Message

From: Colarusso, Phil [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3B4FEA20315C4EFF938FBCAE2EEFAE07-COLARUSSO, PHIL]
Sent: 4/9/2018 5:54:37 PM
To: Wood, Matt [Matthew.Wood@des.nh.gov]; Brochi, Jean [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=77cee3a095984cc99c7dc7c8105e9f47-Brochi, Jean]; Arsenault, Dan [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df5d7d3e097446d59e3c1ea966cee4f8-Arsenault, Dan]
Subject: RE: 2017 eelgrass in GB

Matt,

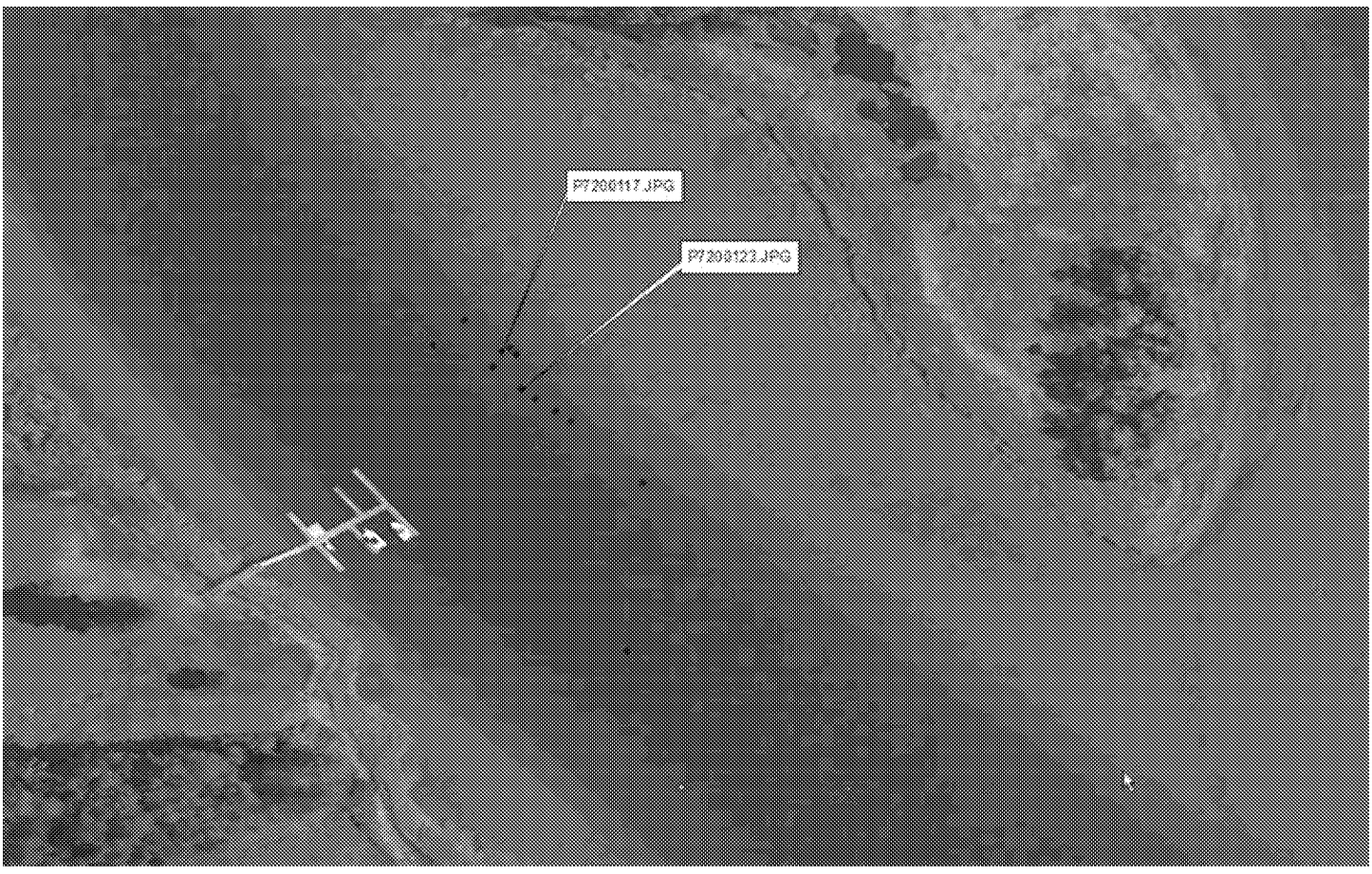
Eelgrass coming back in the Cocheco, that simple fact makes them the Best photos.

