

SUBMERGED AQUATIC VEGETATION AND SHELLFISH LEASING FY24 Report

SB 301/Ch. 113, Section 2, 2024

Department of Natural Resources

April 2026

Maryland Department of Natural Resources

2024 Annual Report required by SB 301, Ch. 113 in 2024 to the Aquaculture Coordinating Council, Chesapeake Bay Program, and Maryland General Assembly on Submerged Aquatic Vegetation and Shellfish Leasing

Introduction

In accordance with SB 301, Chapter 113 from the 2024 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. SB301 (2024) extended this authority until June 30, 2027.



The 2019 and 2024 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: 2024

During calendar year 2024, 45 of 478 total shellfish aquaculture leases were identified as potentially having submerged aquatic vegetation within their footprint based on the 2022 aerial imagery from the Virginia Institute of Marine Science’s annual submerged aquatic vegetation survey¹². An additional two leases that were not identified by the 2022 VIMS aerial imagery were surveyed after finding grass during field surveys the previous year. Of the 47 leases with potential submerged aquatic vegetation impacts, 41 were found to have submerged aquatic vegetation during field surveys. Four water column leases and 37 submerged land leases had submerged aquatic vegetation impacts and were issued restrictions. Impacted leases were limited to Charles County, Dorchester County, St. Mary’s County, Talbot County, and Worcester County.

The conflicts from submerged aquatic vegetation varied widely among leases and ranged from 0.001% to 100% of a leased area (mean–35%; median–24%). In terms of absolute area, this range was 0.0003 to 8.9 acres of conflict (mean–1.9 acres; median–1.1 acres). Overall, submerged

¹ Patrick, C.J., Wilcox, D.J., Whiting, J.R., Kenne, A.K., and E.R. Smith. 2023 Distribution of Submerged Aquatic Vegetation in Chesapeake Bay and Coastal Bays. December 2023. Virginia Institute of Marine Science, William & Mary, Gloucester Point, VA 23062.

² There is, typically, up to 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).

aquatic vegetation covered 76.2 acres of the 246.9 acres (30.9%) that make up the 41 impacted leases. The impact relative to the entire shellfish aquaculture industry was 8.5 percent (41) of the 478 leases were restricted due to submerged aquatic vegetation. The restricted area amounted to one percent (76.2 acres) of the 7579 acres leased for shellfish aquaculture.

In 2024, the Department conducted field surveys on 41 of the 45 shellfish leases where submerged aquatic vegetation was identified by the Virginia Institute of Marine Science's aerial survey and previous field surveys. Four 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:

- 43 leases surveyed;
 - Four water column [leases](#) and 39 submerged land leases;
- Submerged aquatic vegetation confirmed on 41 leases;
 - Four water column leases and 37 submerged land leases;
- Widgeon Grass was the dominant species present;
 - 40 out of 41 leases;
- Eel Grass was found on one (water column) lease;
- Restrictions placed for CY2025; restrictions on usage were all based on [the](#) time of year.
 - 41 leases were restricted for CY2025;
 - 37 submerged land leases;
 - Three general, 25 partial, and nine full restrictions;
 - Four water column leases;
 - One general and three partial restrictions.

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 a given lease where submerged aquatic vegetation was found. 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 encounter 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 again from October 1 through December 31. During these times the only authorized use of the restricted area is to 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. Results are not available at the time of this report.

Appendix A

Table 1: 2024 Submerged Aquatic Vegetation & Lease Interactions

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2022 Survey)	Field Survey Date 2024	Species Found	2025 Restriction Dates
CA578	SLL	Hellen Creek	5.2	0.28	N/A	N/A	N/A
SM525	SLL	Jutland Creek	3	2.59	Aug 26	Widgeon Grass	April 15 - October 31
SM527	SLL	Smith Creek	5.7	3.19	Aug 26	Widgeon Grass	April 15 - October 31
SM641	SLL	St. George Creek	2	0.95	Aug 27	Widgeon Grass	April 15 - October 31
SM711	SLL	St. Inigoes Creek	5	1.30	Aug 26	Widgeon Grass	April 15 - October 31
SM719	SLL	St. George Creek	7.1	5.56	Aug 27	Widgeon Grass	April 15 - October 31
SM723	SLL	St. Marys River	9	4.05	Aug 26	Widgeon Grass	April 15 - October 31
SM754	SLL	St. George Creek	3.3	0.84	Aug 26	Widgeon Grass	April 15 - October 31
SM779	SLL	Herring Creek	1.8	0.04	N/A	N/A	N/A

