On the Absence of a Low-Carbon Commercial Fishing Fleet in the United States
(and Canada, Europe...)

by

Susanne Altenburger
of
Phil Bolger & Friends Inc., Gloucester, MA
April 5th 2016
1. Who are we?

My husband Phil Bolger worked independently designing boats out of Gloucester between 1952 and 2009. He produced 680 Designs

Beginning March 1948 he discussed his work in hundreds of articles in popular magazines. Since 1972 he wrote 6 books on his work, and four more book-manuscripts are due to be published.

He died May 24, 2009 at 81.
Phil Bolger’s Design-Work seen on Movie-Screens Worldwide
Since 1968/69 Phil Bolger’s largest Design – “HMS Rose” – by 2003 a Lead Movie-Actress:
His Design #225 “H.M.S. Rose”, measuring 115-foot, 13,000 square-feet of sail, 450-tons as the 24-gun three-masted square-rigger frigate, became the lead actress as ‘HMS Surprise” in the
2003 20th Century-Fox Movie “Master and Commander” also starring Russell Crowe and Paul Bethany.
Between 1994 and 2009 we worked and lived together, joined in marriage and full-time Design-Work across some 60 Designs, with work discussed in well over 250 articles.
The Archive of Phil Bolger & Friends Inc. covers a lot of pleasure- and quite a few commercial craft, with designs ranging from 40lbs to 450-tons in Weight.
A Sequence of work with the US Navy since 2002 and US Marine Corps since 2013 – here e.g. “LCU-F”
WEST 2014: What Do the Sea Service Leaders Want to See in A New Maritime Strategy?
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 “crucible of war” 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.
And here two samples of Fishing-Craft:
A Dragger and a Lobsterboat for Gloucester Fishers
2. The Science-Philosophical Challenge

The Commercial Fishing Industry consists of *Two Co-Equal Elements* -
the ‘Resource’ and the Fleet:

- 1. The Resource of fish, shell-fish etc., and
- 2. the Fishing-Fleet, without which there’d be no fishing industry.

Both are *CO-EQUAL*!

There would be no industry without either half. They are two 50% parts of one 100% whole.
However, 98+% of all discussions related to Commercial Fishing cover only one 50% part - 'The Resource'. This can thus be called the 50% Model.

In stark contrast to this massive amount of attention, THE OTHER 50% of what makes up this industry in its 100% breadth - the Fleet-Structure and its Daily Operations (plus Shore-Side Infrastructure) – go largely ignored in these efforts.

Therefore, well into 2016 we find a Persistent Tragic Prevalence of the 50% Model in Fleet-Governance - even in EBFM-discussions (EcoSystem-Based Fisheries Management).
Under this steadfastly-insisted-upon fixation with the 50% model of industry-governance, the Commercial Fishing-Industry is thus the last *Industry of Transportation* that has not seen any *Research & Development Programs* into 21st-century *LOW-CARBON Fleet-Economics*.

*There still is no regulatory process* underway to link Low-to-Least Carbon Fleet-Economics with Resource-Ecology!

Neither scientists, ecologists nor regulators appear concerned with the inherently-fractured logic of attempting Industry-Governance and even EBFM with a de facto mostly ‘70-‘80s-era design-concepts based High-Carbon Fleet. But things are worse yet...
By 2016 over 22 years of **hard NOAA Technical Prohibitions against Fleet-Innovation** towards **Low-Carbon Fishing-Craft, Catch-Methods and Operations**!

Starting here in New England in 1994, and going ‘federal’ by 1999, NOAA/NMFS instituted **regulatory dictates around technical/operational assumptions** that never were coherent and certainly have proven themselves to be **unteenable** in all sorts of ways since.

Their initial hopes seemed laudable enough in their interest to Limit Fleet-Growth that would otherwise quickly outstrip the resources capacity to support that growing fleet’s economics.
Their regulatory assumptions were that putting hard Upper Limits on
- (so-called) ‘Tonnage’,
- Horsepower,
- Length,
would limit the growth of the fleet and thus its appetite for the resource.

