DOES PRIVATE AQUACULTURE BENEFIT THE PUBLIC? DEVELOPMENT OF PRIVATE OYSTER AQUACULTURE INDUSTRIES IN MARYLAND AND VIRGINIA AS INFLUENCED BY DIFFERENT SCOPES OF THE PUBLIC TRUST DOCTRINE

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I. INTRODUCTION

As populations increase in coastal areas of the United States, there have been increasing demands on the waters and submerged lands held in trust for the public under the public trust doctrine (or PTD). Increasing uses of these waters has widened the definition of public benefit activities that are protected under the doctrine, and in some instances, the line between public and private benefits in public trust waters has been blurred. In particular, the growth of coastal oyster aquaculture operations in the Maryland and Virginia portions of the Chesapeake Bay has challenged the scope of each state's public trust doctrine.

The Chesapeake Bay has always been synonymous with oysters. The name "Chesapeake" is thought to be derived from a sixteenth century American Indian word "Chesapoic" meaning "great shellfish bay."[2] For centuries, the Chesapeake Bay has provided ecologic, economic, and cultural benefits to the people living in the region. As the population of the Chesapeake Bay area grew, so did the demand for oysters. Peak public fishery oyster harvest was reached in 1875 with fourteen million bushels of oysters harvested from the Bay.[3] After that point, harvest levels declined, in part due to resource overuse, water quality issues, and lack of comprehensive management strategies.[4] Oyster populations

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[2] Bill Bartel, *What's in a Name? Chesapeake Bay*, THE VIRGINIAN-PILOT, Apr. 4, 2011 https://pilotonline.com/news/local/history/article_7ff651e9-8be2-5072-b76d-3559a2eb58c9.html (last visited June 10, 2020).

[3] Michael Paolisso & Nicole Dery, *A Cultural Model Assessment of Oyster Restoration Alternatives for the Chesapeake Bay*, 69 HUM. ORG. 2, 169, 171 (2010).

[4] Victor S. Kennedy & Linda L. Breisch, *Sixteen Decades of Political Management of the Oyster Fishery in Maryland's Chesapeake Bay*, 164 J. OF ENVT. MGMT. 1, 4 (1983).

remained stable until the end of the twentieth century when two oyster diseases, MSX and Dermo,[5] emerged within the Chesapeake Bay and further ravaged oyster populations in the Bay. The combination of disease, intense harvest pressure, and declining water quality and habitat have resulted in oyster populations in Chesapeake Bay plummeting to an estimated 1% of their historic levels.[6]

Since the 1990's, the State of Maryland and the Commonwealth of Virginia have attempted to restore oyster levels within the Bay to regain the economic, ecological, and cultural benefits of oysters. One of the ways both states have tried to restore oyster populations is through aquaculture practices. Through allowing private citizens or companies to lease the state-owned water bottom, both Virginia and Maryland are increasing the overall number of oysters in the Bay without significant public investment and are promoting economic development within their borders. Despite similar goals, Maryland and Virginia's policies towards aquaculture have at times been divergent. The driving force behind the development of aquaculture in each state has been differing legal precedents and interpretations of the public trust doctrine. Maryland and Virginia's differing policies towards the private use of public resources have shaped both states' aquaculture programs and their wider approaches towards oyster management.

This article will examine the history of the public trust doctrine in Maryland and Virginia; the expansion of PTD interpretations to include a broader scope of activities, including aquaculture operations; and how the differing public trust doctrine histories in both states have specifically influenced the development of their respective aquaculture policies. Continued growth of oyster aquaculture operations and increasing use conflicts will necessitate that both states update and better codify the scopes of their individual public trust doctrine laws.

