



Waterford-East Lyme Shellfish Commission



Meeting Minutes
Thursday August 16, 2018
Waterford Town Hall, 7:30 pm

Members present: Peter Harris, Tom Bowlen, Paul Spakowski, J. Patrick Kelly, Elizabeth Gelinas, and Larry Tytla

Absent: Eric Kanter and Fred Grimsey

Guests: Attorney Robert Avena

FILED

Aug 23 2018 AT 9:05 AM PM
EAST LYME TOWN CLERK

- 1) The meeting was called to order at 7:30 pm and a quorum established.
- 2) The minutes of the July 26, 2018 special meeting were reviewed. The minutes were accepted on a motion by Mr. Kelly, seconded by Mr. Spakowski; all in favor, motion passed.

The minutes of the July 26, 2018 joint special meeting were reviewed. A motion by Mr. Kelly, seconded by Mr. Tytla to accept the minutes with one correction; item (1) remove the word "with"; all in favor, motion passed.

- 3) The Treasurer's report for July 2018 was presented including the financials and bank reconciliation. Mr. Kelly requested the total of \$27.41 in fixed assets be written off. The Treasurer's report was accepted on a motion by Mr. Spakowski, seconded by Ms. Gelinas, all in favor, motion passed.
- 4) Chief Warden's Report-
 - a) Clamming areas are currently open, clamming is fair, samples sent to lab; waiting for results.
 - b) Boat is running well, broken lens light needs repair.
 - c) Two quotes were obtained for the purchase of a new boat engine: \$7660.00 for a 60 HP Merc and \$9600.00 for a 70 HP Yamaha; Chair Harris suggested the commission wait on purchase of the new engine; an emergency meeting could be called to allocate funds if necessary.
 - d) The Wardens and Sales Outlets have been distributing Vibrio handouts to clammers and the shellfish phone message will alert callers about the vibrio virus.
 - e) Eelgrass is thick in some areas, the water is cloudy and not seeing any scallops.

5) Old Business-

- a) Chair Harris reviewed edits to the 2002 Aquaculture Policy Statement. Mr. Tytla suggested specific language as to applicant responsibility/liability with a third party legal issue. Attorney Avena stated the specific language would be included for liability issues and the BOS assigns the Town Attorney to write up leases and terms. The agreed change to the language will be "applicant assumes any liability and indemnifies the commission for any third party damage claims". Any buoyed areas where a liability occurs are the responsibility of the owner. The term "trial" will replace all "experimental" language throughout the document. Terms of lease would indemnify the Towns' of East Lyme and Waterford. Attorney Avena stated the amendments need to be reviewed by both Towns' and are subject to different authoritative approval. He recommends WELSCO tentatively adopt the revised 2002 Aquaculture Policy Statement with edits. A motion by Mr. Spakowski,

seconded by Ms. Gelinas to tentatively adopt the revised 2002 Aquaculture Policy Statement subject to actions of the Town of Waterford, Town of East Lyme, Board of Selectmen, East Lyme Harbor Management, Waterford Harbor Management and the RTM if necessary; all in favor, motion passed.

b) The discussion of WELSCO Aquaculture Application by NBSF for Area 2 and 5 was tabled.

6) New Business-

- a) A motion by Mr. Spakowski to rescind moorings not approved by WELSCO, seconded by Mr. Tytla for discussion. Members noted safety hazards with recreational activities due to an overcrowded river and suggested making a designated area for moorings in the river. Mr. Tytla stated mooring placement seems scattered and it should not occur in shallow areas as it is hazardous. Ms. Gelinas is concerned with who is monitoring the safety. Mr. Spakowski proposed a study of the river be completed. Members agreed to invite the East Lyme and Waterford Harbormaster's to the next meeting to discuss moorings; East Lyme and Waterford should work together to plan mooring areas. Attorney Avena inquired on the mooring application process in East Lyme; Chair Harris was not certain of their process. Mr. Dutton of the WHMC commented on a commission liaison and a lapse in communication. Mr. Tytla inquired on permittees who lease out their mooring spaces. Mr. Kelly noted the pump out boat run by Mr. Grimsey is funded by both Waterford and East Lyme. Ms. Gelinas commented on the public access and private party access. Chair Harris will request the Chairs of the Waterford and East Lyme Harbor Management Commissions attend the next meeting to discuss the mooring applications process and WELSCO involvement. Mr. Spakowski rescinded his motion.

A motion by Mr. Spakowski to place a moratorium on dock applications until a study of the river could be completed, seconded by Mr. Tytla for discussion. Attorney Avena noted riparian rights and the permit process with the DEEP. Mr. Tytla discussed over engineering, the cumulative effect of many docks, an impact study and exploring other structure options. Attorney Avena noted there is GIS mapping of the river and reviewed the UAPA appeal process with docks. Mr. Spakowski suggested reaching out to DEEP and ACOE. Chair Harris suggested a subcommittee be created to review the procedures by DEEP and ACOE. Mr. Spakowski rescinded his motion.

7) Ex Officio Comments- None

8) Correspondence-

- a) A document from Timothy Londregan of Niantic Bay Shellfish Farm that highlights information about the river moorings was received. Chair Harris apologized for not disclosing receipt of the document at the Special joint meeting last month. (Attached)
- b) A document from Dr. Gary Smith was received as an opinion responding to the NBSF document. (Attached)
- c) A letter from the Niantic River Advocacy Coalition regarding disrespectful treatment toward the WHMC at the special joint meeting held in July. Chair Harris stated he respects the view and opinion of the WHMC and any disrespect was unintended by WELSCO.

9) Public Input–

Charles Mazzella- Niantic River Road- Commented on leasing of 10 acres.

John Hughes – Niantic River Road- Commented on helical moorings and coordinates match up with the required 3 year inspections.

Bob Dutton- Niantic River Road- Mushroom anchors found should be marked and WHMC notified.

Tim Londregan- Niantic Bay Shellfish Farm- Commented on liaison relaying information; dock and moorings- separate jurisdictions; pump out boat regulations with DA/BA closures; mooring chain damage and balance of river activities.

Fred Wise – Niantic River Road – Commented on the “Environmental benefits of shellfish” handout; recreational clamming; oysters should stay in the river to clean- not harvest. Supportive of a policy to repair the river; a commercial endeavor is not needed in the river.

Ryan Londregan – New London- Oysters from private commercial farms benefit the river.

10) The meeting was adjourned at 9:05 pm on a motion by Mr. Spakowski, seconded by Mr. Kelly.

Respectfully submitted,

Amy Tinker
Secretary

The Presence of Moorings within Waterford Water: Water use Restriction

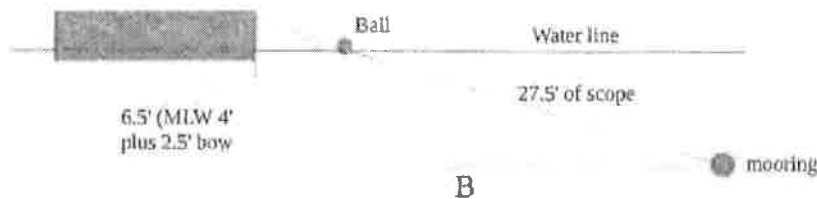
Prepared by Niantic Bay Shellfish Farm

Timothy Londregan III

7/23/18

Appendix A lists all moorings currently registered within all Waterford waters under certain jurisdictional powers of the Waterford Harbor Management Commission (WHMC). There are approximately 200 moorings legally placed within the WHMC jurisdiction. The following is an assessment of the current status of moorings within Waterford waters.

With approximately 200 moorings placed certain general conclusions can be made. For example, let us attempt to approximate the amount of water taken up by these moorings. The amount of room dedicated to a single vessel can be simply defined as the maximum radius of the vessels' swing. While professionally managed and designed mooring fields increase the boat density over a said area, this is not the case in Waterford. Currently, when applying for a mooring, the applicant chooses where to place their mooring so long as the harbor master approves it. Thus, swing patterns, boat size and other factors are not readily considered so as to consolidate moorings resulting in arrangements that allow boats to enter into the maximum radius of other moored vessels. The MLW at any given mooring can conservatively be place at four feet and HMW place at approximately seven feet. The average length of a moored vessel can be conservatively placed at 21 feet. Consequently, see Appendix B, the necessary length of total chain is 17.5 feet (2.5 times MHW). The pendant line on most 21 foot vessels would be approximately 10 feet (height of bow off water plus distance to chalk plus distance to cleat [4 feet] times 2.5). Thus we are left with a total of 27.5 feet of scope. At MLW we estimated 4' of water and a 2.5' bow, resulting in 6.5 feet. Solving for B will give us the radius of swing at MLW for the total scope for this average mooring.



