastas@comcast.net]

Sent: Thursday, October 09, 2014 4:46 PM

To: M
Glenn, Kathryn (EEA)

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October 9, 2014

To:

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

From:

Peter Anastas
9 Page Street
Gloucester, MA 1930

Re: Comments on Gloucester's Harbor Plan

Dear Ms. Glenn:

I am a Gloucester native and lifelong resident, who has worked on the waterfront, as a reporter and columnist for the *Gloucester Times,* and for thirty years as a social worker and director of advocacy and housing at Action, Inc., the city's antipoverty agency (I am now retired). Through my work I have had a first hand knowledge of our waterfront, the fishing industry itself, and the people who work in it and those who benefit directly and indirectly from it. Endangered as it may be now, this industry has the ability to rebound with increasing stocks and new marine industries and technologies that would support and sustain it along with our local economy.

I am deeply concerned that the Gloucester Harbor Plan as it exists does not provide enough shore-side support for our fishing industry or potential new marine industries that would benefit our economy in ways that tourism does not and cannot, particularly in the area of full-time jobs with benefits, not

seasonal hospitality work.

I was not able to be present at the public hearing in Gloucester to comment on the city's harbor plan, so I am writing you to share some of my reasons for opposing the plan as submitted to CZM. I list them as follows:

1. The plan was drafted largely out of public view, with few widely advertised public hearings or sessions during which a broad segment of the local population could be heard on their views about the future of the city's primary asset, our working waterfront. It is my view that if more citizens had been actively invited to participate there would be greater public opposition to what the plan's drafters propose.

2. The composition of the Harbor Plan committee was highly political and therefore skewed toward allowing a greater number of non-marine uses of the working waterfront. Many of the members chosen have a history of favoring development on the harbor that would be detrimental to the fishing industry or the expansion of marine industries that are water dependent.

3. There is too high a percentage of non-water dependent or "supporting" uses allowed in this plan.

4. This plan leaves too much room for the expansion of recreational boating, which would create more conflict with the fishing industry as it is and as it rebounds.

5. The Harbor Plan does not compensate for the loss of working waterfront that would occur should DPA protection of vital segments be enacted.

6. Gloucester's Master Plan for the city's future growth and development is ten years or more out of date. It is my view and the view of many citizens like me, who have sat on boards and commissions and been involved in local planning, that the Harbor Plan should not precede the Master Plan but be integrated into it, otherwise we are putting the cart before the horse. Therefore, I suggest that the Harbor Plan be put on hold until the city revises and updates its Master Plan, which would then incorporate the Harbor Plan and involve wider citizen input. The future of America's oldest seaport is at stake, and one should never rush to judgment when the lives and livelihoods of the community's present and future generations are at stake.

Sincerely,

Peter Anastas

Patti Page 3 Tidal Cove Way Gloucester, MA 01930
September 22, 2014

Two primary functions of a DPA Master Plan is to identify a joint state/local strategy for stimulating water-dependent industrial development and to ensure governing regulatory programs effectively control non-maritime uses. This serves to avoid excessive consumption of prime port space by incompatible uses that discourage marine enterprise. A DPA Master Plan should serve as a guide for actions to both promote development that is appropriate for a working harbor and prevent that which is not.

There are three essential infrastructure components required by water dependent industrial uses: waterways with developed waterfronts, backlands to support industrial facilities and operations, and transportation and public utilities appropriate to service industrial operations. Such areas are in a very limited portion of the coastal zone. The industrialized coast should be preserved, to the maximum extent practicable, in order to meet the long term, cumulative space needs of the water-dependent industries these areas are so well suited to accommodate. It has become State policy to not allow these scarce and non-renewable resources to be irretrievably committed to, or significantly impaired by, non-industrial or non-water-dependent types of development, which have a greater range of location options.

CZM can make a minor adjustment to an existing DPA boundary to facilitate its identification in relation to legal or physical landmarks so long as there is not a general net reduction in the total area of the DPA. The Director's discretion does not extend to the exclusion of qualifying property from a DPA from the regulatory framework intended to further the fundamental goal of protection of scarce coastal zone resources. This tends to minimize, not maximize, the shrinking industrialized coast which undermines, and does not serve, the explicit purpose of the DPA regulations.

The 2014 draft Gloucester Harbor Plan represents an over all area reduction of the DPA by 27%, a Water Dependent Industrial Use area reduced by some 46% with the Upland areas the target for hotels, condos, schools and care facilities.

The plan proposes to expand the Accessory Use definition available in these Uplands to include these uses. This is contrary to Chapter 40A of the MGL Zoning Act, which does not allow for expansion of the scope of uses permitted within a DPA.

The most alarming concept of this proposed plan is the exclusive placement of WDIU onto only 14 acres of the filled tidelands. Filled tidelands routinely flood – think I4-C2 in a storm. The most valuable industrial uses will be subject to the flooded areas of the coastline while the uplands will be given up to incompatible uses.

Area reductions, mechanisms of flexibilities, substitutions, and amplifications in conjunction with Transfer of Development Rights with predetermined sending and receiving zones set with developer mitigation payments prevail as significant portions of this plan. This does not serve to best protect the interest of the State or City. These mechanisms will over time, diminish, disassemble and unhinge the Commonwealth's industrial port.

These extraordinary provisions in the draft plan violate both State law and decades of practice. They undermine the stated intent of the Harbor Plan, which is to promote development of the fishing industry, new sectors of marine science and technology, and other emerging maritime industries.