II. THE PUBLIC TRUST DOCTRINE

The public trust doctrine in the United States has its origins in English common law. Historically, the King of England held all tidal and navigable

[5] MSX, *Haplosporidium nelsoni*, was originally recognized in Chesapeake Bay in the late 1950's and Dermo, *Perkinsus marinus*, was first described in the Bay in 1978. JOHN W. EWART & SUSAN E. FORD, NORTHEASTERN REGIONAL AQUACULTURE CENTER, HISTORY AND IMPACT OF MSX AND DERMO DISEASES ON OYSTER STOCKS IN THE NORTHEAST REGION *(*1993).
[6] *Id.*

waters, and the land underneath those waters, in a trust for the public.[7] These lands were common resources that were originally preserved for public use for the purpose of commerce, navigation, and fishing.[8] The original thirteen colonies transferred these public trust rights to the states upon formation of the United States; each state in a way "owned" tidal lands and lands under navigable waters, even though this ownership is not directly comparable to traditional ownership rights.[9] However, while the King of England could grant away land to private owners, such power was not transferred to the states under the public trust doctrine.[10] Nevertheless, as will be further discussed later in this article, the concept of a "King's Grant" persists in many states, including Virginia, and can alter the public ownership of tidal waters.

As the country grew, the states that joined the Union were granted the same rights the King of England had previously enjoyed in their coastal navigable waters under the "equal footing" doctrine discussed in the landmark case *Phillips Petroleum Co. v. Mississippi*.[11] Although all states were granted this control, there has been difficulty in determining what constitutes tidal or navigable waters.[12] The differences in the topography between the United States and England have created some issues with interpreting the definition of the public trust doctrine lands. For example, the United States contains many large inland rivers and lakes that are navigable and important for commerce, navigation, and fishing, but are not influenced by the tide. In England, since all navigable waters are also tidal, the words could be interchanged with no change in meaning.[13] In law, "navigable" has no plain meaning and can only be defined in context of cases, despite the many attempts that have been made to define "navigability" or "tidal influence" within the context of the PTD.[14]

The most prominent public trust doctrine case within the United States that highlights a state's limitations and responsibilities is *Illinois Central Railroad*

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[7] Mitchell M. Tannenbaum, *The Public Trust Doctrine in Maine's Submerged Lands: Public Rights, State Obligations and the Role of the Courts*, 37 ME. L. REV. 109 (1985).
[8] *Id.* at 105, 108.
[9] *Id.*
[10] *Id.*
[11] Phillips Petroleum Company. v. Mississippi, 484 U.S. 469, 478 (1988).
[12] Donna A. Golem, T*he Public Trust Doctrine Unprecedented Gains New Ground in Phillips Petroleum Co. v. Mississippi*, 22 LOY. L.A. L. REV. 1319, 1324 (1989).
[13] Alan R. Jampol, *The Questionable Renaissance of the Tidelands Trust Doctrine in California*, 13 SW. U. L. REV. (1982) at 17, 20.
[14] *Id.*; U.S. v. Oregon, 295 U.S. 1, 15 (1934); ALISON RIESER ET AL., OCEAN AND COASTAL LAW - CASES AND MATERIALS 127-28 (4th ed. 2013).

Co. v. Illinois.[15] This case reversed an Illinois state legislature act that purported to grant over 1,000 acres of submerged lands in the Chicago harbor to the Illinois Central Railroad Company.[16] The Court found that while the state could grant limited interests in trust lands, those interests must not hinder the public interest.[17] Further cases have gone so far as to say that any land lease must, in fact, enhance the public interest, not just fail to hinder it, and that the public benefit must be purposeful, not incidental, remote, or secondary.[18] Within those limitations, all states have interpreted their ownership rights in different ways. The PTD, therefore, has been subject to individual, state-by-state legislative and judicial interpretations.

With the Submerged Lands Act of 1953, Congress granted title to the natural resources located within three miles of state's coastline to the states.[19] With that title and under the responsibility of the public trust doctrine, each state can set its own coastal policy. Due to these state-by-state interpretations and differing legal precedents, there are essentially no two public trust doctrines that are the same within the United States. All states, both prior to and after admission to the Union, have adopted ordinances or laws codifying the PTD based on common law interpretations. Much of this codification has to do with determining which lands are public and which are available for private ownership. For most states, the division between public and private land lies at the mean high-water mark. The land above the mean high-water mark is available for private ownership and the state holds the land below the mean high-water mark, typically including the wet-sand area of the beaches and tidal flats.[20] Some states, however, Virginia included, recognize the right of private ownership down to the low-water mark. [21] States with this more private property-focused division of lands often find that some of their beaches are subject to servitudes or easements in order to allow the public to retain customary rights and benefits.[22]