The resulting answer for B is 26.7 feet. Add the additional 21 feet for the boat hull (typically vessel length does not include brackets or engines) and the resulting radius is 47.7 feet. With a radius of 47.7 feet, the area is just over 7,148 square feet. Converting square feet to acres, each mooring, based off of these conservative estimations, consumes 0.164 acres. Multiply 0.164 acres by 200 and the result is 32.8 acres. Just in Waterford waters alone, there are approximately 32.8 acres directly dedicated to moorings/vessels.

It should be noted that while the majority of moorings are located within the Niantic River, WHMC jurisdiction includes a portion of the Thames River as well as Jordan cove and the Waterford side of Niantic Bay. Not all moorings are placed every year and not all moorings have vessels on them 24/7. This estimate of 32.8 acres is based on conservative figures regarding scope, water depth and boat length. Furthermore, this estimation does not include areas devoted to pulley poles nor does this

calculation take into reality that the actual functional radius of said moorings is more than twice the given figure. For example, one does not pass within a hairs breath of a moored vessel, consequently the negative area being utilized by a moored vessel which swings extends well beyond the maximum physical radius or said mooring, see attached documentation for more information.

Not only do moorings physically take up physically and negative space, but they have three other significant impacts to the water use and quality.

First, vessels wishing to travel at rates above 6mph or in such a manner which creates a wake are forced, by WHMC regulations, to travel 200 feet from the moored vessel. This, in turn, restricts certain uses near existing moorings or whenever new moorings are deployed. In the Niantic River this amounts to about 131.16 acres.

Second, the influx of more vessels results in the downgrading of water quality designations. Classified waters, established by the Department of Agriculture/Bureau of Aquaculture, are downgraded from Conditionally approved or approved to seasonally/conditionally approved. The number of vessels on moorings and docks may trigger certain FDA regulations regarding the possibility of raw sewage discharge. In theory, the possibility increases as the number of boats increases and thus shellfishing grounds are closed until certain parameters are met. Currently, Area B in the Niantic River is seasonally conditionally approved due to high numbers of vessels with heads. This classification, due to development of boating facilities/moorings, restricts the public from shellfishing for nearly nine months in about 250 acres of the river.

Third, currently ground tackle acceptable to the Harbor Master, according to the mooring regulation guide, only include mushroom anchors. Any traditional mooring, whether mushroom, pyramid or concrete block require longer chain scopes. These longer scopes, when not extended to their maximum length, destroy the benthic habitat and ensure that no submerged aquatic vegetation grows where ever the bottom chain drags. Typically a "dead zone circle" is formed around the mooring. The use of helical anchors remedies this issue as the scope is significantly reduced as helical anchors can handle a vertical pull where traditional anchors require longer scope too decrease angle and thus provide more holding power. See attached.

Lastly, it should be noted that the WHMP requires the Harbor Master to consult with WELSCO prior to placing any new moorings within designated shellfishing grounds, this is not and has not been done. Perhaps WHMC should consider adhering to their plan so as to enable all uses ample space and establish a more direct dialogue with WELSCO.

Please note that not all moorings have been located as the list was furnished in December of 2017. The list also has multiple coordinate inaccuracies for approved moorings and does not note all moorings deployed as satellite imagery/a ride on the river shows.

2017 Eel Grass Survey: Niantic River



July 23, 2018

1:18,056
0 0.1 0.2 0.4 mi
0 0.17 0.35 0.7 km
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus
DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

MOORING PERMIT APPLICATIONS 2017

Mooring #	Applicant	Latitude	Longitude	Address	Town	State	Zip
243	Alfonso, Jerry	N41-19' 34.0"	W72-10' 42.2"	295 Rattlesnake Ledge Road	Salem	CT	06420
22	Antonino, John	N41-20.908	W72-11.272	19 Park Drive	Waterford	CT	06385
225	Appleton, Harold	N41-19.623	W72-10.864	16 Burt Avenue	East Longmeadow	MA	01028
140	Arfi, Serge	N41-19.708	W72-10.508	37 Daniels Avenue	Waterford	CT	06385
154	Attenello, Sal	N41-20.137	W72-10.529	18 Fourth Avenue	Waterford	CT	06385
198	Baez, Samuel & Marianne	N41-21.279	W72-11.301	19 Riverside Drive	Waterford	CT	06385
118	Baran, Brad	N41-39.652	W72-17.795	192 Niantic River Road	Waterford	CT	06385
161	Baran, Brad	N41-20.769	W72-10.637	192 Niantic River Road	Waterford	CT	06385
122	Bartholst, Ron	N41-20.485	W72-10.487	182 Niantic River Road	Waterford	CT	06385
13	Beaulieu, Michael	N41-20' 59.01"	W72-10' 45.25"	4 Forest Street	Waterford	CT	06385
3	Bishop, Sandra	N41-23.936	W72-05.969	7 Wilson Road	Quaker Hill	CT	06375
84	Blodgett, Kenneth	N41-20.444	W72-10.460	155 Niantic River Road	Waterford	CT	06385
91	Bollo, Paul	N41-19'37.82"	W72-10'30.60"	2 Whitecap Road	Niantic	CT	06357
82	Bono, Michael	N41-20.100	W72-10.515	51 Hickory Lane	Waterford	CT	06385
141	Bourget, John	N41-20.669	W72-10.681	7 Andrea Lane	Avon	CT	06001
27	Bowers, Charles	N41-20'01.9"	W72-10'33.0"	22 McElaney Drive	Niantic	CT	06357
54	Bowman, James	N41-20.050	W72-10.573	9 Beach Street West	Waterford	CT	06385
58	Bowman, James	N41-20.022	N72-10.518	9 Beach Street West	Waterford	CT	06385
151	Boyle, Charles	N41-20.540	W72-10.785	219 Route 164	Preston	CT	06365
206	Bretton, Paul & Donna	N41-20.498	W72-10.761	1069 Route 171	Woodstock	CT	06281
214	Brewer, Robert	N41-21'34.76"	W72-11'19.39"	71 Oswegatchie Road	Waterford	CT	06385
21	Bucka, Michael	N41-21'15.7"	W72-11'17.6"	23 Riverside Drive	Waterford	CT	06385
208	Burke, John Douglas O'Brien	N41-21' 25"	W72-11' 19"	28 Prospect Avenue	Niantic	CT	06357
139	Burns, James	N41-19.731	W72-10.569	11 West Strand Road	Waterford	CT	06382
2	Burn, Harold L.	N41-21.466	W72-11.304	17 Stanton Street	Waterford	CT	06385
209	Burn, Margo M.	N41-21.461	W72-11.326	17 Stanton Street	Waterford	CT	06385
121	Bulth, Joseph, Jr.	N41-18.636	W72-09.580	20 Jordan Cove Circle	Waterford	CT	06385

MOORING PERMIT APPLICATIONS 2017

Mooring #	Applicant	Latitude	Longitude	Address	Town	State	Zip
123	Butler, Douglas	N41-19.95	W72-10.60	4 Bishop Street	Waterford	CT	06385
40	Butler, Roger	N41-21.030	W72-10.749	92 Colony Circle	Westfield	MA	01085
129	Canavan, Deborah	N41-21.663	W72-11.341	166 Woodstock Road	Woodstock	CT	06287
130	Canavan, Deborah	N41-21.653	W72-11.350	166 Woodstock Road	Woodstock	CT	06287
75	Carbone, Ben	N41-18.568	W72-08.907	7 Lee Road	Waterford	CT	06385
137	Carter, Sharon	N41-19.21*	W72-08.53*	260 Shore Road	Waterford	CT	06385
42	Cook III, Frank	N41-20.067	W72-10.553	90 Niantic River Road	Waterford	CT	06385
43	Cook III, Frank	N41-20.065	W72-10.525	90 Niantic River Road	Waterford	CT	06385
53	Coss, Edward W.	N41-21.207	W72-10.627	166 Oswegatchie Road	Waterford	CT	06385
80	Coss, Edward W.	N41-21.055	W72-10.722	166 Oswegatchie Road	Waterford	CT	06385
217	Cote, Phillip	N41-18.565	W72-08.582	15 Story Drive	West Hartford	CT	06117
109	Cousineau, Barry & Cathy Jo	N41-20.736	W72-10.730	184 Butlertown Road	Waterford	CT	06385
194	Crandall, Steven	N41-19.585	W72-10.594	58 Lake Street	Moosup	CT	06354
111	Creem, James	N41-21° 05.50"	W72-10° 42.68"	222 Niantic River Road	Waterford	CT	06385
79	Cunningham, Peter	Pulley	system	45 4th Avenue	Waterford	CT	06385
60	Curtis, Robert	N41-20.783	W72-11.040	24 Park Drive	Waterford	CT	06385
209	Cutillo, John & Mary	N41-20.017	W72-10.462	74 Fairhaven Road	Niantic	CT	06357
210	Cutillo, John & Mary	N41-20.017	W72-10.462	74 Fairhaven Road	Niantic	CT	06357
221	Cutillo, John & Mary	N41-19.993	W72-10.491	74 Fairhaven Road	Niantic	CT	06357
222	Cutillo, John & Mary	N41-19.980	W72-10.502	74 Fairhaven Road	Niantic	CT	06357
55	DeLoe, Jo-Ann	N41-18.546	W72-08.883	137 Shore Road	Waterford	CT	06385
57	Dennis, Janet R.	N41-20.848	W72-10.796	74 South Washington Avenue	Niantic	CT	06357
104	Diamond, Arnold Peter	N41-20.007	W72-10.761	39 Lovers Lane	East Lyme	CT	06333
56	Diamond, Lisa & Mark	N41-21.0215	W72-10.4835	25 Prospect St	Hyde Park	MA	02136
50	Dobson, Robert	N41-21.105	W72-10.741	230 Niantic River Road	Waterford	CT	06385
113	Duggan, Russ	N41-21.1062"	W72-10°42.441	P. O. Box 396	Old Lyme	CT	06371
10	Dishaw, Mike	N41-18.602	W72-09.571	158 Old Norwich Road	Quaker Hill	CT	06375
58	Dixon, Bruce (Robert)	N41-20.805	W72-11.074	25 Park Drive	Waterford	CT	06385

