

From: [Latimer, Jim](#)
To: [Arsenault, Dan](#); [Cobb, Michael](#)
Subject: FW: river dominated estuaries
Date: Friday, June 1, 2018 1:54:33 PM
Attachments: [CebrianetalE&C2014.pdf](#)

Dear Dan and Michael,

Just Cebrian got back to me on this. It doesn't seem like there are any data for river-dominated systems (he states some reasons why). (b) (5)

Jim

From: Just Cebrian [mailto:jcebrian@disl.org]
Sent: Thursday, May 31, 2018 7:01 PM
To: Latimer, Jim <Latimer.Jim@epa.gov>
Cc: Frederick T. Short (fred.short@unh.edu) <fred.short@unh.edu>
Subject: Re: river dominated estuaries

Hey Jim

Nice to hear from you and hope all is well with you too.

Good question. I do not think there are many of such studies...at least I cannot think of any off the top of my mind. I think one likely reason may be that river dominated systems tend to be turbid and with highly variable salinity, and thus have little seagrass in the first place. Seagrasses may be very abundant in non-river dominated, clear shallow coastal systems, and suffer large losses with increased nutrient loading. Such ostensible change has sparked much interest and research (and will continue to do so). However, if we have little seagrass in river dominated systems due to high freshwater-induced turbidity and osmotic stress even under non human impacted (i.e. naturally pristine) conditions, then the topic of how higher riverine nutrient loadings may affect the already stressed out seagrass populations in the system may not have gotten so much traction/interest...don't you think?

One quick thing that I can offer that could potentially have some valuable information for you is Table 2 in the paper attached.. The table provides information on depth, nutrient loading, macroalgal biomass, and light extinction coefficient for a range of shallow coastal systems. **You will see that some of those references (not many, consistent with the thoughts above) refer to river dominated systems... so perhaps you may find some valuable info/leads if you dive into those references?**

Best of lucks

j

On Thu, May 31, 2018 at 2:54 PM, Latimer, Jim <Latimer.Jim@epa.gov> wrote:

Dear Just and Fred,

I hope all is well with you and yours.

I have a question. Do you know of any studies that relate nitrogen inputs (or concentrations) and seagrass health indicators (extent, density, loss) for systems that are river dominated (i.e., the dominant source is a large FW source)?

I am working with some EPA folks looking at the Piscataqua River who are trying to see about setting limits on nitrogen inputs to protect seagrass habitat. All of the studies that I have seen are using watershed-estuary systems that are ground water and/or tidal influenced with only small inputs from rivers. My studies (published in 2010) purposely excluded river-dominated estuaries.

Any help would be great.

Thanks,

Jim

[James S. Latimer, Ph.D.](#)

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"All men by nature desire to know" Aristotle

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