Phil

Ps – You would think the PREP EPA person would know this?

From: Wood, Matt [mailto:Matthew.Wood@des.nh.gov]
Sent: Monday, April 09, 2018 1:50 PM
To: Brochi, Jean <Brochi.Jean@epa.gov>; Colarusso, Phil <colarusso.phil@epa.gov>; Arsenault, Dan <Arsenault.Dan@epa.gov>
Subject: RE: 2017 eelgrass in GB

Yah we even have proof....although not the best photos



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From: Brochi, Jean [mailto:Brochi.Jean@epa.gov]
Sent: Monday, April 09, 2018 1:42 PM
To: Colarusso, Phil; Wood, Matt; Arsenault, Dan
Subject: RE: 2017 eelgrass in GB

That's awesome

From: Colarusso, Phil
Sent: Monday, April 09, 2018 1:37 PM
To: Brochi, Jean <Brochi.Jean@epa.gov>; Wood, Matt <Matthew.Wood@des.nh.gov>; Arsenault, Dan <Arsenault.Dan@epa.gov>
Subject: RE: 2017 eelgrass in GB

Yes, 2016. Fred tipped us off, so we took a peek and found it rather easily.

From: Brochi, Jean
Sent: Monday, April 09, 2018 1:05 PM
To: Colarusso, Phil <colarusso.phil@epa.gov>; Wood, Matt <Matthew.Wood@des.nh.gov>; Arsenault, Dan <Arsenault.Dan@epa.gov>
Subject: RE: 2017 eelgrass in GB

really? were you in the water? What year?

From: Colarusso, Phil
Sent: Monday, April 09, 2018 1:03 PM
To: Brochi, Jean <Brochi.Jean@epa.gov>; Wood, Matt <Matthew.Wood@des.nh.gov>; Arsenault, Dan <Arsenault.Dan@epa.gov>
Subject: RE: 2017 eelgrass in GB

Jeannie,

Dan and I saw eelgrass in Cocheco River.

Phil

From: Brochi, Jean
Sent: Monday, April 09, 2018 12:50 PM
To: Wood, Matt <Matthew.Wood@des.nh.gov>; Colarusso, Phil <colarusso.phil@epa.gov>; Arsenault, Dan <Arsenault.Dan@epa.gov>
Subject: RE: 2017 eelgrass in GB

Hi Matt,
This data and field work was not approved by EPA, as you know. EPA had asked UNH to put a disclaimer on their so users understand that while it was funded, it was not approved including methodologies.

I especially didn't think that NHDES would be using the data without caution.

Regardless, we expect this will not happen in the future.

Related to the eelgrass:

- We should find out where this "moving" eelgrass bed is in Little Bay. It was not there a year ago
- There is no eelgrass in CR or SF and there never has been any reported. I am curious why Fred said this at the meeting.

