

To: Paul Niedzwiecki  
Cape Cod Commission

11/20/14

From: Earle Barnhart  
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### Comments on 'Draft Section 208 Plan Update'

I was one of the 'self-selected stakeholders' in the Falmouth Watershed Group and Falmouth's Upper Cape Sub-Regional Group. As a stakeholder, I represented the interests of Falmouth's local watersheds, and I also tried to represent the wider interest of global ecological sustainability. I was fortunate to participate in the successful development of your innovative watershed approach, and of your political strategy of letting the Cape's people, acting as local 'watershed management agencies', do the planning and choose locally-preferred solutions.

The Cape Cod Plan is an outstanding intellectual achievement, created in a remarkably short time of intensive highly-skilled effort. It analyzes a very complex situation scientifically, and provides innovative, sophisticated computer tools to help Cape citizens choose from the wide range of possible solutions. And it avoids top-down mandating of any preferred solution for any particular watershed.

As an ecologist concerned about destructive global climate change, I reviewed the Plan looking for 2 things:

1. Do the planning methods and simulation models include information and options that would allow the option of complete nutrient recovery and nutrient recycling of human wastes using waterless methods? Keeping the nutrients out of water in the first place avoids creating wastewater that then must be cleaned again at great expense.

Thankfully, it does. An ideal nutrient-recovery scenario utilizes waterless, low-energy nutrient-recovering eco-toilets, coupled with home-scale nutrient recycling and/or community-scale composting 'treatment works' to create a safe fertilizer product for return to agriculture or natural ecosystems.

Recommendation \* The Plan would benefit from including in its Glossary the term and definition of 'treatment works'. And include in the Technology Matrix a 'composting treatment works for eco-toilet residuals'. Composting is currently only mentioned in the document as a treatment option for sewage sludge from 'conventional' wastewater treatment facilities.

2. Does the Plan actively promote technologies that are the ecologically best options, encouraging waterless solutions, low-energy solutions, and solutions that recover and recycle all wastes nutrients?

Unfortunately, it does not. In its careful effort to not promote any particular technical solution, the Commission misses the opportunity (and civic responsibility) to encourage solutions that would arguably produce the greatest long-term benefits for local and global ecosystems. The Commission should exert some active guidance to encourage solutions that result in long-term sustainability, and discourage solutions that waste nutrients, water and energy in a single-minded focus on nitrogen. This goes beyond the Commission's role of planning, to its more active role of regulation, to protect the long-term ecological welfare of the Cape. It is unclear how far into the future the Commission's planning and regulation efforts should consider. For example, one of the 'disadvantages' listed for conventional wastewater treatment plants is that the export of sewage sludge to remote landfills is 'unsustainable'. Why start down this path at all?

Recommendation \* Take more seriously one of the stated purposes of the Plan, that the solutions "...be applicable to all wastes generated within the area involved." Not just nitrogen, but all nutrients in water and the very wasted water itself when it is mixed with pollutants.

Re: long-term water use and waste management, the Commission should go beyond just 'fixing the Cape's current problem' to 'improving the Cape's long-term ecological stability'. This will require more positive language for describing technologies with long-term benefits that result in ecological sustainability. For example, in the Plan the Two Competing Perspectives are called the "Traditional Approach" [sewers and treatment plants] and the "Non-Traditional Approach". The language puts an immediate negative tone on what are actually better ecological alternatives. The language should be more neutral or be descriptive of the benefits, such as "enhanced natural systems" used elsewhere.

Finally, near the end of the Plan you suggest an excellent idea for increasing public understanding of the Cape's nitrogen situation - developing a "nitrogen budget for Cape Cod". This is a good concept that ideally would show graphically the major flow of nitrogen in food imported over the bridges coming onto the Cape. It would show the large flows of nitrogen in groundwater moving wastefully into the ocean, and also show nitrogen gas rising wastefully into the air from septic tanks and sewer plants. And hopefully it could be modeled to show the multiple advantages of recycling nitrogen that originates in food, back into producing food locally. That would create a large nutrient cycle on the Cape, rather than a one-way path of consumption-to-waste. In my experience, discussions about our town's CWMP and about this 208 Plan have lacked such big-picture perspectives and analyses, which are badly needed to help residents better understand the Cape's ecological role in the earth's larger biosphere.

## Do It Right The First Time

Recommendation \* That the 'triple bottom line' analysis should be emphasized much more, possibly requiring that plans meet some basic level of achievement for each of the 3 components. As it stands now, a 'local watershed management agency' could choose solutions that would be wasteful, expensive and environmentally destructive if they wanted to. Ignoring the long-term effects of our actions on our future is what brought us to the wastewater crisis we are faced with now.

The Green Center applauds the Cape Cod Plan for its breakthrough concepts of watershed-focus, citizen-friendly simulation models, and local watershed management. We think that it would lead to even better results for the future of the Cape if it more strongly limited waste of water, nutrients, energy and other wastes in the planning process. It needs a little more sustainability-focus to achieve the best possible long-term outcome - a stable, sustainable future that our citizens deserve.

Earle Barnhart

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