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[15] Illinois Cent. R.R. Co.. v. Illinois, 146 U.S. 387 (1892).
[16] *Id.*
[17] *Id.*
[18] People v. Chicago Park Dist., 360 N.Ed.2d 773, 781 (III. 1976).
[19] Submerged Lands Act, 43 U.S.C. §§ 1301-1315 (1953).
[20] JAMES G. TITUS, CLIMATE READY ESTUARIES, U.S. ENVIRONMENTAL PROTECTION AGENCY, ROLLING EASEMENTS PRIMER 16 (2011) https://www.epa.gov/sites/production/files/documents/rollingeasementsprimer.pdf (last visited June 10, 2020).
[21] VA. CODE ANN. § 28.2-1202.
[22] Time Eichenberg & Barbara Vestal, *Improving the Legal Framework for Marine Aquaculture: The Role of Water Quality Laws and the Public Trust Doctrine*, 2 TERR. SEA. J. 339 (1992).

Traditionally, the only recognized public uses of public trust lands were navigation, commerce, and fishing.[23] Since then, the scope of the PTD has expanded in many states to protect and include other activities. This expansion was facilitated by the *Phillips Petroleum* case, which held that the public's interest in these lands should be broadly defined.[24] This extension of what constituted public interest, depending on state law, could apply to activities like fishing and shellfishing in non-navigable waters, as well as bathing, swimming, recreation, mineral development, and land reclamation.[25] These expansions were based on the expanding public need that courts determined should be recognized under the PTD.[26] Many states have taken advantage of this opportunity and expanded their interpretation of what activities are afforded public trust protections. This expansion-focused trajectory is what has allowed states like Virginia and Maryland to permit private aquaculture ventures on public trust land.

In addition to the benefits of codification for determining private versus public ownership, many states have taken to codifying the PTD to cement state control over navigable and tidal land and waters. The codification of PTD responsibilities and how each state interprets its responsibility varies, and Virginia and Maryland are no different. The development of the public trust doctrine within these two states has taken different paths and impacted the development of activities in their coastal areas, like aquaculture.

III. THE PUBLIC TRUST DOCTRINE IN VIRGINIA

Like most states, Virginia's public trust doctrine has origins in English common law. Under common law, navigable waterways, and even some "non-navigable watercourse with a history of common usage by citizens of the Commonwealth" were "vested in the Commonwealth" to hold in trust for its citizens.[27] The early part of the twentieth century saw many court cases in Virginia that addressed the scope of inherited English common law, most famously *Taylor v. Commonwealth* in 1904. This case, using language from *Illinois Central*, established the first Virginia state statute that affirmed that the

[23] Jampol *supra* note 13, at 1, 6-8, 10-11.
[24] Phillips Petroleum Co. v. Miss., 484 U.S.469 (1988).
[25] *Id.*
[26] *See, e.g.*, Treuting v. Bridge and Park Comm'n of City of Biloxi, 199 So.2d 627, 632-633 (Miss. 1967); Bickel v. Polk, 5 Del. 325, 326 (1851); Bradford v. The Nature Conservancy, 224 Va. 181, 195-98 (1982); Tinieum Fishing Co. v. Carter, 61 Pa. 21, 30-31 (1869).
[27] Keith Warren Davis, *The Role of the Virginia Marine Resources Commission in Regulating and Zoning the Water Bodies of the Commonwealth*, 16 WM. & MARY ENVTL. L. & POL'Y REV. 81, 83 (1992).

navigable waters and soils underneath them were the property of the state.[28] While this case established a legal precedent in Virginia to restrict the use of public trust resources solely for the public benefit, courts have been inconsistent in the application of this restriction. For instance, citizens' rights to public trust lands are tempered by Virginia's liberal policy regarding private ownership of submerged lands. In allowing private citizens to own land down to the mean low-water mark, Virginia waterfront property owners can prevent citizens from gaining access to the shoreline of their land.[29] This public/private land division has the potential to result in more conflict over conventional public trust rights, as well as the expanded rights now being recognized in the Commonwealth, e.g., bathing, recreation, etc.[30]