Thanks, Jeannie

From: Wood, Matt [mailto:Matthew.Wood@des.nh.gov]
Sent: Friday, April 06, 2018 3:28 PM
To: Colarusso, Phil <colarusso.phil@epa.gov>; Arsenault, Dan <Arsenault.Dan@epa.gov>; Brochi, Jean <Brochi.Jean@epa.gov>
Subject: RE: 2017 eelgrass in GB

Yes I wholeheartedly agree. I pushed back on PREPs QAPP for 2017 because they gave Seth 60 days from the date the imagery was flown to do his field work. The older QAPPs had 45 days. I tried to explain that if they don't get the imagery until September, that would put field work into December when things were dying off and if you look at Fred's SeagrassNet stuff there can huge differences in just a few months. Ultimately I was ignored and they left 60 days in the QAPP (although EPA never signed it because it was submitted after the flights had already occurred).

From Seth's 2017 report

Methods

Mapping of the distribution of eelgrass was based on photointerpretation of aerial photography obtained on August 24, 2017, under a contract with Kappa Mapping (now Cornerstones Mapping, INC), Bangor, Maine. Preliminary, georeferenced images were made available towards the end of September 2017 and were used for field logistics. This initial draft photography did not have the locational accuracy of the final photomosaic and had not been color balanced but provided sufficient detail to locate features of interest and select stations to be visited. Stations were selected in Great Bay, Little Bay, and the Piscataqua River and field visits by boat were made in the October time period with one additional field visit from shore on November 15th. The boat and operator were provided by PREP for the assistance with field verification. Location of observations was recorded using high accuracy Trimble GeoXT GPS and a Garmin Colorado 400c GPS. Since there was a variety of photographic signatures and signatures change from year to year and with conditions at the time, field stations were important for the understanding of the nature of the signatures. The

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water-based field visits were made om October 5,6,12,13, 23, and 24.

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From: Colarusso, Phil [mailto:colarusso.phil@epa.gov]
Sent: Friday, April 06, 2018 3:11 PM
To: Wood, Matt; Arsenault, Dan; Brochi, Jean
Subject: Re: 2017 eelgrass in GB

Need to make sure that Seth/Kalle make it up to the Cocheco and Salmon Falls. Despite gains in Little Bay, system wide numbers dipped or stayed the same as recent years. Hopefully we'll start to see a big step forward.

Per the latest theory from the Coalition, they never was that much eelgrass in the system in the first place, because it was always rich in macroalgae, the extent of groundtruthing and documenting that is of critical importance. In addition, the timing of the groundtruthing. The closer to the time of the photography, the better.

From: Wood, Matt <Matthew.Wood@des.nh.gov>
Sent: Friday, April 6, 2018 3:00 PM
To: Colarusso, Phil; Arsenault, Dan; Brochi, Jean
Subject: RE: 2017 eelgrass in GB

This year

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From: Colarusso, Phil [mailto:colarusso.phil@epa.gov]
Sent: Friday, April 06, 2018 2:56 PM
To: Wood, Matt; Arsenault, Dan; Brochi, Jean
Subject: Re: 2017 eelgrass in GB

