

SUBMERGED AQUATIC VEGETATION AND SHELLFISH LEASING

HB 841/Ch. 238, Sec. 2, 2019

Department of Natural Resources

April 2025

Maryland Department of Natural Resources

2023 Annual Report required by NR §4-11A-10(c), HB 841, Ch. 238(2) in 2019 to the Aquaculture Coordinating Council, Chesapeake Bay Program, and Maryland General Assembly on Submerged Aquatic Vegetation and Shellfish Leasing

Introduction

In accordance with the Natural Resources Article §4-11A-10(c), HB 841, Chapter 238 from the 2019 Legislative Session, the Department of Natural Resources (Department) is required to submit an annual report that addresses the following:

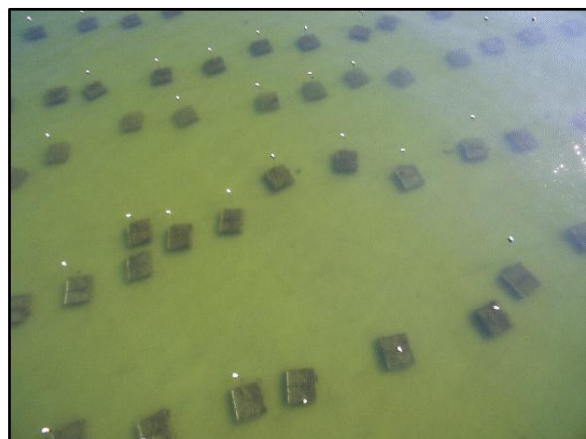
- The farm-level and cumulative impacts that placing shellfish, bags, nets, or structures on submerged aquatic vegetation, with prior written approval from the Department, had on submerged aquatic vegetation and leaseholders;
- The number of leases that have submerged aquatic vegetation present in the lease area and the species, density, and aerial extent of submerged aquatic vegetation in those leases; and
- Characteristics of gear types and the nature and frequency of aquaculture practices used on leases where submerged aquatic vegetation is present.

Maryland Law – Shellfish Aquaculture Leasing and Submerged Aquatic Vegetation

Natural Resources Article §4-11A-01 prohibits the issuance of a shellfish lease in a Submerged Aquatic Vegetation Protection Zone, defined as an area of submerged aquatic vegetation mapped in aerial surveys by the Virginia Institute of Marine Science in one or more of the five years preceding the application for lease.

In June 2019, Natural Resources Article §4-11A-10(c) was revised to provide that a leaseholder may not “place shellfish, bags, nets, or structures on submerged aquatic vegetation *without prior written approval from the department* [emphasis added]”. Accordingly, a leaseholder may not work in an area of their lease where submerged aquatic vegetation exists unless they receive prior written approval from the Maryland Department of Natural Resources.

This change in law provides the Department the authority and ability to accept and evaluate requests from leaseholders to work within areas of their respective leases where submerged aquatic vegetation exists. Under these circumstances, and in accordance with the law, the Department assesses each request to determine the impact to the leaseholder from restrictions due to submerged aquatic vegetation, the potential impact of the proposed shellfish aquaculture activities on submerged aquatic vegetation, and works with the leaseholder to develop an appropriate work plan when possible. SB304 (2024) extended this authority until June 30, 2027.



The 2019 revisions to the law require the Department to provide an annual report to the Aquaculture Coordinating Council, Chesapeake Bay Program, and Maryland General Assembly on the farm-level and cumulative impacts that “placing bags, nets, or structures on submerged aquatic vegetation”, with prior written approval from the Department, had on submerged aquatic vegetation, the number of leases that have submerged aquatic vegetation present, and the characteristics of gear types and frequencies of aquaculture practices used on leases where submerged aquatic vegetation is present.

Authorizing the Placement of Shellfish, Bags, Nets, or Structures on Submerged Aquatic Vegetation

- As outlined in the provisions established in Natural Resources Article §4-11A-10(c), the Department may approve the placement of shellfish, bags, nets, or structures on submerged aquatic vegetation within the boundaries of a lease when conditions warrant this activity, and, in doing so, the Department:
 - “May not authorize harvesting by dredge in areas where submerged aquatic vegetation is present.”
 - “Shall authorize for water column leases the placement of shellfish, bags, nets or structures in at least 10% of the area where submerged aquatic vegetation is present.”
 - “Shall authorize harvest by diving in areas on any submerged land lease where submerged aquatic vegetation is present.”