The DPA Boundary determination conducted by CZM served to consolidate the industrial area and released significant acreage in East Gloucester to accommodate hotels, recreational marinas, tourism and consumer activities. Strong support and conservative measures are required to strengthen and preserve the reduced industrial port resource area. There needs to be more work done on the plan in this direction to ensure the city and state objectives are truly aligned for the long term benefit of the community and the Commonwealth.

Such measures for the remaining industrial port should include retaining a 50% WDIU requirement within the 11 acres of the Uplands MI zone. Implement a more conservative requirement of 60% WDIU applied to State jurisdictional areas. Consistent with State law, remove the recommendation to expand Accessory uses which qualify within the DPA.

If Gloucester is to remain a serious, working, industrial port, intent on rebuilding the fishing industry, and is to seek future growth in significant marine technology and ocean research, as the Harbor Plan sets as a goal, the necessary zoning regulatory framework needs to be maintained. That's the balanced approach. As written, the mechanisms recommended in the plan, lays the groundwork for a tip-and-flip takeover of this port via real estate development and visitor based initiatives.

A credible analysis of the benefits and adverse impacts of possible uses, both public and private, carefully considered in an open process should lead to results the community can accept and be a true benefit to the working waterfront.

The apparent focus of the 2014 Municipal Harbor Plan is a reduction of the water-dependent industrial use (WDIU) area executed through several mechanisms.

The Harbor Plan incorporates the results of the April, 2014 DPA Boundary Review. Up until this boundary review, the DPA was 82 acres - virtually the entire inner harbor. The State ruling removed East Gloucester and Smith Cove planning areas from the DPA, removing 22 acres. This reduces the DPA to 60 acres. In the South Channel, Americold-East Gloucester and the Gloucester Marine Railways on Rocky Neck remain in the DPA.

The 2009 Harbor Plan reserved about 65 acres for Water Dependent Industrial Use (WDIU). The 2014 draft plan being reviewed by the State, designates only 35 acres for WDIU. This is a 46% reduction of WDIU area. Conventionally, safety areas and roadways are not considered WDIU, however the new formula used here includes about 5 acres of these use areas. If that reduction is factored, there remains 30 acres of WDIU or a 54% cut.

The plan clarifies the governance of the Uplands. Uplands are those areas of land in the DPA that are not under State authority (Chapter 91 jurisdiction) but come under City control, zoned as Marine Industrial (MI). There is approximately 11 acres classified as Uplands in the DPA. By no means are Upland areas evenly distributed throughout DPA properties. Not all properties include an Upland area. However, the stretch of properties from Gorton's to the State Fish Pier, Americold-E.G. and the Gloucester Marine Railways all have large upland portions. Measures specific to Uplands will provide very disproportionate results – advantages to one property owner, disadvantages to another.

Within this DPA Upland MI zone, the City proposes to remove the 50% Supporting Use requirement and has introduced new Accessory Use possibilities. These include hotels, residential housing, schools and hospital/care facilities. This would be in contradiction to the Commonwealth's statute 310 MGL 9.12(3)(b). Local MI zoning provides City Council Special Permits as a mechanism to address restaurants and retail centers. The plan essentially guts, like a codfish, any effective protection over these Uplands.

Within State Jurisdiction (Chapter 91) filled tideland areas, the plan allows 50% Supporting Use, which includes offices, shops, and restaurants. These 14 acres represents a further reduction of WDIU.

This Harbor Plan does not preclude the aggregation of parcels or a process using transfer of development rights. These mechanisms could enable large hotel and retail center complexes to be built within the DPA. The plan can also be amended with future changes, some of which the State Technical Advisory Committee has under consideration. These include provisions for restaurants on pile-supported structures and new recreational dockage within the DPA.

As a result of the new calculation formula approach utilized in this plan (in violation of 301 CMR 23.05 (2) (e) 1) compounded with proposed expanded Accessory Use definitions, the City could, over time, fail to the meet the state's required 75% WDIU target within the DPA, instead allowing a reduction to 50% of WDIU.

These extraordinary provisions in the draft plan violate both State law and decades of practice. They belie the stated intent of the Harbor Plan, which is to promote development of the fishing industry and new sectors of marine science and technology, such as marine biotech research, robots, and other emerging maritime industries.

Here is what needs to be done to bring the Plan into a reasonable and internally-consistent space. Accept that the DPA Boundary review has released significant acreage in the port to be used for recreational marinas, tourism, hotels, and consumer activities. For the remaining

industrial port, retain a 50% WDIU requirement within the 11 acres of the Uplands MI zone. Implement a more conservative requirement of 60% WDIU applied to State jurisdictional areas. Consistent with State law, remove the recommendation for hotels, residential housing, hospitals and schools to qualify as Accessory Use within the DPA.

If Gloucester is to remain a serious, working, industrial port, intent on rebuilding the fishing industry, and is to seek future growth in significant marine technology and ocean research, as the Harbor Plan sets as a goal, the necessary zoning regulatory framework needs to be maintained. That's the balanced approach. As written, the flexibility, amplifications and substitutions recommended in the plan, lays the groundwork for a tip-and-flip takeover of this port via real estate development and visitor based initiatives.