From its common law roots, Virginia has expanded the public trust doctrine both in scope and how the state enforces the doctrine. The first such expansion came from the Common Lands Acts of 1780 and 1802,[31] which declared the Commonwealth held title to non-tidal waterways, submerged lands, and even navigable waterways, which, at the time, was an expansion of the doctrine.[32] The common law power of the PTD within Virginia has been codified throughout Virginia statutory law and is included in the Virginia Constitution. Article XI of section one of the Virginia State Constitution states that:

> it shall be the policy of the Commonwealth to conserve, develop, and utilize its natural resources, [and] its public lands… [and] the Commonwealth's policy to protect its atmosphere, lands and waters...for the benefit, enjoyment, and general welfare of the people of the Commonwealth.[33]

Despite this inclusion in the Constitution, the Virginia Supreme Court has established that the article is not self-executing. Rather, it is the role of the

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[28] Patrick J. Connolly, *Saving Fish to Save the Bay: Public Trust Doctrine Protection for Menhaden's Foundational Ecosystem Services in the Chesapeake Bay*, 36 B.C. ENVTL. AFF. L. REV. 135 (2009).
[29] VA. CODE ANN. § 28.2-1202.
[30] Julia Underwood, *Intertidal Zone Aquaculture and The Public Trust Doctrine*, 2 OCEAN & COASTAL L.J. (1996).
[31] Bradford v. The Nature Conservancy, 294 S.E. 2d at 873 (1982) (citing 10 Hening, Statutes at Large, 226-27).
[32] Larry W. George, *Public Rights in West Virginia Watercourse: A Unique Legacy of Virginia Common Lands and the Jus Publicum of the English Crown*, 101 W. VA. L. REV. 407, 421 (1998).
[33] VA. CONST. art. XI, § 1.

Virginia General Assembly to alter and specify the scope and definition of the PTD beyond the traditional common law powers.[34]

This deference to the legislature was established in *Newport News Shipbuilding & Dry Dock Company v. Jones*, where the Virginia Supreme Court stated that the only restraint on the legislature's decisions to manage trust resources came from the state constitution.[35] This general lack of restraint grants the legislature substantial power in determining what actions qualify as for the public benefit. In *Virginia v. Newport News*, the court enunciated a narrow limitation on the power of the legislature on issues related to the public trust doctrine.[36] The court reinterpreted the *Illinois Central* opinion, emphasizing that the issue was not if the State was indeed the holder of the trust, but if there was any constitutional limitation on the power of the legislature to determine uses of public trust land that are for the benefit of people.[37] The Virginia court found no such constitutional limitation on the legislature related to the public right of fishery; the Constitution did not deny the legislature the right to consign the public fishery, nor guaranteed the right of a public fishery to the people.[38]

However, as established in *People v. Chicago Park District*, the public benefit from public trust land uses must be direct.[39] Virginia, though, has tested the boundaries of this requirement. The General Assembly has been fairly liberal in permitting a number of different private actions on public lands[40], including the conveyance of state-owned bottom land into private hands.[41] While this

[34] Robb v. Shockoe Slip Found., 324 S.E.2d 674, 677 (Va. 1985); VA. CODE ANN. § 1-200; Evelyn v. Virginia Marine Res. Comm'n, 621 S.E.2d 130, 137, note 3 (Va. Ct. App. 2005).
[35] Newport News Shipbuilding & Dry Dock Co. v. Jones, 54 S.E. 314, 317 (Va. 1906).
[36] Virginia v. City of Newport News, 164 S.E. 689, 697 (Va. 1932); Sharon M. Kelly, Note, *The Public Trust and the Constitution: Routes to Judicial Overview of Resource Management Decisions in Virginia,* 75 VA. L. REV. 895, 905 (1989).
[37] Kelly, *supra* note 36.
[38] *Virginia*, 164 S.E. at 697.
[39] Ill. Cent. R.R. Co. v. Ill., 146 U.S. 387 (1892).; VA. CODE ANN. § 28.2-1200.1(B); People v. Chicago Park Dist., 360 N.Ed.2d 773, 781 (III. 1976).
[40] VA. CODE ANN. § 28.2-1205; Kelly, *supra* note 36, at 897 ("In recent years, these uses have been expanded to include hunting, swimming, recreational boating, aesthetics, climate, scientific study, environmental and ecological quality, open space, wildlife habitat preservation, and water allocation.").
[41] VA. CODE ANN. § 28.2-1200. Although ownership of the submerged land may be conveyed, it is not always clear that ownership of the underlying bottomland had been conveyed or that the fill had been authorized by the Commonwealth. This has resulted in clouds on titles for some properties. The problem triggered legislation in 2011 to help clarify the issue. VA. SENATE BILL 1133 (2011).