MOORING PERMIT APPLICATIONS 2017

Mooring #	Applicant	Latitude	Longitude	Address	Town	State	Zip
193	Doboe, Lou	N41-20.47	W72-10.45	161 Niantic River Road	Waterford	CT	06385
181	Doherty, Patrick	N41-20.540	W72-10.538				
47	Dominion Nuclear	N41-18.462	W72-09.694	P.O. Box 128	Waterford	CT	06385
48	Dominion Nuclear	N41-18.469	W72-09.659	P.O. Box 128	Waterford	CT	06385
153	Donovan, Jeffrey	N41-18.665	W72-9.510	2 Gun Shot Road	Waterford	CT	06385
103	Dubicki, Nancy	N41-21.087	W72-10.774	147 Oswegatchie Road	Waterford	CT	06385
197	Ducey, Stephen	N41-18.652	W72-09.389	22 Windward Way	Waterford	CT	06385
83	Dudek, Richard	N41-33870	W72.17864	134 Niantic River Road	Waterford	CT	06385
245	Durbois, Bob	N41-18.071	W72-07.518	9 August Road	Simsbury	CT	06070
29	Farina, James & Monica	N41-19° 50.00"	W72-10° 38.00"	30 Bishop Street	Waterford	CT	06385
219	Fayan, Joseph	N41.346	W72.185	135 Oswegatchie Road	Waterford	CT	06385
175	Firmin, Eileen	N41-21.438	W72-11.346	P.O. Box 152	East Lyme	CT	06333
174	Foley, Jeff	N41-21.619	W72-11.335	52 Barberhill Road	Broad Brook	CT	06016
216	Franklin, Sundae P.	N41-24.013	W72-05.935	511 Mohegan Avenue	Waterford	CT	06385
115	Fredericksen, Harlan	N41-20.820	W72-10.672	10 Laurel Grove Drive	Higganoh	CT	08441
30	Fritzer, Steven	N41-18.6	W72-09.1	11 Division Street	Waterford	CT	06385
207	Gallagher, Sean	N41-18.711	W72-09.447	285 Millstone Road	Waterford	CT	06385
204	Gauthier, Ronald	N41-19.649	W72-10.555	3 Dean Pond Road	Brimfield	MA	01010
230	Getty, David	N41-20.101	W72-11.290	137 Gallivan Lane	Uncasville	CT	06382
49	Gladstone, Scott	N41-19.688	W72-10.518	30 Niantic River Road	Waterford	CT	06385
240	Greeley, Robert J.	N41-21.07	W72-10.763	149 Oswegatchie Road	Waterford	CT	06385
114	Green, C. Fred	N41-21.903	W72-11.402	35 Oswegatchie Road	Waterford	CT	06385
55	Groves, Bob	N41-13.5	W72.550	73 Miner Ave	Waterford	CT	06385
7	Hansen, Chris	N41-19.997	W72-10.0607	265 South Main Street	Marlborough	CT	06447
145	Hastings, Brian	N41-20.830	W72-10.517	4 Bayside Avenue	Waterford	CT	06385
34	Harris, William	N41-20.555	W72-10.730	2 Sandalwood Lane	Old Lyme	CT	06371
93	Hasselbacher, Michael	N41-21.211	W72-10.637	P.O. Box 214	Milford	CT	06460
122	Heenan, William	N41-21.199	W72-11.278	33 Riverside Drive	Waterford	CT	06385

MOORING PERMIT APPLICATIONS 2017

Mooring #	Applicant	Latitude	Longitude	Address	Town	State	Zip
184	Henderson, Jole	N41-21.455	W72-11.288	4 Valerie Street	Waterford	CT	06385
6	Hennessey, William Sr.	N41-20.990	W72-10.842	19 Shawandasse Road	Waterford	CT	06385
12	Henschel, Jennifer	N41-20.113	W72-10.516	87 Spithead Road	Waterford	CT	06385
237	Hersom, Chris	N41-19.250	W72-08.708	86 Shore Road	Waterford	CT	06385
31	Herter, Mark	N41-21.972	W72-11.431	51 Quarry Road	Waterford	CT	06385
90	Hoben-Dunn, Susan	N41-20.812	W72-11.084	22 Park Drive	Waterford	CT	06385
16	Holmes, Greg	N41-21.477	W72-11.313	15 Stanton Street	Waterford	CT	06385
199	Holmwood, Courtney	N41-20.169	W72-10.546	20 Fifth Avenue	Waterford	CT	06385
24	Hughes, John & Dorothy	N41-19.777	W72-10.574	52 Niantic River Road	Waterford	CT	06385
11	Jablkowski, Theodora & Kathryn	N41-21' 30"	W72-11' 18"	9 Stanton Street	Waterford	CT	06385
94	Jamroga, John Arthur	N41-19.681	W72-10.490	13 East Wharf Road	Waterford	CT	06385
51	Johnson, Susan C.	N41-21' 33.52"	W72-11' 20.42"	3 Stanton Street	Waterford	CT	06385
52	Johnson, Susan C.	vicinity of W-051, no mooring at this time					
102	Kamerica, Mark	N41-21.14	W72-10.36	248 Niantic River Road	Waterford	CT	06385
242	Kenny, Drew	N41-21.9	W72-11.5	27 Hill Road	East Lyme	CT	06333
133	King, Brian	N41-20.204	W72-10.541	6 6th Avenue	Waterford	CT	06385
87	Kitchings, Margaret	N41-18.030	W72-08.226	50 Shore Road	Waterford	CT	06385
17	Kittel, John	N41-21.056	W72-10.744	216 Niantic River Road	Waterford	CT	06385
18	Kittel, John	N41-21.05	W72-10.76	216 Niantic River Road	Waterford	CT	06385
21	Konney, Mark & Cindy	N41-20.832	W72-10.715	24 Shore Road	Niantic	CT	06357
172	Kuentler, A. Stephen	N41-21.21	W72-10.52	268 Niantic River Road	Waterford	CT	06385
201	Lake, Robert	N41-19.850	W72-10.586	148 Spithead Road	Waterford	CT	06385
104	Loraville, Scott	N41-21.435	W72-11.248	1 Plant Street	Waterford	CT	06385
105	Loraville, Scott	N41-19.895	W72-09.481	52 Winthrop Way	Waterford	CT	06385
174	MacArthur, Kathy	N41-19.32.47"	W72-10.29.87"	10 Fourth Street	Waterford	CT	06385
243	Magd Point Beach Association	N41-33.1532	W72-17.6304	25 Wood Street	Waterford	CT	06385
247	Magd Point Beach Association	N41-33.1532	W72-17.6304	25 Wood Street	Waterford	CT	06385
245	Magd Point Beach Association	N41-33.1532	W72-17.6304	25 Wood Street	Waterford	CT	06385