The State Office of Coastal Zone Management will hold a public hearing on the 2014 Gloucester Draft harbor Plan on Monday September 22nd in Kyrouz City Hall at 6:00 pm.

http://www.env.state.ma.us/mepa/mepadocs/2014/091014em/pn/8.pdf

Patti Page
Wheeler's Point
Gloucester, MA

Reply | Reply to All | Forward

objection to gloucester harbor plan

nmulcahy@worldstove.com [nmulcahy@worldstove.com]

Sent: Friday, October 10, 2014 3:43 PM

To: M
Glenn, Kathryn (EEA)

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Dear Dr Glenn

I am writing with regard to the City of Gloucester's proposed plan for the harbor. In my opinion, as proposed, it is the height of folly. The plan itself bespeaks an outmoded approach to development with little or no concern for the current environmental reality, no respect of history, and signals the city's determination to ring loud the death knell of the fishing industry.

With the reality of climate change and sea level rise most other cities and coastal communities (at least those who realize that it is no longer 1980) are developing plans retreat from the shorelines. Those with important historic buildings, like Annapolis and Baltimore, have been working hard to determine which buildings must be saved and which should be removed as sea levels rise. Gloucester however destroyed most of the shoreline properties as part of the urban renewal of the nineteen sixties, and enthusiastically removed the beloved and historic Birdseye building just this past month. Because of these tragic events, the city at this point is blessed to have fewer critical properties to protect against the rising tides. That this plan lays the groundwork to build more residential property in these critical floodplains is nothing short of reckless endangerment.

As for the fishing industry, that over 80% of the seafood this country eats is imported is indicative of the importance of this industry to our national security and economy. During these days of reduced catch, while the fishing infrastructure is still in place, Gloucester is uniquely poised to be on the forefront of the new sustainable fishing industries which are already proving beneficial to the environment and economies in communities where they are being implemented. The current harbor plan would prevent that from

happening in Gloucester by eliminating critical existing, shoreline, fishing infrastructure and placing what little would be left at constant risk from developers or complaints from residents of condominiums built where now fishing infrastructure exists.

Respectfully,

D. Nathaniel Mulcahy
33 Middle Street
Gloucester MA 01930

Marcia J. Pregent
33 Chapel Street
Gloucester, MA 01930

OCT 9 2014

October 6, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing to express my full support of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan. I was a part of the harbor plan committee and we worked diligently on listening to the community's recommendations on what they would like to see move Gloucester forward while maintaining a working waterfront. As a waterfront property owner, I understand the restrictions being part of the DPA and complying with Marine industrial. This plan is making incremental changes to improve and expand the maritime industries while protecting the DPA and supporting uses in our DPA Master Plan. This plan should help drive investment in our glorious working waterfront.

The Plan continues the direction laid out in the 2009 Plan and continues the City's core commitment to its fishing industry as it weathers the current disaster. The Plan supports interim support for the fleet and essential hub services, improved and more responsive methods of stock assessment, and expansion into sustainable food system networks. In addition, the Plan presents a detailed economic opportunity analysis of emerging maritime industries.

I request the Secretary of the Executive Office of Energy and Environmental Affairs approve the Plan as submitted.

Sincerely,

Marcy Pregent

Lois A. McNulty 27B 7th St
loisamcnulty@gmail.com Gloucester MA

thank Valerie Nelsme

I was not born here. I came here to live as a retired schoolteacher. I raised my family in a small house in downtown Newburyport, where I watched (and objected) as, over the past 35 years, city government blatantly rejected the will of the people in favor of turning the open waterfront into an upscale mall. Well- over half of that town's downtown land is now owned by one ~~rich~~ man ~~who lives in Newton, MA~~, Stephen Karp, mall developer. The "leaders" of the town of Newburyport are only too happy these days to hand over public land to private condo and retail developers who have no interest in the town, its history, or its culture as a shipbuilding port, other than as an opportunity to get themselves rich. I couldn't stick around and watch it any more.

declaring essentially that the emperor has no clothes!

This plan seems pretty disingenuous

As a result there's no more fishing going on in Newburyport now. Nothing for tourists to see but shops + restaurants

I come to Gloucester City Hall tonight as a proud "transplant" to urge Coastal Zone Management to reject this proposed Harbor Plan. It's not identical to the pillaging of Newburyport, but the basic motivation is the same- greed.

Gloucester – the country's longest-operating fishing port- has much more at stake than Newburyport does. We do not have to let what is happening in Newburyport, and other places like Newport, and Nantucket happen here. It is not inevitable.

I am not rich woman; I have no money to "invest." But I have been welcomed here anyway for myself……as a valuable

citizen by a real *community* of people. They work hard to take care of their families and their homes, their small businesses, their boats, and they always find time to help someone in need, or teach a skill or share a meal. ~~That kind of humanity just does not happen so much in a tourist-based town like Newburyport.~~ I believe that Gloucester's people are the way they are not just by chance, but because Gloucester is grounded in the fishing culture, centered on its working waterfront.

I can't say it any better than Gloucester's own writer Peter Anastas. I will share his words, with his permission:

He speaks for the people who ARE from here.

"We take Gloucester for granted. Living here daily, knowing each other, working together, even arguing together, we have been given an enormous gift, the gift of Community and of the ocean that surrounds

and sustains us. Even if we do not fish ourselves or our families did not follow the sea, living in Gloucester, brought up at the ocean's margins, we all follow the sea; and as the waterfront, which is the very heart and soul of Gloucester, stands or falls, so do we all. This is not romanticism; it's not a yearning for the past, as some have argued—it's not obstructionism or fear of change. It's who we are and what we are.

Lose it and we lose ourselves and everything else that matters about our lives here."