conveyance is not outright ownership, this trend opens up the opportunity for increased private encroachment onto public lands, resulting in a broader application of the PTD.[42]

Actions that convey public land into private hands go along with the strong private ownership theme that is seen through Virginia's management of state waterways. This deference to the legislature to define the public benefit has been supported by numerous court rulings and provides the legislature with flexibility to determine the appropriate use of public trust resources.[43]

A. The Role of the Virginia Marine Resources Commission

The legislature has delegated the management of public trust lands to the Virginia Marine Resources Commission (VMRC) through the police power.[44] In addition to legislative changes and court rulings, the PTD in Virginia has evolved with the expansion of the VMRC's powers.[45]

The Virginia General Assembly established the office of the Fish Commissioner during the 1874-75 session, the oldest predecessor of the current-day VMRC.[46] The role of the Fish Commission was much more limited than the power of the VMRC today, with duties mainly related to fish stocking. Codification of the Commission in 1936 included an expansion of the agency's powers regarding public trust lands.[47] The Commission was given enforcement powers over all laws relating to the fish and shellfish industry and the ability to adjust lines that define the location of all natural oyster beds of the Commonwealth.[48] These expanded powers help clarify how Virginia, at the time, was viewing its responsibility towards public trust land uses - it saw the state's role as a mixture of enforcing rules to allow for public trust land enjoyment and determining locations of allowed activities.

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[42] VA. CODE ANN. § 28.2-1200.
[43] *Id.*; City of Hampton v. Watson, 119 Va. 95 (1916); Darling v. City of Newport News, 96 S.E. 307 (Va. 1918); Evelyn v. Virginia Marine Resources Commission, 621 S.E.2d 130, note 3; Michael C. Blumm & Lynn Schaffer, *The Federal Public Trust Doctrine: Misinterpreting Justice Kennedy and Illinois Central Railroad*, 45 ENVTL. L. 105 (2015).
[44] VA. CODE ANN. § 28.2-1204.
[45] Davis, *supra* note 27*,* at 84.
[46] *Id.*
[47] *Id.*
[48] *Id.*

Today, VMRC's scope of authority over the Commonwealth's submerged lands has continued to expand, with powers ranging from defining existing areas of submerged aquatic vegetation,[49] to approving public beach replenishment projects using Chesapeake Bay sand,[50] to permitting other "reasonable uses" of public land including dredging and recovering historical resources.[51] These changes represent a large expansion of agency power in regulating the waters of the Commonwealth and exemplify a broader idea of what constitutes public rights under the PTD in public submerged lands.

Looking forward, if Virginia continues to expand its definition of public trust activities, VMRC's powers might need to be expanded to include the ability to zone waters to regulate use and account for the wide variety of public interests in submerged lands. Davis considers the right of the VMRC to zone waters a natural extension of the police powers of the agency based on the holding in *West Brothers Brick Company v. Alexandria*.[52] In that case, the court ruled that Alexandria was allowed to change zoning laws on a parcel of land that the West brothers had purchased and intended to mine.[53] The court concluded this was allowed because zoning laws are "generally recognized as a proper use of the police power" of the legislature because such laws are "in the interest of public health, public safety, and for the promotion of general welfare."[54] Zoning power, originating in Virginia common law[55] is, therefore, considered by Davis to be a just application of the Commonwealth's police power to promote public convenience and general prosperity.[56]