MOORING PERMIT APPLICATIONS 2017

Mooring #	Applicant	Latitude	Longitude	Address	Town	State	Zip
249	Mago Point Beach Association	N41-33'1532	W72-176304	25 Wood Street	Waterford	CT	06385
250	Mago Point Beach Association	N41-33'1532	W72-176304	25 Wood Street	Waterford	CT	06385
251	Mago Point Beach Association	N41-33'1532	W72-176304	25 Wood Street	Waterford	CT	06385
78	Malinosky, Michael	N41-33'535	W72-17454	8 Lanyard Lane	Waterford	CT	06385
144	Malinosky, Michael	N41-20'7.0836"	W72-10'26.1182"	8 Lanyard Lane	Waterford	CT	06385
44	Mallari, Juan	N41-18.594	W72-09.004	6 Reed Avenue	Waterford	CT	06385
124	Martin, Richard	N41-18.690	W72-09.512	62 Windward Way	Waterford	CT	06385
86	Matzkin, Steven	N41-20.470	W72-10.744	81 Perry Street 5B	New York	NY	10014
208	McCoy, William	N41-21.118	W72-10.660	161 Oswegatchie Road	Waterford	CT	06385
256	McMahon, Gregory	N41-20.949	W72-11.196	2 Stoneleigh Knoll	Old Lyme	CT	06371
160	McMahon, Scott	N41-21.961	W72-11.440	17 Oswegatchie Road	Waterford	CT	06385
96	McNulty, William	N41-20.265	W72-10.520	12 Bayside Avenue	Waterford	CT	06385
65	Miller, Bruce E.	N41-18.549	W72-08.872	936 Hillstown Road	Manchester	CT	06040
35	Moger, Alan	N41-21'13.12"	W72-10'37.06"	247 Niantic River Road	Waterford	CT	06385
38	Moger, Harvey	N41-21'13.80"	W72-10'37.23"	16 Richard Rd	Simsbury	CT	06070
66	Munn, Gregory	N41-20.840	W72-10.66	198 Niantic River Road	Waterford	CT	06385
67	Munn, Gregory	N41-20.843	W72-10.659	198 Niantic River Road	Waterford	CT	06385
101	Nelson, Gail	N41-19.631	W72-10.502	5 Donna Street	Waterford	CT	06385
4	Nelson, Roy A.	N41-20.183	W72-10.549	43 Maclyn Drive	Colchester	CT	06415
220	Olson, David	N41-23.965	W72-05.464	528 Route 164	Preston	CT	06365
238	Olson, Kenneth	N41-23.907	W72-05.943	508 McHegan Avenue Parkway	Quaker Hill	CT	06375
99	O'Reilly, John J.	N41-21.466	W72-11.300	13 Stanton Street	Waterford	CT	06385
15	O'Reilly, Neil	N41-21'30.9"	W72-11'18.9"	7 Stanton Street	Waterford	CT	06385
5	O'Reilly, S. Scott & Patricia	N41-18.612	W72-10.520	220 South Road	New Hartford	CT	06057
127	Pellegrini, John	N41-19.632	W72-10.506	34 Vickers Road	New Hartford	CT	06057
106	Pazzaglia, Dave	N41-20.159	W72-10.508	25 5TH AVE	WATERFORD	CT	06385
126	Pennington, Richard C.	N41-20'37.65"	W72-10'42.15"	4 Westwood Drive	Vernon	CT	06066

MOORING PERMIT APPLICATIONS 2017

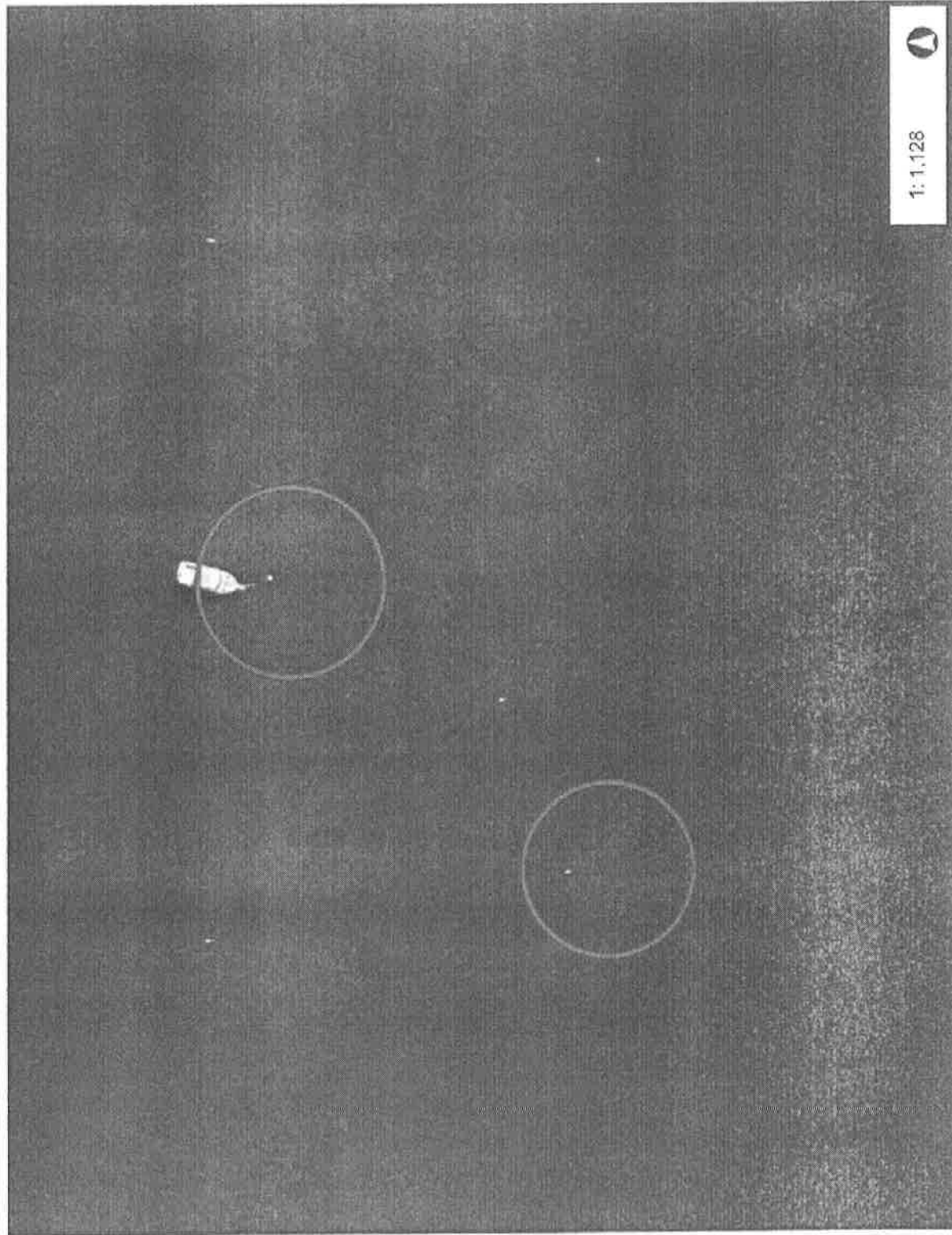
Mooring #	Applicant	Latitude	Longitude	Address	Town	State	Zip
213	Pennington, Richard C.	N41-20.811	W72-10.811	4 Westwood Drive	Vernon	CT	06066
88	Pepin, William	N41-21.963	W72-11.417	19 Oswegatchie Road	Waterford	CT	06385
166	Proulx, David A. Sr.	N41-20.255	W72-10.536	8 Bayside Avenue	Waterford	CT	06385
196	Ranaldi, Gene & Linda	N41-21'12.62"	W72-10'37.86"	260 Niantic River Road	Waterford	CT	06385
143	Reardon, Kevin	N41-20' 50.91"	W72- 10' 53.74"	5 Shawandasse Road	Waterford	CT	06385
147	Roselund, Linda	N41-19'23.29"	W72-08'52.73"	266 Shore Road	Waterford	CT	06385
105	Russell, Robert & Rosemarie	N41-20.873	W72-10.688	200 Niantic River Road	Waterford	CT	06385
106	Russell, Robert & Rosemarie	N41-20.874	W72-10.667	200 Niantic River Road	Waterford	CT	06385
158	Scharmerhorn, Dennis	N41-19.692	W72-10.495	4 East Wharf Road	Waterford	CT	06385
183	Shallcross, Arthur	N41-19.665	W72-10.541	49 Avenue B	Waterford	CT	06385
201	Simpson, David	N41-21.269	W72-11.182	3 Valerie Street	Waterford	CT	06385
167	Sitby, Brian	N41.362809	W72.189330	49 Oswegatchie Road	Waterford	CT	06385
236	Sitby, Marilyn	N41.36247	W72.18934	49 Oswegatchie Road	Waterford	CT	06385
107	Slais, Robert	N41-20.531	W72-10.845	1124 Litchfield Turnpike	New Hartford	CT	06057
68	Smith Cove Yacht Club/S. Larcen	N41-20.777	W72-10.723	47 Oswegatchie Hills Road	Niantic	CT	06357
69	Smith Cove Yacht Club/S. Larcen	N41-20.644	W72-10.715	47 Oswegatchie Hills Road	Niantic	CT	06357
71	Sokoloski, Hugh T.	N41-20.812	W72-11.084	133 Oswegatchie Road	Waterford	CT	06385
72	Sokoloski, Hugh T.	N41-20.832	W72-11.087	133 Oswegatchie Road	Waterford	CT	06385
46	Spada, Daniel	N41-21.947	W72-11.466	265 Upper Pattagansett Road	East Lyme	CT	06333
160	Spanos, Spyros	N41-19.703	W72-10.485	36 Niantic River Road	Waterford	CT	06385
128	Stadnick, Benjamin	N41-21.032	W72-10.806	68 Montauk Road	Charlestown	RI	02813
207	Stachowicz, Matthew	N41-19.680	W72-10.566	85 Clay Street	Thomaston	CT	06787
100	Stanton, John	N41-20.10	W72-10.29	132 Niantic River Road	Waterford	CT	06385
8	Stanton, Robert	N41-20.208	W72-10.552	6 Bayside Avenue	Waterford	CT	06385
82	Stevens, Douglas	N41-20.235	W72-10.529	6 Bayside Avenue	Waterford	CT	06385
102	Steward, Daniel	N41-21.142	W72-11.247	37 Riverside Drive	Waterford	CT	06385
224	Stubbings, Dan	N41-21.910	W72-11.480	P.O. Box 877	Colchester	CT	06415
202	Surprenant, Daniel	N41-19.750	W72-10.589	30 Holmes Road	Oakdale	CT	06370