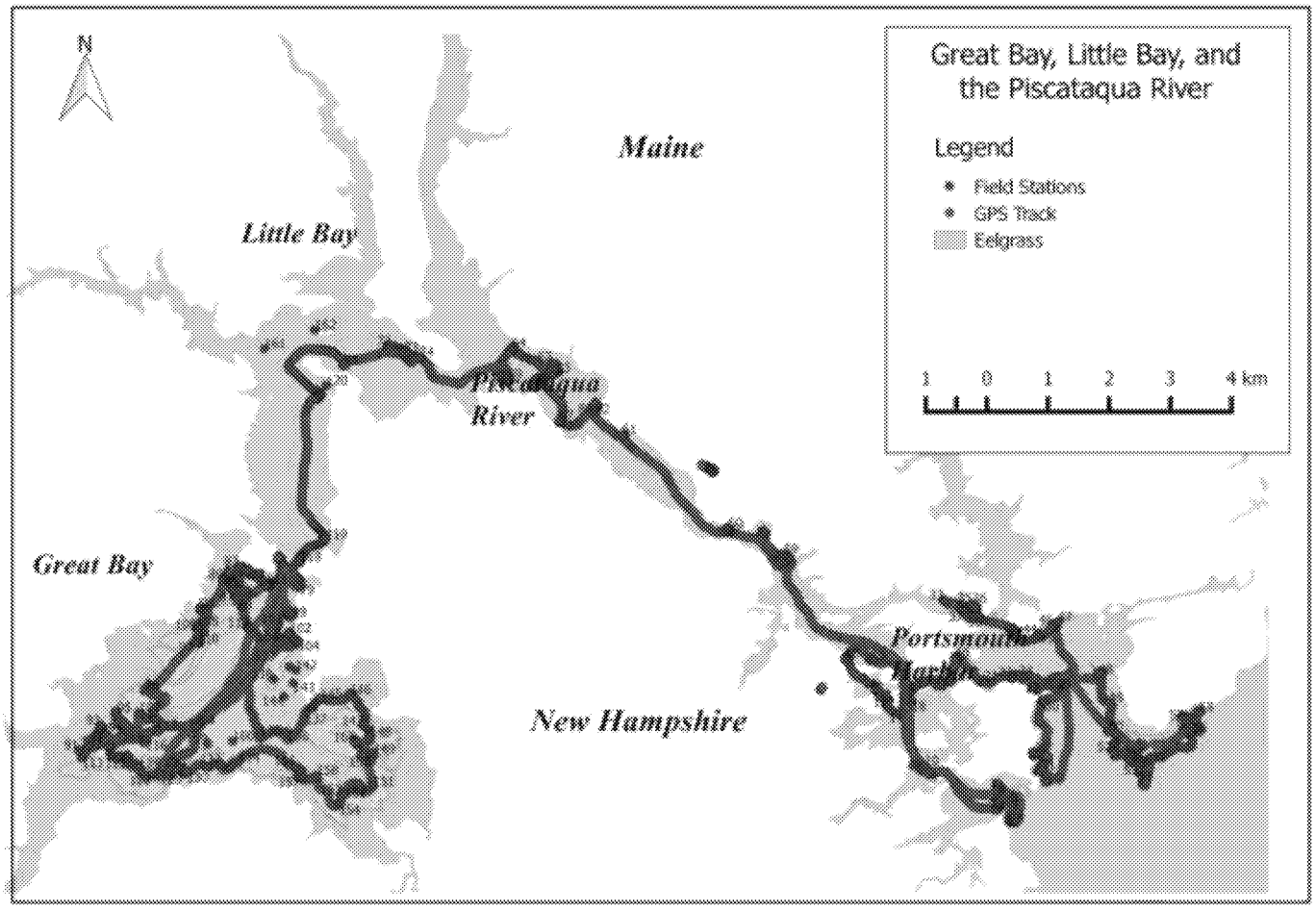
When is the next aerial mapping scheduled for?

From: Wood, Matt <Matthew.Wood@des.nh.gov>
Sent: Friday, April 6, 2018 1:04 PM
To: Arsenault, Dan; Colarusso, Phil; Brochi, Jean
Subject: RE: 2017 eelgrass in GB

Hey Dan,

Yes unfortunately Seth did not map any eelgrass in the Cocheco/Salmon Falls in either 2016 or 2017. Kalle and Seth boated to that area in 2016 but couldn't find any and unfortunately they didn't even bother to get up there in 2017 because they ran out of time (according to Kalle). The map Seth provided in his 2017 report makes it look like he didn't even map that area (see below). I confirmed with Kalle that Seth did map this area and told him to make sure he put it in his QA memo that....as in the figure below, Seth did not do any field verification in that area but he did map any eelgrass present in the aerial imagery (although he didn't see any).

I really wish Fred would share his data with us, but unless we pay him there is fat chance of that happening.