Now is the time, when the fishing culture is being crushed by federal regulations and the degradation of the oceans; now is the time to support Gloucester's harbor, not to abandon it. I am here to implore you to reject this plan, which only desecrates what is real and sustainable in Gloucester. Gloucester and all the mouths it feeds through fishing and related marine industries, will not benefit in the long run by this proposed plan, to hand the harbor over to a "get-someone -else -rich-quick" scheme.

Please listen to us, the people who live here in Gloucester, long -time residents as well as newcomers like me who love this place, as we strive for the same goal- to keep our waterfront strong, and keep the ocean healthy for the fish, so that the fish can feed us.

Again, Peter Anastas' words: "Without a working waterfront there really is no Gloucester."

October 6, 2014

The 2009 Harbor Plan reserved about 65 acres for water dependent industrial use, or WDIU. The 2014 draft plan being reviewed by the state, designates only 35 acres for WDIU. This is a 46 percent reduction of WDIU area.

The safety areas and roadways are not considered WDIU, includes about 5 acres if that is factored in, that is a 54 percent cut.

As of the so called "Uplands" they are the areas of land in the DPA that are not under state authority but come under city control, zoned as Marine Industrial (MI). There are approximately 11 acres classified as uplands in the DPA and they are not evenly distributed throughout DPA properties. Not all properties include an upland area. Measures specific to uplands will provide very disproportionate results – advantages to one property owner, disadvantages to another."

Within this DPA upland marine industrial zone, the city proposes to remove the 50 percent supporting use requirement and also introduced new "accessory use" possibilities. These include hotels, residential housing, schools and hospital/care facilities. This is a contradiction to the commonwealth's statute local marine industrial zoning, however City Council provides special permits as a mechanism to address restaurants and retail centers. The plan eliminates any protection over the uplands.

Within state jurisdiction, filled tideland areas, the plan allows 50 percent supporting use, which includes offices, shops, and restaurants. These 14 acres represents a further reduction of WDIU.

This Harbor Plan does not preclude the aggregation of parcels or a process using transfer of development rights. These mechanisms could enable large hotel and retail center complexes to be built within the DPA.

The city's current proposal includes an unjustified reduction in waterfront industrial acreage, removal of supporting use requirements in the uplands, and expands accessory uses, these regulatory provisions do not support the achievement of the harbor plans goals. I oppose these changes and urge you to as well there needs to be an in-depth analysis of this Harbor Plan in its

entirety. The Harbor Plan Committee should be protecting, maintaining all that is essential to the image of our City by making recommendations to encourage infrastructure repairs and developing wastewater pretreatment systems for marine industrial businesses along the water front.

This Harbor Planning Board has seated on it, developers that have investments in their portfolios of DPA and Marine Industrial property in Gloucester. I ask, where are the ethics and conflict of interest? Is the fox guarding the hen house? I recommend an investigation on the conflict of interest law and the appearance of ethical improprieties that are going on. If it looks like a duck and walks like a duck…….

Irene Frontiero
Gloucester MA

Gloucester Fishermen's Wives Association™

Office of Coastal Zone Management
Att: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston, MA 02114-2136

September 22, 2014

Dear MS Glenn,

We are writing to urge the Commonwealth of Massachusetts to require of the City of Gloucester a Harbor Plan that provides adequate regulatory protection for the fishing industry and other waterfront industrial uses.

The Gloucester Fishermen's Wives Association (GFWA) recognizes there are challenges to the fishing industry and support services in the port, due to the ongoing cutbacks in ground fish quota. We also acknowledge the years of chronic disinvestment in the port, from loss of research and development capacity, imposition of pre-treatment requirements, and lack of access to favorable financing. However, the proposed weakening of DPA requirements in the Harbor Plan, now under review, are not the answer to our needs.

Marine industrial use of the port is dependent upon access to the water sheet, upland support areas, adequate transport roads and transitional buffer zones, along with protection from incompatible uses such as hotels, shopping centers, recreational marinas, etc. The City's current proposal includes an unjustified reduction in waterfront industrial acreage, removal of supporting-use requirements in the uplands, and a much-expanded set of allowable accessory uses. We oppose these changes.

We support the current balance of the mixed use harbor. We urge the Commonwealth to invest strategically in the Port of Gloucester. We urge state support for Gloucester's fishing industry and the working waterfront going forward.

Sincerely,

Angela Sanfilippo

Angela Sanfilippo
GFWA President.

2 Blackburn Center • Gloucester, MA 01930 • 978-283-2504 • Fax 978-283-7304
www.gfwa.org • Email: info@gfwa.org

GHCDC

Connecting the Working Waterfront

Gloucester Harbor Community Development Corporation, P.O. Box 561, Gloucester MA 01930
gloucesterharborcdc@gmail.com

September 22, 2014

Secretary Bartlett
Dept. Environmental Protection
Boston MA.

Dear Secretary Bartlett,

On behalf of the Board of Directors of the Gloucester Harbor Community Development Corporation, I come before you tonight to share our perspectives on the current version of the 2014 Gloucester Municipal Harbor Plan and DPA Master Plan.

The Gloucester Harbor Community Development Corporation appreciates the many hours of volunteer, consultant, and staff efforts that have gone into preparation of this iteration of the Gloucester Harbor Plan. The GHCDC was specifically incorporated in 2013 to promote the local economy and a resurgence of the fishing and marine industrial base that is intrinsic to our working waterfront. GHCDC is actively developing a private – public partnership that builds upon the Harbor Plan and the regulations of the Designated Port Area.