MOORING PERMIT APPLICATIONS 2017

Mooring #	Applicant	Latitude	Longitude	Address	Town	State	Zip
63	Three Belles Marina	N41-20.697	W72-10.680	113 Oswegatchie Hills Road	Niantic	CT	06357
64	Three Belles Marina	N41-20.752	W72-10.697	113 Oswegatchie Hills Road	Niantic	CT	06357
23	Tyler, Jr., Lawrence J.	N41-21°05.22"	W72-10°41.58"	226 Niantic River Road	Waterford	CT	06385
8	Van Arman, Peter W.	N41-20°59.00"	W72-10°51.78"	17 Shawandasse Road	Waterford	CT	06385
235	Van Arman, Peter	N41.35365	W72.17742	17 Shawandasse Road	Waterford	CT	06385
119	VanderVelde, Joe	N41-18.555	W72-09.557	14304 W. 48th Terrace	Shawnee	KS	66216
28	Vibber, Jaxon	N41-20.583	W72-10.650	5 Soljer Drive	Waterford	CT	06385
227	Walston, Matthew	N41-20.027	W72-10.517	14 Pheasant Hill Road	Farmington	CT	06032
228	Walston, Matthew	N41-20.043	W72-10.542	14 Pheasant Hill Road	Farmington	CT	06032
164	Walworth, Robert- removed	N41-20°55.50"	W72-10°53.19"	7 Shawandasse Road	Waterford	CT	06385
238	Ward, Leah & Kent	N41-21.418	W72-11.308	5 Riverside Drive	Waterford	CT	06385
110	Watkinson, Lyle	N41-20.478	W72-10.476	167 Niantic River Road	Waterford	CT	06385
39	Way, Durien	N41-21.436	W72-11.302	6 Cora Street	Enfield	CT	06082
179	Wells, Steve	N41-20.823	W72-11.104	44 3rd Avenue	Waterford	CT	06385
128	Wilcox, Christopher	N41 32.758	W72 17.582	61 Johnson Road	Litchfield	CT	06759
156	Williamson, Robert	N41-20.627	W72-10.766	137 Upper Pattagansett Road	East Lyme	CT	06333
253	Wilson, Brian & Shelly	N41-18°34.78"	W72-08°52.61"	49 Shore Road	Waterford	CT	06385
180	Winston, Jeffrey	N41-20°30.27"	W72-10°30.26"	57 Wilders Pass	Canton	CT	06019
55	Wise, Fred	N41-20.334	W72-10.500	138 Niantic River Road	Waterford	CT	06385
232	Wood, Rick	N41 21.976	W72 11.350	44 Oswegatchie Road	Waterford	CT	06385
139	Wyatt, Alan & Pamela	N41-20.453	W72-10.761	90 Butlertown Road	Waterford	CT	06385
218	Young, Suzanne	N41-20.560	W72-11.215	11 Park Drive	Waterford	CT	06385
229	Earrell, Matthew	N41-20.942	W72-10.691	208 Niantic River Rd	Waterford	CT	06385
140	Shawandasse, Tom	N41-19.643	W72-10.459	20 Niantic River Road	Waterford	CT	06385
112	Petrelli, Anthony	N41.349428	W72.179479	13313 Touronsstone Court	Palm Beach Gardens	FL	33418
38	Stein, Michael	N41-21.466	W72-11.317	4 Riverview Road	Waterford	CT	06385
150	Violante, Frances	N41-19°39.5"	W72-10°30.4"	22 Niantic River Road	Waterford	CT	06385
1	Whitelaw, Nicholas	N41-20.921	W72-11.237	17 Park Drive	Waterford	CT	06385

MOORING PERMIT APPLICATIONS 2017

Mooring #	Applicant	Latitude	Longitude	Address	Town	State	Zip
170	Zadora, Wesley and Mona	N41-20.517	W72-10.775	470 E. Colton Hill Road	New Hartford	CT	06057



1:1,128



0.0 Miles

0.02

0

0.0



This map is intended for general planning, management, education, and research purposes only. Data shown on this map may not be complete or current. The data shown may have been compiled at different times and at different map scales, which may not match the scale at which the data is shown on this map.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

© Connecticut Environmental Conditions Online

Legend

Shellfish Jurisdiction Line

Mooring scouring 2017 Eel
Grass Survey

Aerial Map of Visible "dead zone circles"



1: 72,224



2.3 1.14 0 2.3 Miles

This map is intended for general planning, management, education, and research purposes only. Data shown on this map may not be complete or current. The data shown may have been compiled at different times and at different map scales, which may not match the scale at which the data is shown on this map.

© Connecticut Environmental Conditions Online THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

Shelfish Jurisdiction Line

Location of Waterford
Approved Moorings



1:18,056



0.5 0 0.25 0.5 Miles



This map is intended for general planning, management, education, and research purposes only. Data shown on this map may not be complete or current. The data shown may have been compiled at different times and at different scales, which may not match the scale at which the data is shown on this map.

© Connecticut Environmental Conditions Online THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

Shelfish Jurisdiction Line

Location of Waterford
Approved Moorings



1:18,056



0.5 0 0.25 0.5 Miles



This map is intended for general planning, management, education, and research purposes only. Data shown on this map may not be complete or current. The data shown may have been compiled at different times and at different map scales, which may not match the scale at which the data is shown on this map.

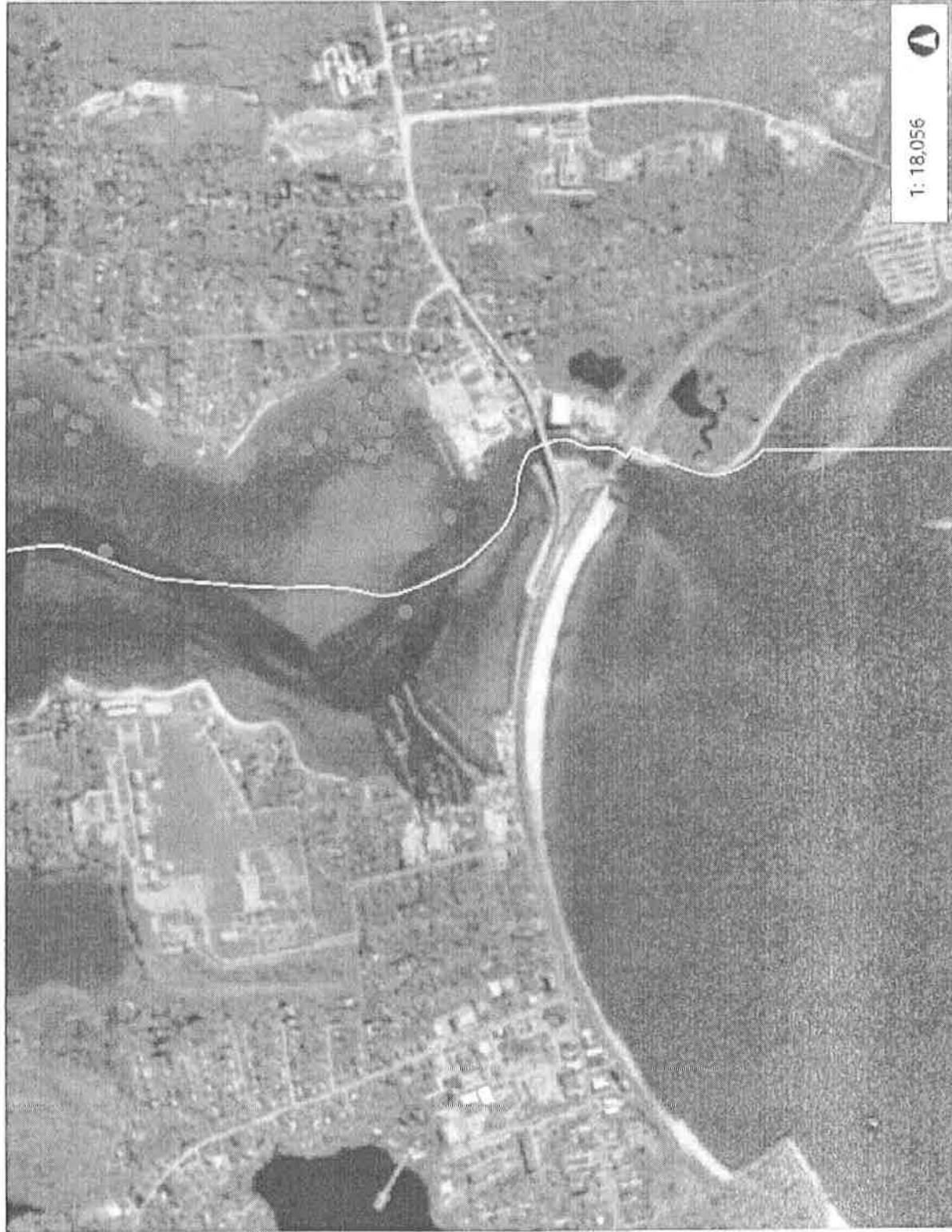
THIS MAP IS NOT TO BE USED FOR NAVIGATION