The connection between police powers and the public trust doctrine is mentioned in the Virginia Code,[57] but has not been explicitly connected through judicial rulings.[58] Within the context of the PTD and VMRC, such proposed

[49] VA. CODE ANN. § 28.2-1204.
[50] *Id.* § 28.2-1205.2.
[51] *Id.* § 28.2-1204.
[52] Davis, *supra* note 27, at 86.
[53] West Brothers Brick Co. v. Alexandria, 192 S.E. 881, 889 (Va. 1937).
[54] Gorieb v. Fox, 145 Va. 554 (1927).
[55] McCready v. Virginia, 94 U.S. 391 (1876).
[56] Davis, *supra* note 27, at 86.
[57] VA. CODE ANN. § 28.2-1205(F).
[58] Boone v. Harrison, 660 S.E.2d 704 (2008). The nature of the ruling, where the court reversed a circuit court decision which vacated an after-the-fact permit for an upper-deck bar built on the roof of Ronald Boone's pier restaurant, made it so the court did not feel like it needed to address the appellants' additional arguments that VMRC decisions "consistent with the public trust doctrine…shall not be deemed to have been made pursuant to the police power." *Id.* at note 2 (citing VA. CODE ANN. § 28.2-1205(F)).

zoning powers could be essential to help manage increased instances of competing priorities that will continue to exist, especially regarding aquaculture.

B. Private Ownership

In addition to unconventional public/private ownership divisions, Virginia allows actual private ownership of submerged bottom due to its colonial origins, another factor which complicates the public trust doctrine within the Commonwealth. "King" or "Crown Grants" are royal patents that were conveyed to private individuals by the British Crown before the American Revolution.[59] These grants are unique in that they convey ownership of submerged lands within the state, tidal and non-tidal, navigable and non-navigable. Virginia recognizes private ownership through both King Grants from the British Crown and grants from the London Company.[60]

There are multiple Virginia court cases that have established the validity of King's Grants in addition to their acknowledgement in Virginia's state constitution.[61] The first such case in Virginia was *Boerner v. McAllister* in 1955 where the court blocked a fisherman's access to the Jackson River.[62] This case set the precedent in Virginia that public trust land and waters *could* be privately owned, a precedent Virginia courts have continued to support. The *Boerner* case, however did not discuss the navigability of water and whether that impacted the determination of Crown Grants.[63] Navigability was later addressed in *Kraft v. Burr* in 1996. Virginia's Supreme Court found that a Crown Grant may convey exclusive fishing rights, even in navigable waters, because the King had the power to grant land under navigable waters and grant away fishing rights.[64]

The water beyond the mean low-water line remained public after the *Kraft v. Burr* case, but any fisherman found in contact with the riverbed could be charged with trespassing.[65] This demonstrates the power of King's Grants to not only convey ownership of access rights to navigable waters, but also of submerged lands. This precedent was applied to oysters in *Virginia v. Morgan*, a

[59] James W. Jennings, Jr. & Erin B. Ashwell, *English Common Law Grants under Virginia Law: Rivers, Tides and the Taking Clause*, 2 SEA GRANT L. AND POL'Y J. 5 (2013).
[60] Miller v. Virginia, 166 S.E. 557, 558-59 (Va. 1932).
[61] VA. CONST. art XI.
[62] Boerner v. McAllister, 89 S.E.2d 26 (Va. 1955).
[63] *Id.*
[64] Kraft v. Burr, 476 S.E.2d 715 (Va. 1996)
[65] *Id.*

case where a landowner's right to harvest oysters was being questioned.[66] The court held that a Crown Grant had the power to grant the bed of a cove in a tidal, navigable waterway to a private individual.[67] Interestingly, although the *Virginia v. Morgan* case didn't rule on fishing rights, the court recognized that landowners could also exercise exclusive oyster harvesting rights and that oyster grounds could be conveyed to private parties.[68]