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From: Arsenault, Dan [mailto:Arsenault.Dan@epa.gov]
Sent: Friday, April 06, 2018 12:51 PM
To: Wood, Matt; Colarusso, Phil; Brochi, Jean
Subject: RE: 2017 eelgrass in GB

Hey Matt:

Thanks for the info. Will check out the viewer.

Two things:

1) Fred Short mentioned that eelgrass is still around the lower portions of the Cocheco and Salmon Falls. Is Seth missing this? I think this is really important to document to show that the improvements at Rochester and Dover may have resulted (or contributed) to eelgrass showing up where it hasn't historically been.
2) Yes, it does look like the eelgrass at the mouth of the has receded. In the summer of 2016 we noticed lots of macroalge in the Lamprey (remember pulling up the algae covered anchor?...see photo). Maybe that had an impact. It'll be interesting to see if there is improvement at the mouth of the Lamprey with the TN in Newmarket's effluent going down from over 30 mg/l to less than 6.

Thanks,

dan

From: Wood, Matt [mailto:Matthew.Wood@des.nh.gov]
Sent: Friday, April 06, 2018 11:02 AM
To: Colarusso, Phil <colarusso.phil@epa.gov>; Arsenault, Dan <Arsenault.Dan@epa.gov>; Brochi, Jean <Brochi.Jean@epa.gov>
Subject: 2017 eelgrass in GB

Hey guys just wanted to let you know that I have added Seth Barker's 2017 mapping of eelgrass in GB to the NHDES eelgrass viewer. Kalle is still working on his QC memo of this work and we have asked Seth to revise his report (need him to type out his field sheets because they are illegible). Once PREP has completed these element and posted the report on their website I'll add a link to the report in the viewer. Here are a few highlights and observations of 2017:

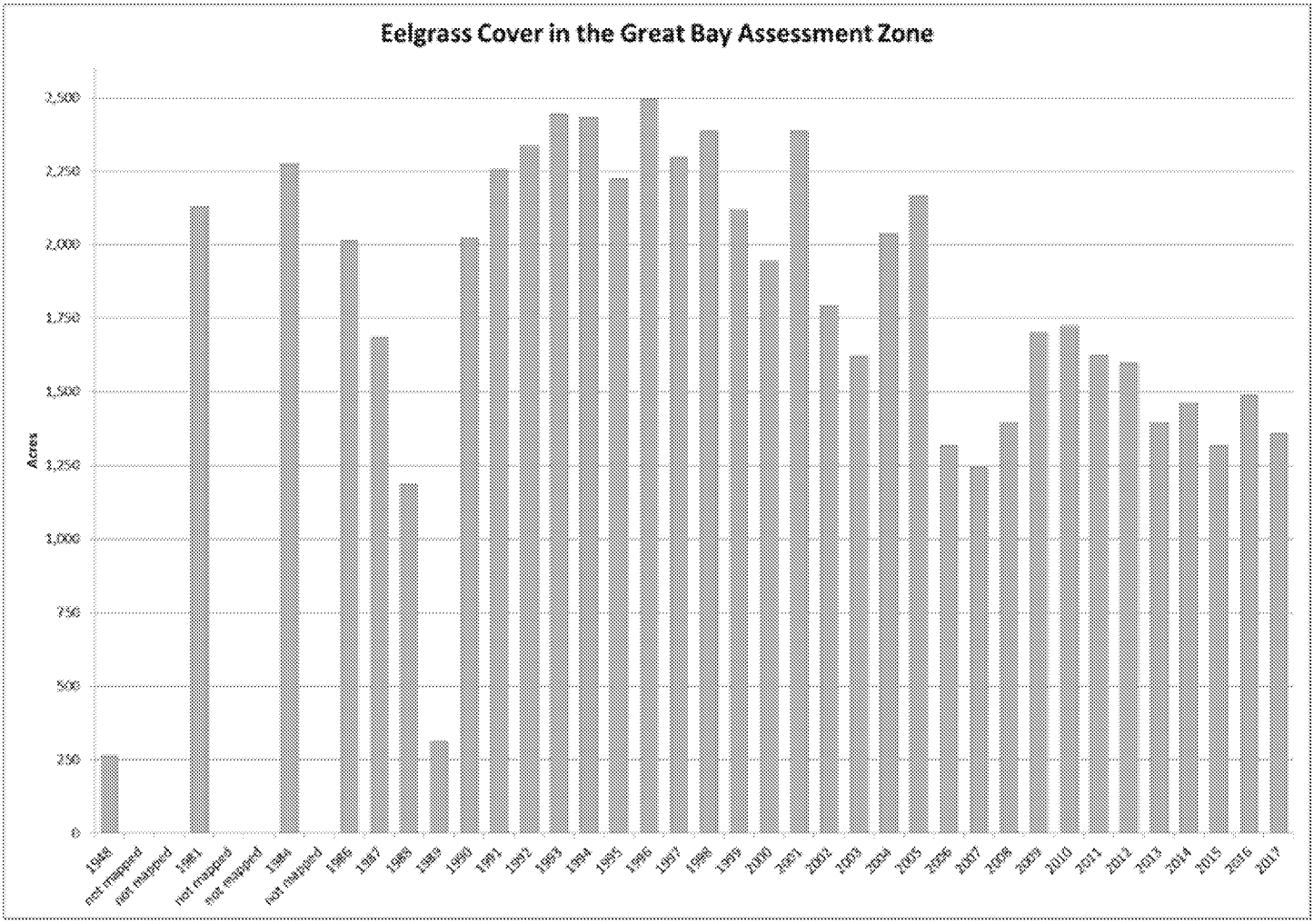
1. Encouraging to see that a bed popped up in Little Bay that has not been seen since 2006. This may have been what Fred was alluding to at the meeting on Monday.