Well, it did not!
Since it could not!
Tonnage derived from a ‘big-ship’ context, via coarse ill-suited concepts such as ‘gross-‘ and ‘net-tonnage’ was super-imposed on a Fleet of much smaller hulls but never unarguably-quantifiable. Actual Displacement/Weight should been but was not part of the equation!

It is not unheard of that a given vessel might see its ‘tonnage’ numbers change through its life-time under different assessments – all without any serious physical alterations, or without impact on its fishing-capacity.
Horsepower is physically indeed much less ambiguous than ‘Tonnage’ since typically measured by the engine-manufacturer.

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.

That variability of actual versus ‘original’ output is part of the spectrum of options for a good number of engines in the fleet.
Which leaves ‘Length’

*But to put it bluntly, ‘Length’ is not ‘Size’!*  

Throughout the recent history of fishing there have been 60’ x 13’ fishing-craft, as there are 60’ x 25’ types, with the latter *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, or part of a plausible path towards EBFM.

Length-limitations have typically led to *wider, deeper, heavier, harder-to-drive hulls* - often with decreasing seaworthiness and reduced ergonomics – *actually supporting a multiplication of fishing-effort.*
A Fleet-Structure frozen in time by ill-suited Regs.

In an age when increasing fuel-costs between ’99 and ’14 made most other industries seek technical solutions to compensate for cost-increases of energy, the NOAA/NMFS/NEFMC/SSC community of scientists, regulators and enforcers insisted upon legal dictates to the Fleet that
- either froze the then current Carbon-Intensity
- or indicated even higher levels of it!

With Length/Tonnage/Horsepower the ‘preferred’ regulatory tools for over two decades, their long-term impact upon the fleet has indeed run exactly counter to any plausible 21st-century Fleet or, hopes for EBFM.
Immediate and Longer-Term Consequences:

- 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 2016 arrived at a persistent High-Carbon Fleet-Structure and Operational Parameters that neither the Bush nor the Obama-Administrations have taken measures to mitigate against.

No NOAA Leaders have support Low-Carbon R-&-D ?!
For at least 22 Years now, the Fleet has been dictated to *remain frozen* in this remarkably-backwards under-evolved state of evolution, exposed to
- **Resource-Fluctuations** as we are experiencing a severe case of,
- **Fuel-Cost Fluctuations**, e.g. the 360+% rise ‘99-’14,
- and thus **Unpredictable Costs for Hull-Materials, Machinery and Consumables,**
- the equally-affected **Cost of Ice, Transportation** of the fish to processing and then to the market etc. etc.
- all before the **rising likelihood** of dedicated ecology-driven statutory **penalties for Carbon-Overuse,** however defined for this High-Carbon Fleet.
A serious ‘High-Carbon’ Political Liability for the Fleet

By 2015 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‘, such as via via 21st-century low-carbon vessel-attributes and matching highly-selective fishing-methods.

Under the apparently widespread ’50%-Model Hysteria’ many of their leaders – such as the North-East Seafood Coalition – have NEVER CHALLENGED these dubious but crushing High-Carbon Dictates. Instead, since NSC’s founding, they have submitted to these business- and resource-destructive policies.
Examples of Limiting Hull-Evolution by Length #1
Examples of Limiting Hull-Evolution by Length

#2
Examples of Limiting Hull-Evolution by Length

#3
Examples of Limiting Hull-Evolution by Length # 4
Examples of Limiting Hull-Evolution by Length # 5
Examples of Limiting Hull-Evolution by Length  # 6
Economic Realities of *High-Carbon Dictates*

Just a Few Hard Numbers

Under these NOAA/NMFS ‘High-Carbon Regulatory Dictates here the unavoidable Long-Term Vessel-Economical Consequences under $2.5/gal, $4.-/gal and $5.-/gal
- using one current local High-Carbon Type, and
- a matching Low-Carbon Type we’d offer under plausible regulations:

- **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.-

The Cost-Savings of LC-craft over current HC-types also illustrates the mid-term protection from energy-price spikes.
3. One Solution: Since 2003 we’ve proposed defining Vessel-’Size’ by its **actual measured Weight/Displacement**

- Our proposal was to use ubiquitous Travel-Lifts to weigh the fleet at 50% fuel, NO crew, NO gear, NO ice, NO shenanigans.
- This would take between 30 mins and 2hrs depending upon boat-size, ranging from just a few thousand pounds to 400 tons - the maximum lift-capability readily accessible in New England.
Regulating Vessel-Size by its *Weight* would become the catalyst to encourage *Fleet-Sustainability*

- With that *Vessel-Weight and the Horsepower Limit* on the Fishing-Permit owners and designers would be free to pursue
  - low-carbon and eventually *least-carbon hull-types*,
  - from *long-and-lean mono-hulls*
  - to various *multi-hull geometries*.