The most recent case of King's Grants providing private ownership of traditionally PTD lands is *North South Development v. Garden* in 2012. Landowners from a development on the Jackson River near Charlottesville, Virginia claimed to hold a Crown Grant to the property where a fisherman was fishing and acted to try to restrict public access to the area.[69] Conflict and litigation concerning Jackson River public access has persisted for over a century.[70] In the *North South Development* case, the Virginia Department of Game and Inland Fisheries had marked the areas in question as publicly owned on maps and on their website, and had even sent a letter to homeowners in 2009 that stated their no trespassing signs would have no influence on the public use of the river. Local recreational fishing advocates attempted to persuade the Virginia Attorney General to declare the riverbed was publicly owned, denying on a state level the King's Grant claim, but the office refused, calling the matter a "civil trespassing case between private parties."[71] In a partial summary judgement, the judge determined that the development company "presented a prima facie title to the real property on which the alleged trespass took place," but made no final decision regarding the ownership of the riverbed.[72]

The lawsuit was settled without a final ruling on ownership, and issues of conflict surrounding Crown Grants are likely to continue.[73] Further, any attempts

[66] Virginia v. Morgan, 303 S.E.2d 899 (Va. 1983).
[67] *Id.*; ELIZABETH A. MURPHY & KURT STEPHENSON, VIRGINIA WATER RESOURCES CENTER, FISHING RIGHTS IN VIRGINIA: IMPLICATIONS OF THE VIRGINIA SUPREME COURT CASE KRAFT V. BURR (1999).
[68] *Virginia*, 303 S.E.2d at 902.
[69] Beau Beasley, *Access Denied: Landowners Win Jackson River Case*, BLUE RIDGE OUTDOORS (March 2013), http://www.blueridgeoutdoors.com/fly-fishing/access-denied-landowners-win-jackson-river-case/ (last visited June 24, 2020).
[70] *See* Boerner v. McAllister, 89 S.E.2d 23 (Va. 1955); *See also* Loving v. Alexander, 745 F.2d 861 (4th Cir. 1984).
[71] Beasley, *supra* note 69.
[72] North South Development v. Frank Garden, No. CL11000043-00, at 4 (Va. Cir. Ct. June 5, 2012), *available at* http://www.beaubeasley.com/Downloads/Coggeshall_SumJ_Opinion.pdf (last visited June 26, 2020).
[73] *Id.*

to estimate the amount of future conflicts is impossible; there was no public notification process when King's Grants were made, and some local recordings of grants have likely been destroyed or lost. The reluctance of the state to get involved in issues of submerged land ownership coupled with the unknown number of grant claims creates the potential for more expansive disruptions of the public use of public trust land within Virginia.

The reality of King's Grants within the state waters of Virginia has complicated the development of the public trust doctrine within the Commonwealth. The ability for private property owners to claim public land limits the ability of the VMRC to preserve access to areas for the public. Private property owners have been favored in Virginia due to the Commonwealth's colonial inheritance of English common law.[74] King's Grants are just one of the colonially-inherited benefits to private landowners that have been and will continue to be important in shaping the development of the PTD within Virginia. Legislative codifications of public trust-relevant common law and subsequent judicial rulings and interpretations have also influenced the development of the public trust doctrine within the Commonwealth.

C. Oysters and the Public Trust Doctrine in Virginia

Many of the Virginia codes and statutes that have been established regarding the public trust doctrine and submerged lands are related to oysters. Original Virginia Code provisions related to the PTD specifically mentioned the public's right to enjoy not only fishing, but oystering.[75] The strength of Virginia's ownership over its submerged bottom is also oyster-related; submerged bottom ownership in Virginia was established in a U.S. Supreme Court case concerning non-citizens planting and harvesting oysters in Virginia waters.[76] Early duties of the Board of Fisheries, a precursor to VMRC and the Commission of Fisheries, focused on ensuring all laws related to oystering in the waters of the state were "faithfully observed." Further, Board members had to show knowledge of oysters and be from the Tidewater region of the state in order to serve on the Board.[77]

Oysters were and continue to be part of the lifeblood of Virginia. Today, protecting the state-owned bottoms that propagate oysters is paramount for the

[74] VA. CODE ANN. § 1-200.
[75] *Id.* § 28.2-1200.
[76] Davis, *supra* note 27, at 85.
[77] 1897-1898 Va. Acts 225 ("An Act to create the Board of Fisheries of Virginia, define its duties, and size the salary of its members").