2. Here is a breakdown by our assessment zones of the last few years

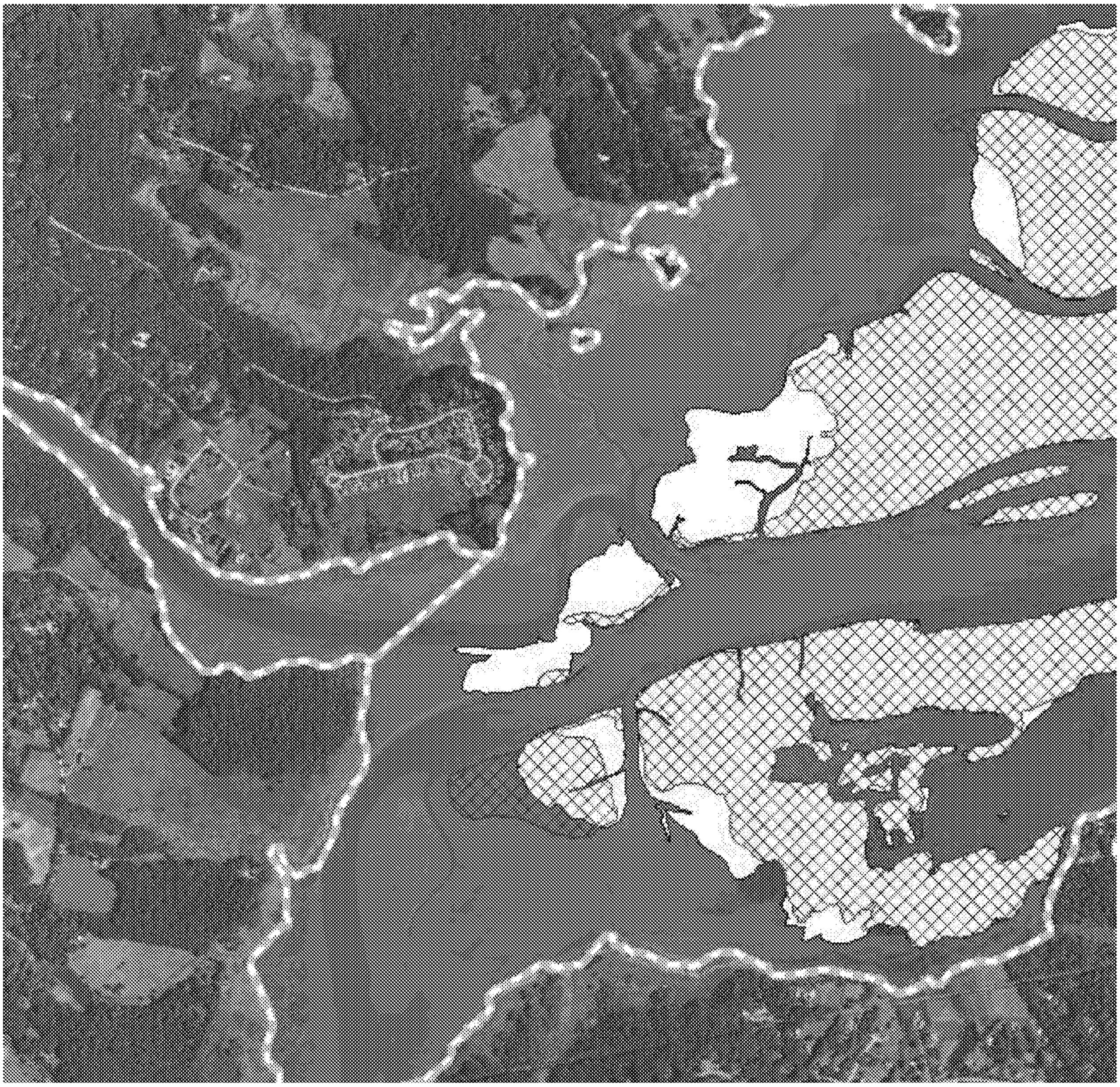
Eelgrass Cover in Zones of the Great Bay Estuary (acres)