Farm-Level and Cumulative Impacts of Submerged Aquatic Vegetation and Shellfish Lease Interactions: 2023

During the calendar year 2023, 30 of 479 total shellfish aquaculture leases were identified as potentially having submerged aquatic vegetation within their footprint based on the 2021 aerial imagery from the Virginia Institute of Marine Science’s annual submerged aquatic vegetation survey¹². An additional 10 leases that were not identified by the 2021 VIMS aerial imagery were surveyed after finding grass during field surveys the previous year. Six of the 40 impacted leases were water column leases, with the remaining 34 being submerged land leases. Impacted leases were limited to Dorchester County, St. Mary’s County, Talbot County, and Worcester County.

The conflicts from submerged aquatic vegetation varied widely among leases and ranged from 0.003% to 100% of a leased area (mean–25.8%; median–24.5%). In terms of absolute area, this range was 0.016 to 7.3 acres of conflict (mean–2.2 acres; median–1.1 acres). Overall, submerged aquatic vegetation covered 86.8 acres of the 222.2 acres (39.1%) that make up the 40 impacted leases.

¹ Patrick, C.J., Wilcox, D.J., Whiting, J.R., Kenne, A.K., and E.R. Smith. 2021 Distribution of Submerged Aquatic Vegetation in Chesapeake Bay and Coastal Bays. December 2022. Virginia Institute of Marine Science, William & Mary, Gloucester Point, VA 23062.

² There is typically a two-year lag between availability of imagery data from the Virginia Institute of Marine Science and its use in identifying potential submerged aquatic vegetation-lease conflicts in Maryland state waters due to the quality control and quality assurance protocols used to ensure accurate imagery data. For this reason, the Department uses this imagery data only as a tool to aid in identifying potential conflicts (along with Department-led field surveys and other reports of submerged aquatic vegetation).

In 2023, the Department conducted field surveys on 33 of the 40 shellfish leases where submerged aquatic vegetation was identified by the Virginia Institute of Marine Science's aerial survey and previous field surveys. Seven leases were excluded for a variety of reasons including: adjustments of GIS data, minimal impact of a leased area due to irregular lease polygons, Departmental knowledge of absence of submerged aquatic vegetation based on recent field visits, etc. These surveys were conducted to confirm the presence, extent, and species of submerged aquatic vegetation that may be present in the area defined by these leases. A summary is depicted below and further information can be found in Appendix A:

- 33 leases surveyed;
 - Two water column and 31 submerged land leases;
- Submerged aquatic vegetation confirmed on 32 leases;
 - Two water column leases and 30 submerged land leases;
- Widgeon Grass was the dominant species present;
 - 32 out of 33 leases;
- Eel Grass was found on one (water column) lease;
- Restrictions placed for CY2024; restrictions on usage were all based on the time of year.
 - 30 leases were restricted for CY2024;
 - 28 submerged land leases;
 - 17 partial and 11 full restrictions;
 - Two water column leases;
 - Two partial restrictions; and

In cases where conditions warrant establishing a lease usage restriction, the Department uses field survey data to map the extent of submerged aquatic vegetation within the lease and makes a determination on whether a general, partial, or full-lease restriction is required to protect submerged aquatic vegetation. A full-usage restriction is only established when submerged aquatic vegetation coverage on a lease is so extensive that there are no open areas large enough to effectively work the lease. Partial restrictions require a leaseholder to avoid working in a particular mapped area of submerged aquatic vegetation. General restrictions are put in place when some grass is found but is sporadic enough not to initiate a partial restriction and requires a leaseholder to avoid any operations that may impact grasses, if they find any. In partial and full-lease restrictions, usage restrictions are only in effect during the submerged aquatic vegetation growing season. This provides the leaseholder the opportunity to work their lease at other times. Currently, restrictions for the presence of widgeon grass occur April 15 through October 31, and restrictions for eelgrass occur from March 15 through June 15 and from October 1 through December 31. During these times the only allowable use of the restricted area is harvest by diving and only on submerged land leases.



2022 was the first year the Department received and approved a request from leaseholders to “place shellfish, bags, nets or structures in areas of submerged aquatic vegetation” that were found to be growing within their leases. Twenty-five percent of the 1.1 acre restricted area was approved. This lease is located just outside of a large persistent widgeon grass bed and the grass has advanced into the long-established lease area.

To further study the interactions between water column shellfish aquaculture and submerged aquatic vegetation, the Department has begun funding researchers at the University of Maryland Center for Environmental Research to investigate this interaction. Research is still ongoing and results are not available at the time of this report.