- Most would likely pursue *modest* fossil-, bio-, wind-power etc. in all sorts of combinations to reduce their operations’ exposure to oil-cost.
What attributes would a 21st-century Low-Carbon Type want to feature?

• Least-Resistance running
• Adequate Stability as a Work-Platform
• Variable-Geometry Drive-Train for distance-running versus actual localized Fishing-Effort
• Exploration of harnessing Wind-Power via Sails, Kites etc. assuming cost and complexity do not undermine any economic & ergonomic demands
• Least-Carbon renewable Hull-Materials i.e. regional Wood, advanced Wood-Composites
• Plausible Degrees of Sinking-Resistance
One late 20th-Century Open-Ocean Wooden-Hulled Working-Type:
1400+-tons US Navy Ocean-Going Minesweeper “Avenger”

Other Wooden Combatants with Soviet Union/Russia, Taiwan, Germany, Japan, France, Greece...
Early Hull-Evolution driven by Economics:
The earlier Fleets by Hull-Structure and Drive-Train Geometries were *inadvertently!* much more sustainable – serving as obvious precedents
Leaner Geometries yet – here built 1917-18
REPURPOSED for Commercial Fishing into the 1970s

1917 US NAVY Sub-Chaser (SC)
110’Length (105’WL)
15’5”Beam (14’9”WL)
5’11” Draft on 150,000lbs Displ.
3x220hp x 16kts

400+ built for coastal defense, with 235 Trans-Atlantic Crossings
in USN WW-1 duty, on a Length-to-Beam ratio of 7 : 1

SC 235 shows a standard World War I subchaser battery: a gun (in this case, a 6-pounder) forward, a Y-gun abaft amidships, and a depth-charge track right aft.
Demilitarized Sub-Chasers would serve fishing commercially (incl. side-trawling) into the 1970s

Over a Dozen worked out of Gloucester alone,
- with 60+ between SC and ME
- re-powered with single-screw 140-200HP –
- no bow-thrusters or tugs,
- fishing inshore & offshore
- year round,
- Including as Eastern-Rigged Draggers!

(Photo & text from Peter K. Prybot’s “White-Tipped Orange Masts”, 1998, p. 145.)
4. DESIGN-OPTIONS

Upon Request we’ve done short wide hulls such as this ‘Marina-Queen’ at 29’11”x14’6” (2:1 length-to-beam ratio), to match a 30-foot berth-requirement.
Design #679 (2007) A Low-Carbon, Owner-buildable, Entry-Level Inshore Craft, 30’8” x7’8”x1’ (4.5:1 WL Length-to-Beam ratio)
Design #681 to a US Navy brief, a fast 40-foot Container-Correct Coastal Patrol-Boat with 3000+lbs capacity, 39’1” x7’5”x225hp x25+kts  4.5 l/b ratio
Here is sketch for a 6000lbs capacity hull, powered by 75hp to 8kts, on 40’ (37’WL) x 9’ (8’4 WL) x 3’6” with a Length-to-Beam of 4.5.
Inshore/Offshore Fishing-Craft Concept-Sketch w/ 15,000lbs capacity/30,000lbs displ.
50’x10’6” x 100hp x 9kts  5.4:1 l/b
Here is an example for a 30k-220/70D type, measuring 60,000lbs full load on 70’ length x 14’6” beam (5.3:1 WL ratio), good for 11kts
30k-220/70D Interior Layout
5. Pushing towards a Sustainable Fishing Fleet and matching Regulation starting Nov. 3, 2002

- We started raising the issue locally with Mayor Bell, also head of the North-East Seafood Coalition,
- pushing the agenda in print,
In the Sept. ’04 issue NATIONAL FISHERMAN helped take the Idea nationally
An Evening discussing the Opportunities at the Gloucester Maritime Heritage Center Dec ‘04


- NMFS offered a 2-Year Experimental Fishing Permit to explore advanced hull geometries across Fisheries and Seasons.