© Connecticut Environmental Conditions Online

Legend

Shellfish Jurisdiction Line

Location of Waterford
Approved Moorings



1: 18,056



0.5 0 0.28 0.5 Miles



This map is intended for general planning, management, education, and research purposes only. Data shown on this map may not be complete or current. The data shown may have been compiled at different times and at different map scales, which may not match the scale at which the data is shown on this map.

© Connecticut Environmental Conditions Online THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

Sheffish Jurisdiction Line

Location of Waterford
Approved Moorings



1: 18,056



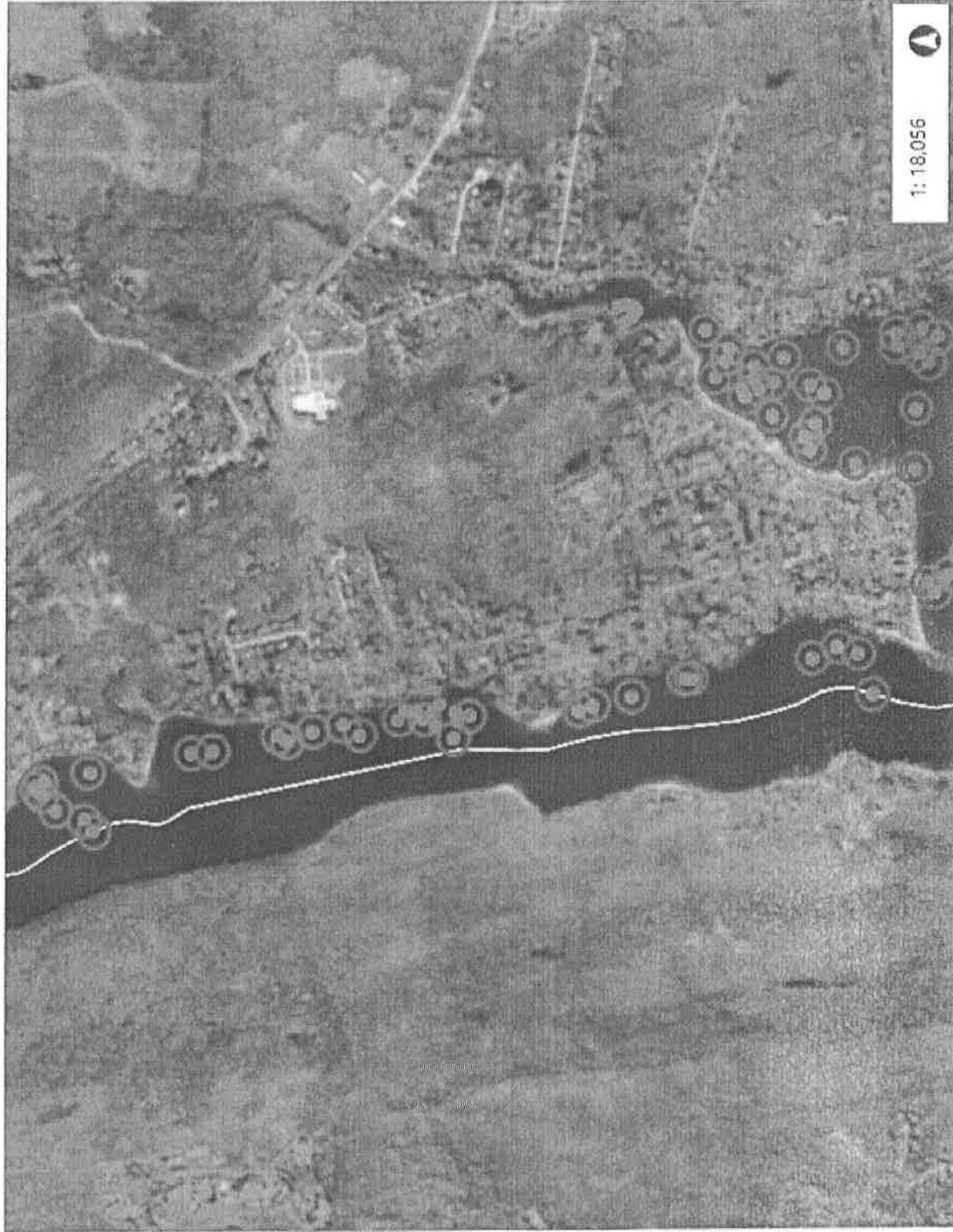
0.6 Miles
0 0.25 0.5
© Connecticut Environmental Conditions Online THIS MAP IS NOT TO BE USED FOR NAVIGATION

This map is intended for general planning, management, education, and research purposes only. Data shown on this map may not be complete or current. The data shown may have been compiled at different times and at different map scales, which may not match the scale at which the data is shown on this map.

Legend

Shellfish Jurisdiction Line

Location of Waterford
Approved Moorings



1:18,056



This map is intended for general planning, management, education, and research purposes only. Data shown on this map may not be complete or current. The data shown may have been compiled at different times and at different map scales, which may not match the scale at which the data is shown on this map.

0.5 Miles 0.25 0

© Connecticut Environmental Conditions Online THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

Shellfish Jurisdiction Line

Location of Waterford
Approved Moorings with no
wake zone restriction



1: 18,056



This map is intended for general planning, management, education, and research purposes only. Data shown on this map may not be complete or current. The data shown may have been compiled at different times and at different map scales, which may not match the scale at which the data is shown on this map.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

© Connecticut Environmental Conditions Online

Legend

Shellfish Jurisdiction Line

Location of Waterford
Approved Moorings with no
wake zone restriction





1:18,056



This map is intended for general planning, management, education, and research purposes only. Data shown on this map may not be complete or current. The data shown may have been compiled at different times and at different map scales, which may not match the scale at which the data is shown on the map.