Indeed, we are a vehicles or organizations that could "execute a number of the projects proposed in the various reports and studies that have been commissioned over the years." as recommended on page 54 of the Harbor Plan. As priorities, we are looking to the feasibility of infrastructure repair and waste-water pre-treatment, especially noting the need to have the latter address extensive resource recovery. Therefore we are obviously in support of these two recommendations as noted in the Harbor Plan.

Similarly, we are in agreement and welcome the recommendations in the plan which point out the need to create the mechanisms, that will allow the unused dockage along Rogers St. at Americold, Gorton's, and Mass Electric to ultimately be added to the inventory of dockage available in Gloucester for commercial and water-dependent industrial uses. This is surely a complex issue to tackle but indeed does need to be addressed. We welcome and support the Harbor Plan's noting the importance of this needed action.

We are however sketical and oppose the proposals of the plan which recommend allowing new uses in the upland areas that lie between the HHW mark, the extent of the Chapter 91 jurisdiction, and the current edge of the DPA. Within the last year a large section of the former DPA has been removed from the DPA. Additionally, we already have the potential for 50%

supporting uses within the remanining DPA. And now we have at least one vehicle, the GHCDC, to work on *some* of the harbor revitalization issues.

Furthermore, if this latter, proposal were ever to be considered it ought to be mapped out on charts and presented clearly to all the harbor property owners in detail before it ever appears in a Harbor Plan/DPA Master Plan as a formal proposal. This has not taken place and its implications in detail are not clear. This proposal ought to be removed from the Harbor Plan and not go forward at this time.

Section 5.2.3 concludes "The city further commits to move cautiously and judiciously with full public involvement so that any changes to MI zoning in the upland portions of the DPA do not interfere or confllict with WDIU's in the DPA" and thus supports what we are suggesting.

Eliminating as much ambiguity as possible from the Harbor Plan is important for the GHCDC, the waterfront property owners and, by extension, the community-at-large. Given the decision to eliminate roughly half of the DPA while this Harbor Plan was being developed, GHCDC is concerned that recent addition of language regarding removing "uplands" from the DPA could lead to attempts to circumvent the intent of the plan.

In summary then, GHCDC would prefer to let the recent changes to the DPA coverage play out and allow the private sector time to assess and adapt to those changes without other changes pending A stable playing field will enhance our efforts and those of private fishing and marine industrial businesses seeking to regain footing in a resurgent working waterfront. At the very least, the GHCDC recommends a six month extension of this public hearing to allow for a more considered analysis of the Harbor Plan in its entirety.

Sincerely,

Richard S. Hersey, Executive Director
Gloucester Harbor Community Development Corporation

M. Sunny Robinson, Clerk, GHCDC

Secretary Maeve Vallely Bartlett
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Bartlett:

We are writing, as members of the Fish Locally Collaborative and our broader community of supporters, to urge the Commonwealth of Massachusetts to continue to provide strong protection of working waterfronts through the Designated Port Area (DPA) regulations that have been in place for decades. Some coastal communities' rezoning proposals are putting protections of working waterfronts in jeopardy. The City of Gloucester, in particular, has submitted a proposed new Harbor Plan, and we request your strict review of this Plan, to assure that its final version will meet the longstanding goals and requirements of the DPA program. We urge you to resist any proposals that threaten continued waterfront industrial use and diverse, working waterfronts in the state.

The FLC is a network of fishing communities, including fishers, processors, marketers, families, scientists and seafood consumers, with over 400 individuals representing sixty organizations and networks, and over 400,000 fishing families spanning the globe. The FLC does not speak as a unified voice on all matters, but rather seeks to collaborate, research, and learn from each other in developing new solutions and policy directives in sustainable fisheries. We are learning more and more how important it is to provide strong waterfront zoning protection in our nation's fishing ports.

We are aware of the threats to the viability of the fishing industry from the crowding out of waterfront space by hotels, restaurants, shops, condominiums, and recreational marinas. These real estate development pressures have been understood for a long time, and protective zoning has been put in place all over the country. The public interest, in terms of healthy local seafood, high wages and a strong local economy, is the measure of zoning protection, not the ability of speculative real estate developers to outbid and purchase prime waterfront property for non-working uses.

The domestic fishing industry has been challenged in recent years by federal management restrictions, Catch Share consolidation, and competition from cheap frozen imports, and in this context of financial challenges to the industry, it is vital that waterfront space be protected for continued fishing boat and fish processor use.

As we've learned with rural farming communities, once infrastructure and farm related businesses were rezoned to accommodate other uses as a nation we lost touch with where our food comes from, how it's raised or grown, and whether the wealth of the land benefits the nation as a whole. With this came degradation of our

environment, soil and land-based food supply. It's clear that loss of infrastructure in coastal communities will lead to similar decline.

It's taken years, but community-based farming is making a comeback. And by learning lessons from those successes, so are community-based fishing operations. While it may also take several years, the fishing industry is investing in a resurgence of local seafood markets, value-added product development and waste recovery, collaborative research, and other industry development approaches. A fundamental principle of working waterfront zoning is to protect the docks and shoreside space during both the downturns and the upturns in the economy.

We urge the Commonwealth of Massachusetts to reject any proposed changes from the City of Gloucester or other ports and coastal communities that would weaken or compromise the ability of the fish harvesting and processing sectors to invest in a future that supports the health of the ocean and our local fishing economies and non-compatible uses should not be allowed adjacent to water dependent industrial uses.

Thank you for your consideration of our comments. By taking the leadership role today and protecting working waterfronts, you will enable all of us to work together in protecting our marine environment while enriching our coastal heritage through sustainable community-based fisheries.