- No Interest from Industry Chiefs! None were present that night...

Vessel Design and the Future of Gloucester Fishing

Phil Bolger and Friends will present a new, fuel efficient fishing vessel design followed by a panel discussion with representatives from the fishing industry, research community, and naval architecture fields.

Thursday, December 2, 2004
7pm at the Boathouse at the Gloucester Maritime Heritage Center
Call (978) 281-0470 for more information.
It would take another 11 months to get the Perspective into the Gloucester Daily Times by Nov. 26th 2005 – some 3-years after we offered it.
During 5 Days of densely Scheduled Seminars and Discussions, *there would not be a single event discussing* THE RELEVANCE OF ACCELERATING ENERGY-COST in the businesses of Fishermen and their Families and Communities. A Month before, we had proposed to the organizers to hold at least a Round-Table...
By Summer of 2007 Accelerating Fuel-Cost galvanizes about 60 Fishers and Key Harborside Stakeholders

In SUPPORT OF GLOUCESTER'S WORKING INNER HARBOR -

GloUCESTER is "America's Oldest Seaport." Founded in 1622 by Fishermen to be close to particularly fertile fishing grounds since treatment of the first charter in 1873, the Inner Harbor has matured into Gloucester's oldest and largest fully-commissioned and privatized Industrial Park. Built primarily for Commercial fishing and re-industrialized, it is one of the very few commercially ported city centers designated throughout New England that has been designated for sustainable, renewably-based, and re-locally-located, the Inner Harbor is now the focal point for the Acceleration of the Inner Harbor - Sustainable Fishing and its harbor infrastructure will support the competitiveness of the fleet and thus re-establish the validity of solar commercial viability of the port to greatly increase its jobs and growth for the City.

We therefore support here and now (GLW:20) The Federal and State Funding of a Series of Experimental Fishing Hulls in Gloucester under the guidance of Gloucester's own Inner Harbor Design Philip C. Belcher in Boston, New York, and Chicago to present answerable solutions to the current financial problems that the Inner Harbor faces.

1. To advance the Principles of "Green Design." Construction and Operation to test and demonstrate a broad variety of sustainable solutions, including the development of new coastal and coastal support infrastructure. That would include green building, solar power, wind power, etc.

2. To advance the principles of developing hard sustainability, enhancing stability, and including oophoriaic synergies.

3. To share the Great Potential of Gloucester's Inner Harbor. 97% of the current fleet of fishing boats of its size built in Cape Ann, a mere 7% of the boats.

4. To support local and sustainable seafood marketing and sales from both the local seafood and regional seafood markets that are based on a broad variety of local seafood processors who are dedicated to the health and welfare of Gloucester based on a broad variety of sustainable fishing stock that supports key habitats.

5. To upgrade the Inner Harbor's value adding potential by supporting multiple fishing-processing facilities through a strategic mix of multi-purpose treatment plant, or a captive fishing-processing waste-water collection and treatment plant (captive) from Gloucester waterfront (inner harbor). This is in a strategic plan to significantly enhance the sustainability and efficiency of both the resources, the fleet, and the park, based on broad local ownership and diversified management, entrepreneurial synergies, and environmental awareness.

The undersigned publicly supports this proposal as timely and essential for the future of this part, vital for the sustainability of the fleet, and understand that this comprehensive perspective is enabled by other organizations of research and analysis.

Name: ____________________________
Signature: _______________________
Address/Phone #: __________________
Business & Position: __________________

Please sign your support for this proposal with your friends and ask them to sign this proposal as well. If you are a member of one of the Gloucester and Portland, we will send you a copy of this proposal for your signature.

This proposal will be submitted to the Gloucester Fishermen's Alliance for review and consideration.

Compiled by W.H. Thompson (Hingham) for the Atlantic City, Gloucester, Inc. on June 5, 2007.