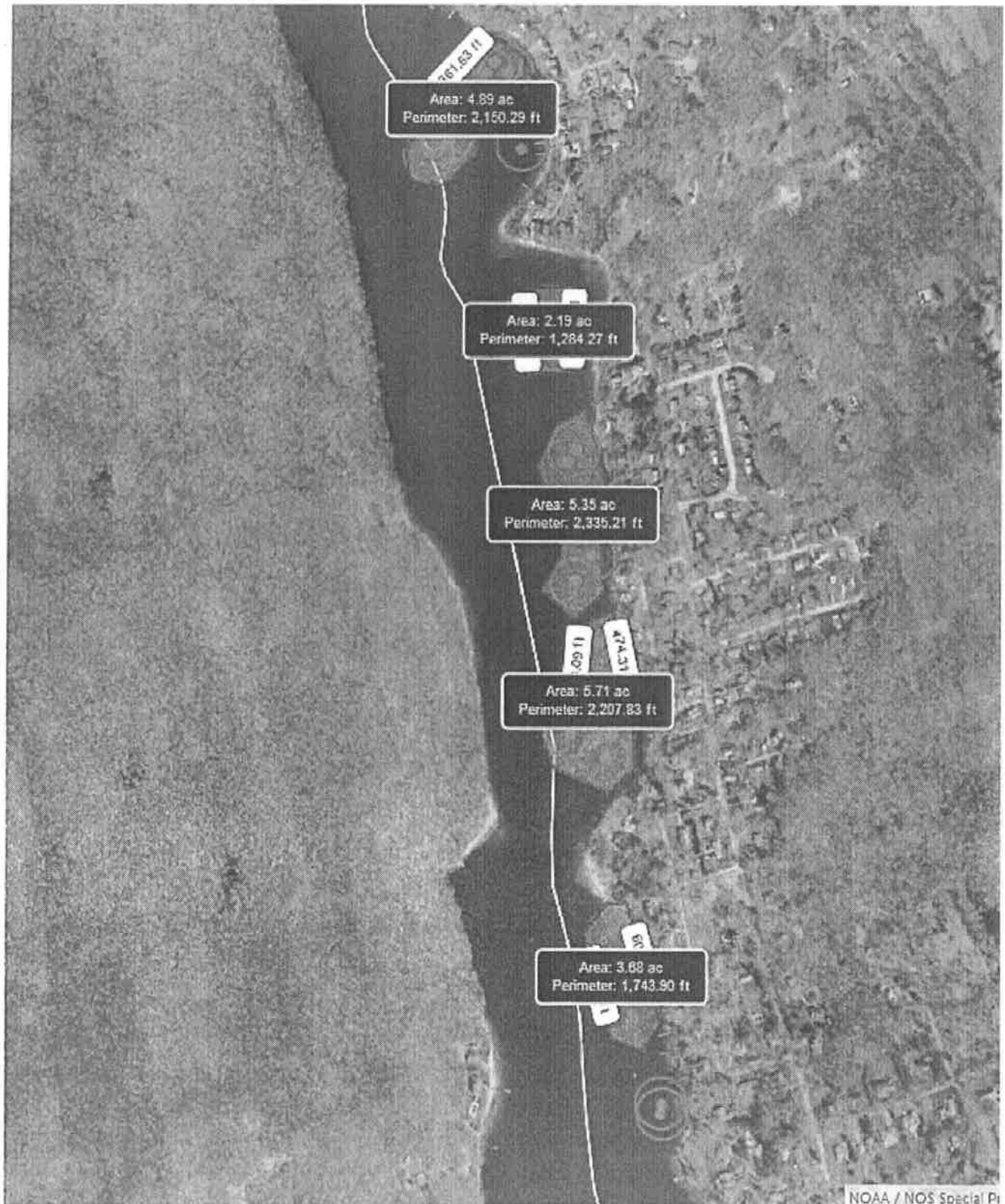
© Connecticut Environmental Conditions Online THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

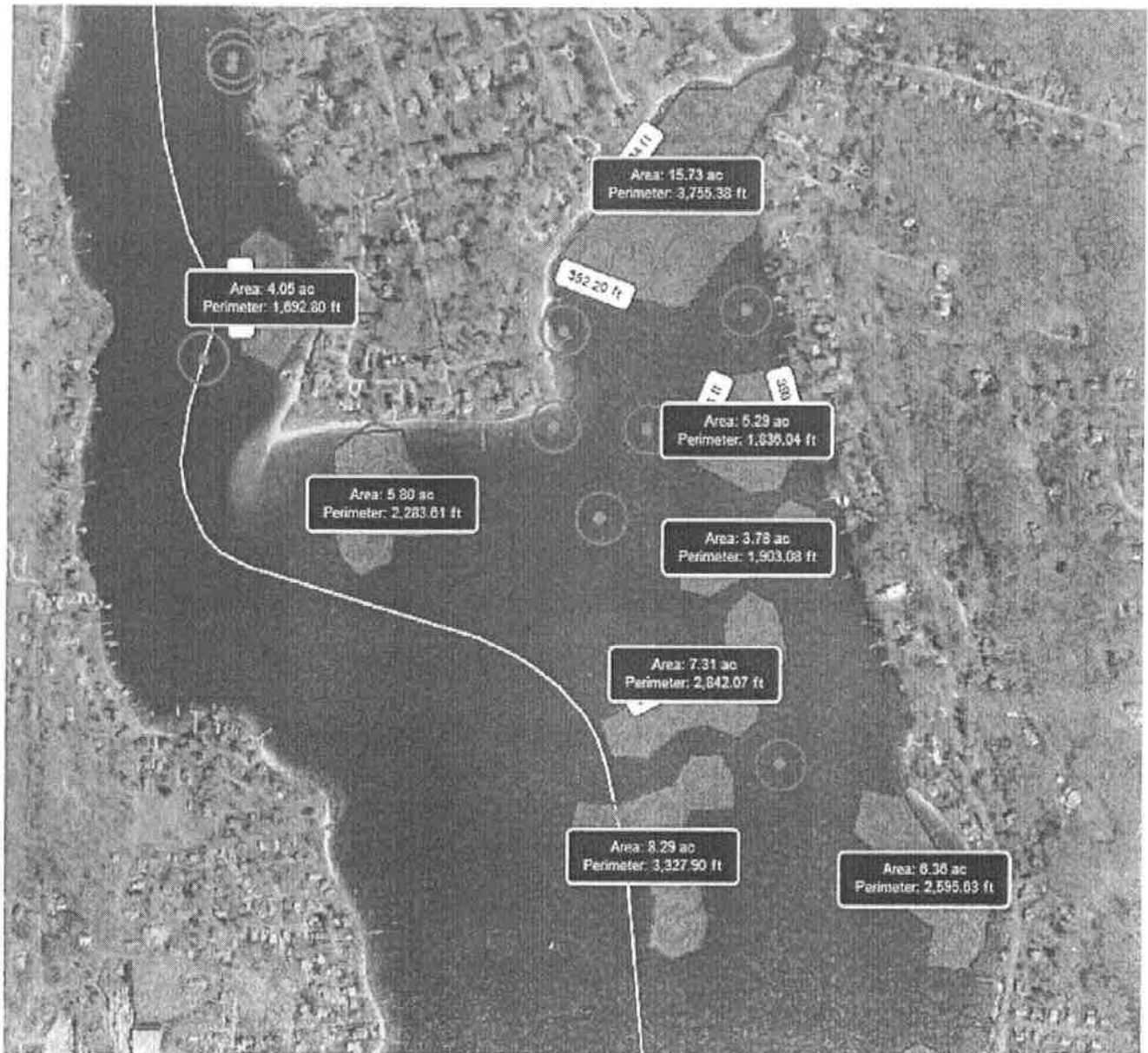
Shellfish Jurisdiction Line

Location of Waterford
Approved Moorings with no
wake zone restriction

Waterford Approved Moorings; Grouped Acreage; North



Waterford Approved Moorings; Grouped Acreage; Mid River



Waterford Approved Moorings; Grouped Acreage; South



There are 18 non-grouped moorings totaling an additional 19.8 acres. The grouped area acreage totals 111.36. Gross equals approximately 131.16 acres of restricted use area within the Niantic River due to the placement of moorings within Waterford waters.

A Response to Timothy Londregan III's Ramblings on "The Presence of Moorings within Waterford Water: Water Use restriction" dated 7/23/18

Prepared by Gary D. Smith, PhD, P.E.
August 1, 2018

In order to assess any "Water Use Restriction" that is the result of having boat moorings within the Waterford area of the Niantic River one has to have a clear and accurate understanding of how mooring tackle is constructed and used to secure a vessel. Contrary to Timothy Londregan III's interpretation presented in his ramblings of 7/23/18, a mooring's configuration, which has long been common practice recommended by maritime authorities and various harbor masters, is presented in Figure 1 and Figure 2.

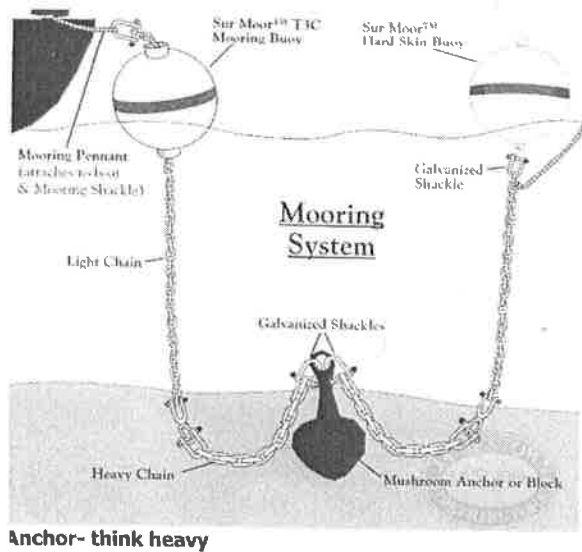


FIGURE 1.

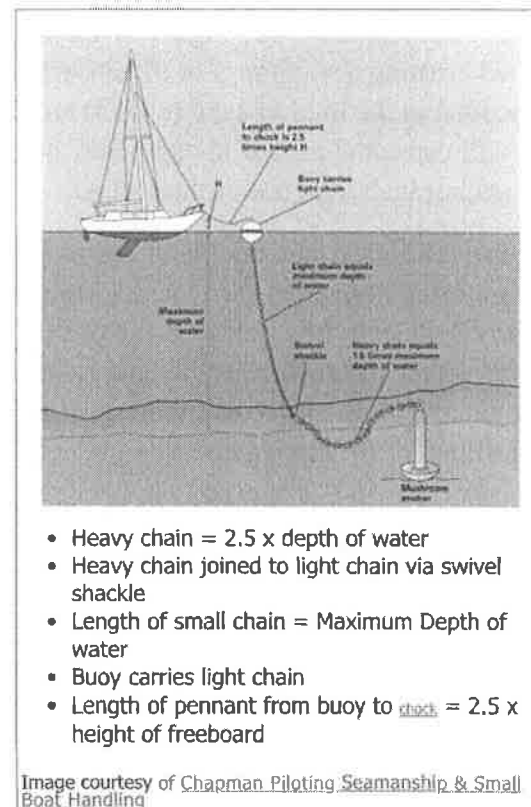


FIGURE 2.