Sincerely,

Niaz Dorry
Northwest Atlantic Marine Alliance

Peter Shelley
Senior Counsel
Conservation Law Foundation

Johanna Rosen
Food Solutions New England

Shannon Eldridge
Fisherman, Chatham

Les Kaufman
Professor of Biology
Boston University

Laura Orleans
Director
Working Waterfront Festival
New Bedford

Meri Retzel
Provincetown Fishermen's Memorial Project

Estefania Narvaez
Northeast Coordinator
Real Food Challenge

Tyler Mac Innis
West Newbury

Steve Parkes
Gloucester

Madelaine Hall Arbor
Anthropologist

Lois Barber
EarthAction & 2020 Action
Amherst

Outside Massachusetts

Sean Barrett
Dock to Dish
Montauk, NY

Elisabeth Farrell
Food Solutions New England

Matt Gove
Big City Fish Share
New York City

Deborah Klughers
Fisheries Coordinator
Concerned Citizens of Montauk
Montauk, NY

Sarah Rathbone
Fisherman
Santa Barbara, CA

Susan West
Hatteras Island Coordinator
Saltwater Connections
Buxton, NC

Leesa Cobb
Executive Director
Port Orford Ocean Resource Team
Port Orford, OR

Joshua Stoll
University of Maine

Nigel Leon Martinez
Belize Federation of Fishers

Michel Dimin
Sea To Table
New York, NY

We hereby petition the Commonwealth of Massachusetts to reject the City of Gloucester's proposed Harbor Plan as submitted

To be delivered to **Secretary Maeve Vallely Bartlett, Executive Office of Energy and Environmental Affairs, Kathryn Glenn, CZM, Eric Worrall, DEP, Mary Griffin, DFG, Jack Murray, DEP**

We hereby petition the Commonwealth of Massachusetts to reject the City's Harbor Plan as submitted and to stand firm in protecting the working port of Gloucester, including a rebuilding of the fishing industry and other ocean trades.

Name	Address	Email
[illegible]	28 Fort Square	sauverc@hotmail.com
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[illegible]	1063 Washington St	damonc2@aol.com
[illegible]	87 Middle St, Gloucester	[illegible]

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[illegible] Waller	184 R. Granite St. Rockport 978-546-3828	01930.
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MARK BOS	" " " "	
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Stephen D'Amico	12 Allen ST.	" "
ALBERT ROTH	1054 R WASHINGTON ST, GLO.	ACR@APPLEWOOD US
James A. [illegible]	26 FORT SQUARE GLOUCESTER MA	01930
Susanne [illegible]	66 Atlantic St. Gloucester MA	01930-1627

Reply | Reply to All | Forward

Comment on Harbor Plan

Ann Molloy [ann@neptunesharvest.com]

Sent: Thursday, October 09, 2014 2:55 PM

To: M
Glenn, Kathryn (EEA)

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October 9, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Hi Kathryn,

I'm writing to express my thoughts on Gloucester's Harbor Plan, because I
was out of state for the public hearing and wanted to comment.

It is my belief that the Mayor of Gloucester has an agenda for Gloucester
Harbor that does not include a working waterfront, but more of a harbor that
caters to the wealthy, with yacht marinas, hotels, restaurants and
dock-u-miniums (condo's with docks for boats). Examples of these types of
communities are found up and down our coastline, including Newport, RI who
regrets losing it's working waterfront.
http://www.cityofnewport.com/departments/planning-development/projects/water
front/110910_NptEconStudy.pdf

I was a member of the Harbor Planning Committee, and there was one Fishermen
on the committee. That is 2 out of 11 members who are working in a Marine
Industrial business. The rest of the members were politicians,

developers,
or yacht people. These people were appointed by the Mayor. If the Mayor
truly wanted a working waterfront, she would not have stacked the deck
against us so badly. This speaks volumes of how this Harbor Plan got
approved. I was away for the vote, but sent my no vote in via email, but it
was not recorded.

I feel very strongly that if we want to keep Gloucester a working port, and
support the DPA here, this plan cannot pass. If it does, it will not be long
before the true working waterfront businesses like my families, will be
forced out. With much of the DPA recently being removed here, we are already
too close to the tipping point. The state is also in the midst of a DPA
Master Plan that, if passed as is, would be the final nail in our Marine
Industrial coffin.

Please reject this plan, and give our working waterfront a fighting chance.

Thank you,

Ann Molloy
Sales Director
Neptune' Harvest Fertilizer
div. of Ocean Crest Seafood's, Inc.
88 Commercial St.
Gloucester, MA 01930
(978) 281-1414
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ann@neptunesharvest.com

October 1, 2014

Secretary Maeve Vallely Bartlett
Executive Office of Energy and Environmental Affairs
100 Cambridge Street, Suite 900
Boston, MA 02114

Dear Secretary Bartlett:

I am writing in support of the members of the Fish Locally Collaborative (FLC), as one of its broader community of supporters, to urge the Commonwealth of Massachusetts to continue to provide strong protection of working waterfronts through the Designated Port Area (DPA) regulations that have been in place for decades. Some coastal communities' rezoning proposals are putting protections of working waterfronts in jeopardy. The City of Gloucester, in particular, has submitted a proposed new Harbor Plan, and the FLC requests your strict review of this Plan, to assure that its final version will meet the longstanding goals and requirements of the DPA program. I urge you to heed the FLC's warnings and resist any proposals that threaten continued waterfront industrial use and diverse, working waterfronts in the state.