For further supporting articles, contact Gloucester's own Peter Foy by phone at 301-843-3223 or email at peter@fojines.com. Gloucester Fishermen's Alliance Project Director.
FISHERMAN LIFE, the Regional Fishing Monthly in British Columbia by December 2007 publishes a Fisher’s and a Designer’s Shared Perspective


In 2005 I read an article in National Fisherman about a sustainable hou planning project being developed by Phil Rigler & Friends Inc., a boat design firm in Gloucester, Massachusetts. The prototype vessel that caught my eye was a 70 ft. long hull of 10,200 lbs. The vessel, designed to carry a crew of two or three, was to be powered by a 400 hp diesel engine. The hull was designed to be built with the minimum amount of labor needed to meet the efficiency and durability that is so very efficient. The project was called the "whitewater" and was built by Whitewater Boat Builders, a fast-growing company in New York.

In 2006, while working on another project, I was passed by a boat that caught my eye. It was a 40 ft. long hull of 10,200 lbs. The vessel, designed to carry a crew of two or three, was to be powered by a 400 hp diesel engine. The hull was designed to be built with the minimum amount of labor needed to meet the efficiency and durability that is so very efficient. The project was called the "whitewater" and was built by Whitewater Boat Builders, a fast-growing company in New York.

The design uses a lightweight composite for the hull that is thinner than both steel and aluminum. Its superior design also significantly reduces the weight and labor costs. The Rigler team has developed a new technology that allows them to build these boats in a fraction of the time it takes to build a steel hull. The design features include a lightweight composite for the hull that is thinner than both steel and aluminum. Its superior design also significantly reduces the weight and labor costs. The Rigler team has developed a new technology that allows them to build these boats in a fraction of the time it takes to build a steel hull. The design features include a lightweight composite for the hull that is thinner than both steel and aluminum. Its superior design also significantly reduces the weight and labor costs. The Rigler team has developed a new technology that allows them to build these boats in a fraction of the time it takes to build a steel hull.

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Spring 2008 New England’s Major Regional ENGO CONSERVATION LAW FOUNDATION offers support

March 30, 2008

Phil Bolger
Susanne Allenburger
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 building 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 the 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.

Conservation Law Foundation

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 made 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,

Rick Shugart
Vice President and Massachusetts Advocacy Center

CLF “Protecting New England’s Environment”
Heading towards $147.50.-/barrel of oil
Summer 2008

Fishermen Meeting
Wednesday May 28th '08,
7 p.m.
at the "Gloucester House"

Organized & Presented by
Phil Bolger & Susanne Altenburger, 66 Atlantic Street, Gloucester

Topics:
1. Low-Fuel-Burn Commercial Fishing-Boats
   - Progress-Report on the Politics & Funding to build
     Several Sizes of Prototypes in Gloucester.
   - Presentation of several Advanced Concepts to match
     $5.-+/gal of Diesel. We need your Feedback!
   - 38 Fishermen have already expressed Support with
     their Signatures since Summer '07. And a Good
     Number have offered Advice on Layout and Use.

2. Strengthening the Future of Gloucester's Marine-
   Industrial Harbor as America's Oldest Fishing Port

There will be a 20min. video, plus Project Documentation incl.
Articles, Letters of Endorsement, Updates on State & Federal
Prototype-Funding, plus Hand-Outs, etc.

Bring 2+ Hours of Open Mind, Questions, Ideas…
New Mayor and New Chamber of Commerce Chief understand the need for a Sustainable Fleet to have a Sustainable Port
Sinking spirit
Lobstermen play hardball over turf

Avoid colliding with large vessels
Green machine
Outboard powers plywood 30-footer
Cambered doors saving shrimpers

NATIONAL FISHERMAN on #679, Nov. 2009
It’s the only way out that’s left

Combining groundfish ecology with fleet economics

Yardsticks that define the success of the groundfish fishery are commonly measured in a simple, straightforward way: the numbers of fish caught and volume of fish landed in pounds. Groundfish, such as cod, haddock, hake, and flounders, are the mainstay of the groundfish fishery, which provides the backbone of the Northeast’s marine economy. The wealth of the region is built on the stability and reliability of the fishery. It’s a sturdy, resilient fishery that ensures food security for the entire region. It also supports a healthy, sustainable industry that provides livelihoods for thousands of families. Groundfish are abundant and renewable resources that support an economically viable fishery. They are a key component of the ocean ecosystem, providing habitat for other species and supporting the livelihoods of thousands of people. The fishery is managed through a system of regulations that ensure the sustainability of the resource.