Year	Winnicut River	Squamscott River (N)	Lamprey River (S)	Oyster River	Bellamy River	Great Bay	Little Bay	Upper Piscataqua River*	Lower Piscataqua River (N)*	Lower Piscataqua River (S)*	Portsmouth Harbor* (see note)	Little Harbor	Sagamore Creek	Total for Great Bay Estuary	Not used in 305(b) Assessments: Gerrish Island (ME)	Odiorne Point (NH)	Atlantic Coast	Total for Piscataqua Region Estuary
2015	0.0	0.0	0.0	2.4	0.0	1319.3	1.7	0.0	1.4	3.7	85.4	34.9	1.1	1429.9	63.5	3.7	3.4	1497.5
2016 Seth Barker	0.0	0.0	0.0	0.0	0.0	1496.0	0.0	0.0	3.0	3.6	87.4	29.2	1.8	1624.9	60.7	0.0	2.7	1689.1
2017 Seth Barker	0.0	0.0	0.0	0.0	0.0	1362.4	3.6	0.0	2.2	3.1	81.4	36.9	1.7	1401.3	92.7	1.0	1.0	1546.7
2015-2017 median	0.0	0.0	0.0	0.0	0.0	1362.4	1.7	0.0	2.2	3.6	81.4	36.9	1.7	1491.9	60.7	3.8	2.7	1546.7

3. Bar chart of just Great Bay proper over time



4. And finally….Not sure what if anything it means, but it is interesting that the eelgrass at the mouth of the Lamprey River has receded to the east. Sure looks at first glace that the Lamprey is having an influence on the area, jut not sure what is causing it. Green is 2016, red cross hatch is 2017



I know you all have it at your fingertips and saved a shortcut right on your desktops, but just incase here is the link to the eelgrass viewer.
http://nhdes.maps.arcgis.com/apps/webappviewer/index.html?id=2792e57da2704867b164c17aee2dc43e

Regards,
Matt

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