The FLC is a network of fishing communities, including fishers, processors, marketers, families, scientists and seafood consumers, with over 400 individuals representing sixty organizations and networks, and over 400,000 fishing families spanning the globe. The FLC does not speak as a unified voice on all matters, but rather seeks to collaborate, research, and learn from each other in developing new solutions and policy directives in sustainable fisheries. The Collaborative is learning more and more how important it is to provide strong waterfront zoning protection in our nation's fishing ports.

FLC and its supporters are aware of the threats to the viability of the fishing industry from the crowding out of waterfront space by hotels, restaurants, shops, condominiums, and recreational marinas. These real estate development pressures have been understood for a long time, and protective zoning has been put in place all over the country. The public interest—in terms of healthy local seafood, high wages and a strong local economy—is the measure of zoning protection, not the ability of speculative real estate developers to outbid and purchase prime waterfront property for non-working uses.

The domestic fishing industry has been challenged in recent years by federal management restrictions, Catch Share consolidation, and competition from cheap frozen imports, and in this context of financial challenges to the industry, it is vital that waterfront space be protected for continued fishing boat and fish processor use.

Lessons from rural farming communities demonstrate that once infrastructure and industry (farm)-related businesses were rezoned to accommodate other uses as a nation, we lost touch with where our food comes from, how it's raised or grown, and whether the wealth of the land benefits the nation as a whole. With this came degradation of our environment, soil and land-based food supply. It's clear that loss of infrastructure in coastal communities will lead to similar decline.

It's taken years, but community-based farming is making a comeback. And by learning lessons from those successes, so are community-based fishing operations.

While it may also take several years, the fishing industry is investing in a resurgence of local seafood markets, value-added product development and waste recovery, collaborative research, and other industry development approaches. A fundamental principle of working waterfront zoning is to protect the docks and shoreside space during both the downturns and the upturns in the economy.

The FLC and its many supporters urge the Commonwealth of Massachusetts to reject any proposed changes from the City of Gloucester or other ports and coastal communities that would weaken or compromise the ability of the fish harvesting and processing sectors to invest in a future that supports the health of the ocean and our local fishing economies and non-compatible uses should not be allowed adjacent to water dependent industrial uses.

Thank you for your consideration of our comments. By taking the leadership role today and protecting working waterfronts, you will enable all of us to work together in protecting our marine environment while enriching our coastal heritage through sustainable community-based fisheries.

Sincerely,

Christine James

Christine James
230 Amory St #1
Boston, MA 02130

City Hall
Nine Dale Avenue
Gloucester, MA 01930

CITY OF GLOUCESTER

Paul McGeary, City Council President

OCT 6 2014
COASTAL ZONE MANAGEMENT

Oct. 1, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Ms. Glenn:

I am writing in support of the Draft Municipal Harbor Plan submitted by the City of Gloucester to your agency.

As a City Councilor and a member of the Harbor Plan Committee, I participated in a nearly two-year public process to assess and revise the city's current Harbor Plan. The recommendations made by our committee were thoughtful, modest and designed to preserve our existing infrastructure as an asset to our city and the Commonwealth. At the same time, the proposed changes recognize that the definition of what constitutes "water-dependent industrial use" has changed over the years to include new industries that were not even invented when the Designated Port Area and its attendant regulations were first established. "Marine Biotechnology," "Marine Robotics" and offshore green energy are industrial sectors that have only come into being in the last decade or so.

I specifically want to assure your agency on one point. Much has been made of the upland portion of the DPA falling under municipal zoning as opposed to Ch. 91 regulations. I want to stress that the proposed plan (Sec. 5.2.3) notes that the city's Marine Industrial Zoning shall conform to 301 CMR 23.05(2)(e)(4)(C) maintaining "a surrounding land development pattern that provides an appropriate buffer between industrial uses in the DPA and community uses that require separation therefrom in order to avoid significant operational conflict." Clearly, any portrayal of Sec. 5.2.3 as an attempt to sneak nonconforming uses onto the waterfront is unfounded.

I believe you were present when, on more than one occasion, I asked our consultants if the city's agreement to maintain Marine Industrial Zoning as described was part and parcel of the plan and whether if the city went back on the promise it would void the plan. I was told that the commitment to MI zoning is indeed a provision of the plan and a binding agreement between the city and the state.

I am confident that your agency will find the proposed revisions justified in their entirety, and I endorse them both as a member of the Harbor Plan Committee and a City Councilor charged with protecting our city's legacy and its future.

Very truly yours,

Paul McGeary

Paul McGeary
City Council President

978-381-9115 pmcgeary@gloucester-ma.gov

A Statement
on
The True Value of the Harbor

by

Carmine Gorga, PhD
President
The Somist Institute
87 Middle Street
Gloucester, MA 01930
cgorga@jhu.edu

Presented at the Public Meeting Held at City Hall in Gloucester
Called by the Office of Coastal Zone Management
of
The Commonwealth of Massachusetts

September 22, 2014

Ladies and gentlemen, thank you for coming to Gloucester. Thank you for your review of our 2014 Harbor Plan and Designated Port Area Master Plan for the City of Gloucester. You may help us clarify our thinking processes. Please, allow me to offer a few observations:

1. The numbers contained in this plan are not useful to guide us in our decisions concerning the future of the harbor. They are not true *economic* numbers, that is numbers determined by the operations of The Market, by the capacity of our harbor, and the readiness of our fishermen to fish. They are *administrative* numbers, numbers willed by the National Oceanic and Atmospheric Administration (NOAA), the administrative agency that, due to its demonstrated lack of knowledge of fish dynamics, is denying our fishermen their right to fish. In addition to technical details, it is clear that NOAA does not "Know Fish" the way our first poet laureate, Vincent Ferrini, knew fish;