Appendix A

Table 1: 2023 Submerged Aquatic Vegetation & Lease Interactions

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2021 Survey)	Field Survey Date 2023	Species Found	2024 Restriction Dates
DO723	WC	Choptank River	4.1	0.054	Sep 12	Widgeon Grass	None
DO728	WC	Long Cove	6.3	6.3	Sep 12	Widgeon Grass	April 15-October 31
DO750	WC	Tedious Creek	2.8	2.04	N/A	N/A	N/A
SM525	SLL	Jutland Creek	3	2.42	Jul 31	Widgeon Grass	April 15-October 31
SM527	SLL	Smith Creek	5.7	2.79	Jul 31	Widgeon Grass	April 15-October 31
SM711	SLL	St. Inigoes Creek	5	5	Jul 31	Widgeon Grass	April 15-October 31

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2021 Survey)	Field Survey Date 2023	Species Found	2024 Restriction Dates
SM719	SLL	St. George Creek	7.1	3.78	Aug 01	Widgeon Grass	April 15-October 31
SM723	SLL	St. Marys River	9	3.95	Jul 31	Widgeon Grass	April 15-October 31
SM753	WC	Herring Creek	4.5	0.34	N/A	N/A	N/A
SM779	SLL	Herring Creek	1.8	0.021	N/A	N/A	N/A
SM792	WC	St. Clements Bay	0.4	0.13	N/A	N/A	N/A
TA506	SLL	Irish Creek	3	0.94	Jul 03	Widgeon Grass	April 15-October 31
TA508	SLL	Irish Creek	15	7.32	Jul 03	Widgeon Grass	April 15-October 31
TA511	SLL	Haskins Cove	5	5	Jul 03	Widgeon Grass	April 15-October 31

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2021 Survey)	Field Survey Date 2023	Species Found	2024 Restriction Dates
TA520	SLL	Leadenham Creek	2	0.77	Jun 20	Widgeon Grass	April 15-October 31
TA521	SLL	Leadenham Creek	2	0	Jun 20	Widgeon Grass	None
TA523	SLL	Leadenham Creek	3	0.84	Jun 20	Widgeon Grass	None
TA525	SLL	Tred Avon River	10.4	0.036	Jul 06	Widgeon Grass	April 15-October 31
TA547	SLL	Cummings Creek	2.1	0.27	Jul 19	Widgeon Grass	April 15-October 31
TA549	SLL	Harris Creek	5	4.46	Jul 19	Widgeon Grass	April 15-October 31
TA551	SLL	Harris Creek	17.5	0.30	N/A	N/A	N/A
TA552	SLL	Harris Creek	5	0.82	Jul 19	Widgeon Grass	April 15-October 31

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2021 Survey)	Field Survey Date 2023	Species Found	2024 Restriction Dates
TA555	SLL	Harris Creek	5	0.24	N/A	N/A	N/A
TA558	SLL	Balls Creek	10	1.09	Jun 20	Widgeon Grass	April 15-October 31
TA559	SLL	Balls Creek	6.2	0.93	Jun 29	Widgeon Grass	April 15-October 31
TA562	SLL	Broad Creek	8	1.41	Jun 29	Widgeon Grass	April 15-October 31
TA563	SLL	Broad Creek	3	3	Jun 29	Widgeon Grass	April 15-October 31
TA567	SLL	Broad Creek	6	6	Jun 29	Widgeon Grass	April 15-October 31
TA571	SLL	Broad Creek	4	4	Jun 29	Widgeon Grass	April 15-October 31
TA574	SLL	San Domingo Creek	5	4.08	Jun 28	Widgeon Grass	April 15-October 31

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2021 Survey)	Field Survey Date 2023	Species Found	2024 Restriction Dates
TA575	SLL	San Domingo Creek	5	5	Jun 28	Widgeon Grass	April 15-October 31
TA578	SLL	San Domingo Creek	5	5	Jun 28	Widgeon Grass	April 15-October 31
TA579	SLL	San Domingo Creek	5	0.43	Jun 28	Widgeon Grass	April 15-October 31
TA581	SLL	Edge Creek	5	3.92	Jun 26	Widgeon Grass	April 15-October 31
TA585	SLL	Trippe Creek	10	0	Jul 06	None	None
TA586	SLL	Trippe Creek	5	0.043	Jul 06	Widgeon Grass	April 15-October 31
TA588	SLL	Broad Creek	7	0.39	Jun 29	Widgeon Grass	April 15-October 31
TA598	SLL	Balls Creek	5	0.016	Jun 29	Widgeon Grass	April 15-October 31

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2021 Survey)	Field Survey Date 2023	Species Found	2024 Restriction Dates
TA608	SLL	Edge Creek	5.3	0.70	Jun 26	Widgeon Grass	April 15-October 31
WO576	WC	Martin Bay	3	0.96	N/A	N/A	Mar 15-June 15 & Oct 1-Dec 31