The Northeast Groundfish Management Council (NEGWCO) is responsible for setting the overall management strategy for the groundfish fishery. The council’s decisions are based on the best available science and take into account the needs of both the fishing community and the environment. The NEGWCO’s management strategies are designed to maintain a healthy, balanced ecosystem, while also ensuring that the fishery is sustainable in the long term. The council’s management plans are reviewed and approved by the NEFSC, which provides oversight for the council’s work. The NEFSC’s goal is to provide stable, reliable, and sustainable fisheries for future generations.

Nowhere is the need for balance more evident than in the groundfish fishery. The fishery is managed through a system of regulations that ensure the sustainability of the resource. The council’s management strategies are designed to maintain a healthy, balanced ecosystem, while also ensuring that the fishery is sustainable in the long term. The council’s management plans are reviewed and approved by the NEFSC, which provides oversight for the council’s work. The NEFSC’s goal is to provide stable, reliable, and sustainable fisheries for future generations.

With the best management practices, we can ensure a strong, healthy groundfish fishery for years to come. The council’s management strategies are designed to maintain a healthy, balanced ecosystem, while also ensuring that the fishery is sustainable in the long term.
Samples of PB&F Commentaries on recent Federal/Regional Regulatory Initiatives

**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 now 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.


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
6. “New Public Policies to leave the 50%-Myopia and Anti-Innovation Evil behind”

Over a Dozen vital Elements to rationalize under-evolved Commercial Fisheries Governance:

6. 1. Correcting the Incomplete Definition of EBFM:
Once the resource is subject to industrial harvest, the Commercial Fishing Fleet is an inextricable man-made part of the ecology of the resource.

Therefore the Fleet is inherently and unavoidably one central element of any plausible definition of EBFM.
6. 2. **Emphasis on the 'TRIPOD OF SUSTAINABILITY' to assure EBFM-correct Fishing-Fleet Sustainability:**

- Leg 1. Sustainable Resource-Management, based on stock-assessment and emerging Eco-System knowledge;

6. 3. **Removal of the explicit Anti-Innovation regulatory obstacles** put in place between ‘94 and ‘99.

6. 5. **Rationalizing Fleet-Parameter** by just using measured Weight and Horsepower remain the sole direct and honest indicators of any vessel’s ‘size’ and resource-lethality.

**SSC/NEFMC/NMFS/NOAA** concepts, reflexes, analytic metrics urgently need to be updated to these two sole restrictions upon vessel-size growth.
6. 6. **Federal and industry collaboration** (following other such well-established examples of it) fuelled by grant-driven R-&-D processes to arrive at broadly-accessible innovations for the industry in a decisive move to help the fleet recover from now over 21 years of dictated stagnation, dictated prohibition to ever become ecologically fully sustainable in the comprehensive definition offered by EBFM.

6. 7. **Revitalize and fine-tune federal fleet-support programs already on the books** to help the fleet to begin to make up for these tragically-destructive 21 years of dictated developmental stagnation.
6. 8. **Incentivize the Industry to Migrate Laterally towards such Advanced Sustainable Fishing Craft:**

a. **Re-Write Federal Fleet-Building Legislation** of late '70s/early '80s by exchanging 'capacity-building' references with ‘Low-/ Least-Carbon'/'Sustainable Seafood Supply Security'/'National Energy Security' context to focus funding on 'green' types.

b. **Compel largest 'green' advocacy groups to directly financially support the 'migration'** towards the 'greenest/most sustainable' commercial fishing fleet anywhere in the world.

c. **Incentivize fishers with tax-incentives, low-interest loan programs, grants, additional quota units.**
6. 9. **Offer in Any 'Bail-Out/Buy-Out' Program a ‘Migration’-Option to Support Fishers Migrating Laterally into Sustainable Hulls and Fishing-Methods:** Retaining and demographically balancing the industry's local and regional industrial knowledge-base is vital to its resilience.