2. In your deliberations, consider that the true value of the harbor is determined by four hundred years of investments that have made this a "hub" port, a port of significance for the entire region. Thus, one way to account for the true value of the harbor is a calculation of the *replacement cost* of existing facilities. The true

value of the harbor is also technically determined by the discounted *value of future income streams.* Remember the economic wisdom of Lena Novello's father: Boats build houses; houses do not build boats. If you allow condos and McMansions along the harbor, they are not going to generate any future income, because houses are consumer goods that do not create new wealth but cost money for their upkeep. Thus, as far as the value of the harbor is concerned, even McMansions are a negative factor. They present us with negative opportunity cost: the negation of possible future income streams. Furthermore, if you allow hotels, and motels there, at best, they enrich the owners of the enterprise; but they do not create new wealth, because tourism is a zero-sum game: Money spent here is money not spent elsewhere. It is only a thriving fishing fleet and an industrial base composed of fishing processing and production of the myriad by-products of marine resources that create new wealth and a future stream of income;

3. What Valerie Nelson, Susanne Altenburger, Patti Page, Damon Cummings, Marcia Hart, Sunny Robinson, Peter Anastas, and countless other concerned people of the present or the past, such as Joseph Garland, have been emphasizing over the years is this. We should not destroy the future value of the Gloucester harbor. They do not want a negative income stream from the harbor; they do not want a zero-sum income stream; they desire to obtain a positive income stream from water dependent industrial activities on the harbor;

4. The marine and financial resources are there to restore the fishing industry and the harbor to their olden splendor. If there are no fish at docks, it is not because there are no fish in the ocean. It is because NOAA is prohibiting fishermen to fish. As emphasized on many occasions, there is always an abundance of predators of the moment to catch. Two petitions on the Internet make this clear (www.thepetitionsite.com/29/a-petition-to-stop-noaa-now and www.thepetitionsite.com/takeaction/241380953). One petition asks President Obama to stop NOAA now; the other asks Congress to amend the Magnuson Act to have NOAA respect the dictates of the predator-prey model of the marine biomass and control the destructive operations of the national and international large corporations. In its wisdom, Congress has given NOAA adequate means to do so through actionable recommendations about imports;

5. Even Mike Dyer, a trustee of the Manchester Essex Conservation Trust (MECT), an important local environmental organization, has lately come to realize that "among the many causes for declining fish stocks" overfishing "is now much more of a problem overseas, where large foreign fleets ravage the coasts of poor countries." Any day now representatives of the humongous national environmental groups funded mostly by the bottomless endowment of the Pew Charitable Trusts will come around to the recognition of this profound truth. It is high time to let local fishing groups develop their own self-organizing rules; as widely recognized, these are the ONLY effective rules for the defense of the common resources of the ocean;

6. A third petition takes care of the search for long term financial means necessary to bring to market appropriate amounts of natural renewable resources and not easily marketable species of fish (/www.thepetitionsite.com/325/007/323/a-patriotic-reform-of-the-fed/). In the short run, we can gather these means through the creation of the Gloucester Interdependence Fund (www.somist.org/id30.htm);

7. This is a call to Mayor Carolyn Kirk to unify our community around these potentials and extend an invitation to our national leadership, with President Obama at the head of the parade, to focus on Gloucester, to come to Gloucester and see our fishermen ready to create jobs on the sea and supporting jobs on land. They are ready to create "jobs, jobs, jobs," without asking for a cent in financial subsidies, without placing any burden on to the weary shoulders of the taxpayer. As they have done for 400 years, they are ready to create wealth for themselves and for our nation.

The implementation of these three petitions will bring into harmony the operations of the fishermen with the operations of national supervisory agencies, and the needs of the local economy with the resources of the national economy.

If the fishermen are allowed to fish the abundant predators of the moment, we are going to have scientific management of the fisheries, and if these renewable resources—and their innumerable by-products—are successfully brought to market, the Port of Gloucester will return to its traditional intellectual and operational leadership position in the fisheries of the world.

Many people, from many parts of the world, recognizing without any prodding the potential healing power of these petitions have signed them—some with heartbreaking comments.

Thank you for your attention.

Greg Verga
381 Essex Avenue
Gloucester, MA 01930-2349
October 1, 2014

Office of Coastal Zone Management
Attn: Kathryn Glenn, North Shore Regional Coordinator
251 Causeway Street, Suite 800
Boston MA 02114-2136

Dear Kathryn:

I am writing to show my support for the proposed Gloucester Harbor Plan.

This plan is the result of many months of careful review by the members of the Harbor Planning Committee with countless opportunities and examples of public input throughout the process.

While some would argue that this plan is the beginning of the end of Gloucester as we know it, I see it more as a new beginning. One that preserves our fishing heritage – one that my grandfather came to this country nearly 100 years ago to be a part of – while at the same time allowing flexibility for waterfront property owners to survive at this critical time as regulations have our fleet in a strangle hold.

I will be the first to admit that what we have put forward is far from perfect. However, to ignore compromise and seek perfection and universal agreement is not a realistic approach.

I urge swift approval of the Gloucester Harbor Plan.

Sincerely,

Greg Verga

Harbor Planning Committee Member
Fisheries Commission Member
Gloucester City Councilor