



PHIL BOLGER & FRIENDS, INC.
BOAT DESIGNERS, P.O. BOX 1209
66 ATLANTIC ST. FAX 978-282-1349
GLOUCESTER, MA 01930-1627, U.S.A.
philbolger@comcast.net

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

rec'd @ Council Mtg. ~ 10/2/14

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, these 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 lies 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 $\sqrt{32}$ ' waterline length = 6.23kts using 91HP = 4.26 GPH = 1.46 MPG
- **LC-Type:** 1.1 x $\sqrt{47}$ ' 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 'Stewards 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.**

It would take two steps to remotely begin to match the optimistic language around claims of (presumably) ongoing system-wide and successful EBFM-measures:

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.