6. 10. **Offer explicit REWARDS (quota, access etc.) to exceptional fishers pursuing their own path-breaking innovations towards 21st-century EBFM-correct fishing-craft and fishing-methods. “Green High-Liner of the Year...”**
6.11. **Initiate explicitly-focused R-&-D into Choke-Species-evading fishing-methods** that leave e.g. Cod alone but ‘targets’ abundant species instead.

6.12. **Resource-Privatizing 'Consolidation'** runs counter to all desirable Resource-Ecological, Energy-Political, Socio-Economic Values, as it violates the Inextricable Link between Resource- and Industry-and thus Community-Sustainability.

6.13. **Include this whole policy-cluster into the current drafting of the Magnusson-Steven Reauthorization package**!
7. What about ‘Economies-of-Scale’ to achieve Industry-'Sustainability'? 

- Such proposals are typically
  - Highly-Capitalized,
  - Centrally-Managed Operations
  - running much fewer numbers of
  - larger so-called 'State-of-the-Art' vessels.

- This model typically means
  - de facto 'Corporatization' of the Industry,
  usually going hand-in-hand with
  - the constitutionally-dubious casual privatization of the publicly-owned seafood resource.

- Often highly specialized, they are deemed more 'efficient'.
But that large-boat fleet's 'efficiency' has Inherent Liabilities:

1. It is perpetually at Risk of Under-Responsiveness to commercial fishing's Inherent Uncertainties.

2. It is less suited for small ports near fishing-grounds, and will thus typically face Longer Steaming-Distances once nearby resources are depleted.

3. Politically and socio-economically corporate employees differ substantially from owner-operators deeply rooted in community-dynamics.

4. Advanced resource-detection electronics are becoming affordable, useable aboard even smaller craft.

5. In a multi-species ecology under uncertain energy-cost CONSOLIDATED SPECIALIZED FLEETS might not have the expected economic sustainability.
8. Are there any Constructive Partners to help overcome this tragic Distortion of the Fleet and its Operations towards a 21\textsuperscript{st}-century Natural Evolution

- Between 1999 and 2008 a Barrel of Oil went from high $10s to $148.

- But the subject-matter \textit{never found its way on to the regulatory agenda in the North-East}, elsewhere in the US nor onto the Federal Agenda under “D” or “R” leadership.

- And while e.g. by 2007 60 local fishers and port stakeholders agreed, industry-leaders never resonated.

- Apart from \textit{temporarily}-friendly CLF and steadfast ECOTRUST, OCEANA, Ocean Conservancy, EDF and PEW remained consistently indifferent on these challenges.
• In fact in the North-East EDF and PEW aggressively pushed one particular type of Catch-Shares System under Amendment 16 to the Federal Magnuson-Stevens Act, effective May 1st 2010.

• But they did not include any explicit provisions to enhance overall Industry Sustainability in response to growing environmental and energy-cost challenges. No Amendments.

• Instead, as predicted by critics, Consolidation is occurring. And that shrinking fleet will remain unreformed 'High-Carbon'.

• Academia such as the regional NORTH-EAST CONSORTIUM, SEA-GRANT etc. has remained indifferent to the challenge to match Resource-Sustainability with Fleet-Sustainability.
• As a consequence most politicians have been led to believe that it is plausible to trust that 'leadership'.

• On a Macro-level both in the U.S. and in Canada the heavy legacy of hard 'Length'-Limitations continues to stand de facto in the way of the evolution towards Lower-Carbon Design and Operation.

• In Massachusetts for instance, there are a few exceptions on State and University-levels to this atmosphere of otherwise widespread indifference to this remarkable set of Federal and regional policy-failures.
Instead, by early 2016, most of that Regulatory-, Academic-, and Industry-‘Leadership' keeps dwelling on *who gets what fish when and where*...

And things are not much better in Canada nor much of Europe, where a similar conceptual myopia has done little to alleviate that set of Fleets’ Carbon Foot-print.

In Gloucester, Fishermen with limited allocation, who likely could have made it on low-carbon craft, have gone bankrupt.