In both Figure 1 and Figure 2 it can be seen that a standard mooring system consists of a mushroom anchor with two lengths of chain. A heavy ground chain on the bottom that is attached to a lighter chain up top. A swivel connects the two chains to correct for boat spin, which is caused by wind shifts and tide swings. The light chain is attached to a mooring buoy which supports its weight. A mooring pennant, generally of 3-strand Nylon or Dacron line, is then used to secure a vessel to the mooring system via a shackle.

Prepared by Gary D. Smith, PhD, P.E.
August 1, 2018

In general, a mushroom anchor is the most common anchor used in softer seabeds, such as that of the Niantic River. The minimum standards for moorings for the Waterford Harbor Management Commission requires a mushroom anchor or equivalent. The weight of the mushroom anchor, size of the chains and the size of the pennant are determined by the length of the boat. See Figure 3. The length of the chains are determined by the high tide depth and the pennant length is a function of the height of the bow chock above the water.

One important fact that Mr. Londregan ignored in his analysis is that the anchor and the heavy ground chain will, more likely than not, embed into the soft seabed, which aids in the holding power of the system. See Figure 1. and Figure 2. The anchor and heavy chain will dig into the seabed creating a suction. For effective holding power the anchor and chain must remain embedded in the mud or sand to resist storm forces from wind direction opposite the prevailing that will cause the anchor to "spin out" and drag. Only during inspections will the heavy chain and anchor be pulled out of the seabed.

The swivel, light chain and mooring buoy absorbs the shock of heavy weather, waves and wind. The mooring buoy also carries the weight of the small chain to the surface. The swivel corrects for any boat spin. The radius swing of the boat will be centered at the swivel. The small chain acts as a shock absorber: as the boat rides up a wave it uses energy to lift the chain weight. This is countered by the force to submerge the large mooring buoy, thus acting like shocks, sapping the jolt before the chain gets bar-tight.

Following Mr. Londregan's example: 21 foot vessel; MLW at 4 feet; and MHW at 7 feet; Water to boat chock = 2.5 feet; and using the Minimum Recommended Standards for all Moorings presented in the Waterford Harbor Management Plan, see Figure 3, the radius swing of a boat can be determined using the geometry shown in Figure 4.

Prepared by Gary D. Smith, PhD, P.E.
August 1, 2018

1. Only "purpose built" anchors should be used on permanent moorings.
2. The maximum length of the pennant should be two and one-half (2-1/2) times the distance from the bow chock to the water plus the distance from the bow chock to the mooring cleat or post.
3. All pennant lines running through a chock or any other object where chafing may occur should have adequate chafe guards.
4. The total scope of the chain should be no less than two and one-half (2-1/2) times the depth of the water at high tide at the location of the mooring unless the Harbor Master approves a lesser length based on a finding that special physical conditions exist which make such length unnecessary. The bottom and top chains should each consist of approximately fifty percent (50%) of the scope.

32' HIGH TIDE

21'

5.75'

5.25'

6.25'

6.25'

8.75'

8.75'

3'

MLW = 4'

4'

SEABED

21'

5.75'

7.75'

34.5' LOW TIDE

PENNANT

MOORING BUOY

SMALL CHAIN

MHW = 7'

SWIVEL

MUSHROOM ANCHOR

HEAVY CHAIN

FIGURE 4.

Prepared by Gary D. Smith, PhD, P.E.
August 1, 2018

Once again, a boat on a mooring will swing with the swivel being the center. This is true of any horizontal rotation, looking down on top, and any vertical rotation as shown in Figure 4. The radius of rotation changes as the tidal depth changes. In this example, the radius of rotation at high tide is 32 feet while the radius of rotation at low tide is 34.5 feet. These should be compared to the 47.5 foot radius Mr. Londregan presented.

The example given here assumes the pennant and small chain are taught. This would occur only in extreme tidal flow and/or wind. Majority of the time the pennant and small chain will be loose, having a catenary shape as shown in Figures 1, Figure 2 and Figure 5. And thus having a



FIGURE 5.

shorter radius of rotation.

The weight of the small chain is carried by the mooring buoy. Thus, the weight of the small chain would not be sufficient enough to move the mooring buoy and boat allowing it to "drag" on the bottom to disturb the SAV or benthic community. Now compare the mooring field shown in Figure 6 to the shellfish farms in Figure 7 and Figure 8. Guess which one is more harmful to the SAV and benthic community.

Prepared by Gary D. Smith, PhD, P.E.
August 1, 2018



FIGURE 6.

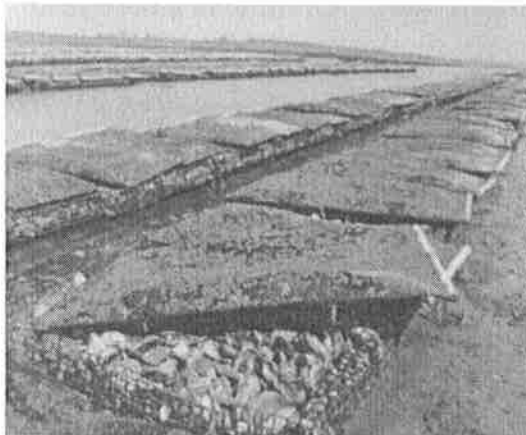


FIGURE 7.

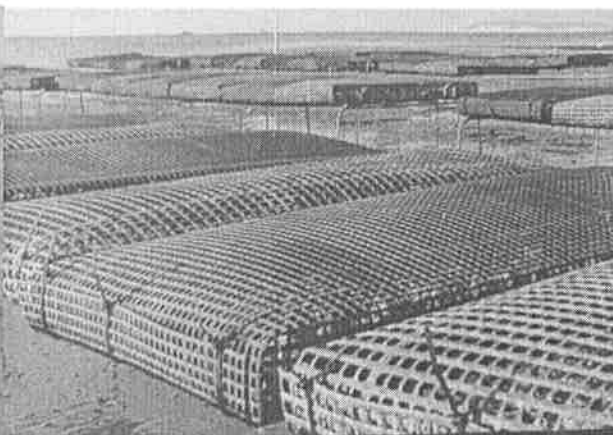


FIGURE 8.

According to a boat manufacturer, a 21 foot boat would typically have an 8.5 foot beam. Thus, the maximum area the boat would cover at any given moment would be 175 sq. ft. Obviously, the covered area of the moored boat will swing as the boat swings. However, the total area would never be greater than 175 sq. ft., which is only a fraction of Mr. Londregan's 7,148 sq. ft. presented in his ramblings.

Mr. Londregan states that today the majority of the 200 moorings within Waterford Waters are located within the Niantic River. The Lower Connecticut River Valley Council of Governments was contracted by Connecticut Department of Transportation to monitor boating in the Niantic

Prepared by Gary D. Smith, PhD, P.E.
August 1, 2018

Slips and Moorings within East Lyme and Waterford on the Niantic River, 2011								
	Total Slips (a)	Slips Occupied (b)	Total Moorings (c)	Moorings Occupied (d)	Private Docks (e)	Private Docks Occupied (f)	Estimated Total Potential (a + c + e)	Occupancy Estimate (b + d + f)
East Lyme	660	630 (95%)	75	56 (74%)	135	121 (90%)	870	807 (93%)
Waterford	115	110 (96%)	57	52 (91%)	76	69 (91%)	248	231 (93%)
Total	775	740 (95%)	132	108 (82%)	211	190 (90%)	1118	1,038 (93%)

FIGURE 9.

River during 2010 and 2011. See Figure 9. During that period there were a total of 132 moorings in the Niantic River and of these only 57 were in the Waterford waters. Of the total moorings in the river, only 108 moorings (82%) were occupied.

If the number of moorings within the Waterford waters have increased significantly to what almost 200 as Mr. Londregan has claimed then one can assume the boating traffic has also increased significantly. According to the report, from Memorial Day to Labor Day, 2011 the Niantic River's total boat traffic was 15,098 boats, which was greater than the 15,075 boats that were in the Connecticut River.

Perhaps it is time to have another study of the uses and the boating traffic within the Niantic River before modifying the existing regulations.

Information presented herein can be found on Jamestown Distributors Website or Chapman Piloting Seamanship & Small Boat Handling.