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2022 Survey)	Field Survey Date 2024	Species Found	2025 Restriction Dates
SM786	SLL	Carthagena Creek	4.3	1.05	Aug 26	Widgeon Grass	April 15 - October 31
SM790	SLL	Smith Creek	5.6	0.21	Aug 26	Widgeon Grass	April 15 - October 31
TA506	SLL	Irish Creek	3	1.34	Jun 25	Widgeon Grass	April 15 - October 31
TA508	SLL	Irish Creek	15	8.97	Jun 25	Widgeon Grass	April 15 - October 31
TA510	SLL	Irish Creek	4.7	0.11	Jun 25	Widgeon Grass	April 15 - October 31
TA511	SLL	Haskins Cove	5	0.61	Jun 25	Widgeon Grass	April 15 - October 31
TA520	SLL	Leadenham Creek	2	0.31	Jun 26	Widgeon Grass	April 15 - October 31
TA523	SLL	Leadenham Creek	3	1.18	Jun 26	Widgeon Grass	April 15 - October 31
TA525	SLL	Tred Avon River	10.4	1.12	Jul 23	Widgeon Grass	April 15 - October 31
TA547	SLL	Cummings Creek	2.1	0.59	Jun 20	Widgeon Grass	April 15 - October 31

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2022 Survey)	Field Survey Date 2024	Species Found	2025 Restriction Dates
TA549	SLL	Harris Creek	5	4.22	Jun 18	Widgeon Grass	April 15 - October 31
TA551	SLL	Harris Creek	17.5	0.76	Jun 18	Widgeon Grass	April 15 - October 31
TA552	SLL	Harris Creek	5	0.72	Jun 18	Widgeon Grass	April 15 - October 31
TA555	SLL	Harris Creek	5	0.42	Jun 20	Widgeon Grass	April 15 - October 31
TA558	SLL	Balls Creek	10	1.33	Jun 26	Widgeon Grass	April 15 - October 31
TA559	SLL	Balls Creek	6.2	0.95	Jun 26	Widgeon Grass	April 15 - October 31
TA562	SLL	Broad Creek	8	3.07	Jul 2	Widgeon Grass	April 15 - October 31
TA563	SLL	Broad Creek	3	0.64	Jul 2	Widgeon Grass	April 15 - October 31
TA567	SLL	Broad Creek	6	0.98	Jul 9	Widgeon Grass	April 15 - October 31
TA571	SLL	Broad Creek	4	NA	Jul 9	Widgeon Grass	April 15 - October 31

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2022 Survey)	Field Survey Date 2024	Species Found	2025 Restriction Dates
TA574	SLL	San Domingo Creek	5	4.07	Jul 11	Widgeon Grass	April 15 - October 31
TA575	SLL	San Domingo Creek	5	0.96	Jul 11	Widgeon Grass	April 15 - October 31
TA578	SLL	San Domingo Creek	5	0.24	Jul 11	Widgeon Grass	April 15 - October 31
TA579	SLL	San Domingo Creek	5	0.78	Jul 11	Widgeon Grass	April 15 - October 31
TA581	SLL	Edge Creek	5	3.92	Jul 9	Widgeon Grass	April 15 - October 31
TA586	SLL	Trippe Creek	4.6	NA	Jul 23	Widgeon Grass	April 15 - October 31
TA588	SLL	Broad Creek	7	0.52	Jul 9	Widgeon Grass	April 15 - October 31
TA595	SLL	Tred Avon River	29	2.34	Jul 23	Widgeon Grass	April 15 - October 31
TA598	SLL	Balls Creek	5	0.31	Jun 26	Widgeon Grass	April 15 - October 31
TA599	SLL	Irish Creek	0.13	0.03	Jun 25	Widgeon Grass	April 15 - October 31

Lease Number	Lease Type	Waterbody	Lease Area (acres)	Acres Impacted (VIMS 2022 Survey)	Field Survey Date 2024	Species Found	2025 Restriction Dates
TA600	SLL	Irish Creek	0.26	0.0003	Jun 25	Widgeon Grass	April 15 - October 31
TA608	SLL	Edge Creek	5.3	1.12	Jul 9	Widgeon Grass	April 15 - October 31
CH515	WC	Neale Sound	7.9	3.44	Jul 31	Widgeon Grass	April 15 - October 31
DO723	WC	Choptank River	4.1	0.21	Jul 17	Widgeon Grass	April 15 - October 31
DO728	WC	Long Cove	6.3	0.74	Jul 15	Widgeon Grass	April 15 - October 31
SM753	WC	Herring Creek	4.5	0.49	N/A	N/A	N/A
SM792	WC	St. Clements Bay	0.4	0.21	N/A	N/A	N/A
WO576	WC	Martin Bay	3	2.34	Jun 11	Eel Grass	March 15 - June 15 & Oct. 1 - Dec. 31

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