And much of the rest of the industry may indeed be doomed as well.
9. Federal Overarching Guidelines to help structure a more Eco-correct Future for Resource and Fleet? Not in any of these efforts...!
In any of these? Not Really... Etc. etc.
10. What’s the Core-Problem then?

• 1. *Staffing Choices*: How many folks like “Designers of Boats” are on the Personnel-Roster of NOAA, NMFS, NEFMC, SSC? Are there any, anywhere?

• 2. *Not-Invented-Here Reflexes (?)*: Without seasoned ‘Boat-Freak’ staffers, who’d think of these questions in the process of considering and writing such regulations?

• 3. *Indifference to ‘Outside’-Input* - despite the nominal ‘formality’ of asking for ‘Public Input’.

The Results are dark for science, industry and resource.
11. In Conclusion:

- The idea of a Sustainable Fishing Fleet is a conceptual challenge which has yet to be met by the Fishing- and Regulatory Leadership on this continent - if not that in most other places as well ...

- Instead of the Tri-Pod of Sustainability, leading environmentalist are deeply invested in the embarrassing pursuit of some Monopod-Idea of presumed Sustainability.

- So far, no Scientists are engaging in the full 100%-spectrum of Challenge on the table under the need to align Resource-Ecology with Fishing-Fleet Economics. No SSC has by 2016 !?

- By early 2016, do we know of any explicit low-carbon Commercial Fishing Fleet-Restructuring anywhere ??
One of several remarkable consequences of this history of conceptual and thus regulatory failure is, for instance, the professional track-record of an EDF Senior Ecologist:

NOAA Administrator and Under-Secretary Professor Jane Lubchenco

She arrived in 2009 facing a High-Carbon Fishing-Fleet and by 2013 came to leave this highest eco-centric science-position in any Administration - without ever expressing any interest in addressing NOAA/NMFS’s High-Carbon Dictates since 1994 upon the Commercial Fishing-Fleet.

This third-oldest of industries remains one of the best ‘Canary-in-the-Coal-Mine’ indicators of serious degradation of our oceans.

Would she thus rank historically as the top “High-Carbon dictating Ecologist“?
By 2016 there is no NOAA/NMFS R&D program towards any Low-Carbon Fishing-Types.

Even if we at PB&F funded such a project ourselves, we would still not be allowed to realistically experiment all the way towards developing one or several 21\textsuperscript{st}-century Low-to-Least-Carbon Fishing-Type.

And then Fishers would not be allowed to apply their ‘Permit’/’Catch-Share’ to such a type in their own use...

We have proposed a Public-Private Research-Partnership to at long last catch up with the likely Evolution of the Fleet had that not been shut down.
How “Green” is your UNOLS Research-Fleet ??
PHIL BOLGER
BOAT-DESIGNER

INNOVATOR IN
DOABILITY, AFFORDABILITY
SAFETY AND SUSTAINABILITY

PHILIP CUNNINGHAM BOLGER
BORN DECEMBER 3, 1927
1946-47 US ARMY, JAPAN
1952-'09 INDEPENDENT PROFESSIONAL
MENTORED IN PERSON BY NICHOLAS
MONTGOMERY, LINDSAY LORD, JOHN
HACKER, HOWARD CHAPELLE, L.F.H.
680 DESIGNS FOR OAR, SAIL, POWER-
DYNAmite PAYSON'S INSTANT BOATS
600+ ARTICLES (410+ IN BOB HICKS' MAIB)
10+ BOOKS ON HIS DESIGNS, A NOVEL
1994 APRIL 8, HUSBAND, LOVER, PARTNER
IN DESIGN, POLITICS AND WRITING
(AST PHIL BOLGER & FRIENDS'), MENTOR
OF SUSANNE ALLENBURGER (1958)

"I GOT A LOT OF
MILEAGE OUT OF A
MODEST TALENT...

2002 THE U.S. NAVY INITIATED A SEQUENCE OF CONSULTANCIES
2003 PB&F OFFERED THE SUSTAINABLE FISHING CRAFT PROJECT
CERTAIN OF FIRST SERIOUS COGNITIVE LOSSES
PHIL DECIDED TO LEAVE EARLY IN THE MORNING
OF MAY 24, 2009