economy of Virginia and the culture of the Commonwealth. This essential link between Virginia and oysters has helped guarantee that oysters would be entangled with and play a large role in the formation of the Commonwealth's public trust doctrine. Early in the fishery, the habitat and natural locations of oysters determined where the public fishery in the state would be permitted. To properly protect oysters and the submerged land that propagated oysters, the General Assembly passed an act in 1892 that arranged for James Baylor of the U.S. Coast and Geodetic Survey to identify the location of shellfish beds.[78]

The lines established by Baylor are still what determine areas of the public fishery today, and are protected in the Virginia Code.[79] Importantly in the context of private aquaculture operations, no land identified in the survey is permitted to be privately held.[80] The delineation between public land with and without oysters was the main factor in determining what lands the state would allow to be privately leased, and thus, has been crucial for the development of extended public trust land activities like aquaculture.

Early attempts at oyster restoration in the late nineteenth century in Virginia involved leasing submerged lands outside the Baylor lines in attempts to create new reefs stocked with oysters.[81] Current oyster restoration efforts like the National Oceanic and Atmospheric Administration's goal of restoring native oysters in ten Chesapeake Bay tributaries by 2025[82] must still follow the original Baylor lines.[83]

The Virginia Code provision related to the PTD emphasizes the importance of protecting public trust lands and ensuring their use for public benefit.[84] However, private property owners within the Commonwealth currently

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[78] VA. CODE ANN. § 28.1-100.
[79] *Id.* § 28.2-551.1.
[80] VA. CONST. art. XI, § 3 (stating that that land designated as "natural oyster beds, rocks, and shoals in the waters of the Commonwealth shall not be leased, rented, or sold but shall be held in trust for the benefit of the people of the Commonwealth").
[81] Davis, *supra* note 27, at 88.
[82] *Oysters*, CHESAPEAKE PROGRESS, http://www.chesapeakeprogress.com/abundant-life/oysters (last visited June 23, 2020).
[83] *Id.*; ROGER MANN ET AL., VA. INST. OF MARINE SCI., VIRGINIA OYSTER REEF RESTORATION MAP ATLAS 34 (2009); U.S. Army Corps of Eng'rs, *Chesapeake Bay Oyster Recovery: Native Oyster Restoration Master Plan* 256 (2012). Presence of substantial Baylor grounds exist in four out of the five rivers chosen for restoration in Virginia, Great Wicomico, Piankatank, Lower York, and Lafayette. No significant Baylor grounds lie in the Lynnhaven River.
[84] VA. CODE ANN. § 28.2-1200.

enjoy substantial discretion when it comes to determining what counts as "direct public benefit". In the case of oysters, finding the balance between the competing interests of aquaculture, restoration, and public harvesting on public trust submerged lands will require more specific definitions of what constitutes public benefit and possibly the need for VMRC zoning powers.

IV. THE PUBLIC TRUST DOCTRINE IN MARYLAND

Maryland has similar colonial roots to its neighbor Virginia. However, beyond Maryland's adoption of the public trust doctrine from English common law, these two states that border the Chesapeake Bay could not be more different.[85] While Virginia has a rich history of court cases, legal precedent, codes, and statutes further defining the PTD, Maryland is lacking. Judge Richard O'Connor, a Maryland administrative law judge, was surprised that "in Maryland, a State with a wealth of tidal and navigable waters, the public trust doctrine has been the subject of surprisingly little litigation."[86] Therefore it follows that much of determination of what constitutes the PTD in Maryland still stems from common law.

The Maryland Court of Appeals established the public trust doctrine as state common law in 1821.[87] In 1855, *Smith v. Maryland* extended the obligations of the state in regards to public trust land beyond recognizing ownership, stating that it was the state's duty to preserve the public uses of the land "unimpaired."[88] Beyond recognition of ownership and a broad obligation of duty, there is very little legislative action regarding the PTD. Similarly, Maryland courts have continuously declined to look beyond the original contours of the public trust doctrine in the state.[89] With sparse court rulings and limited legislative activities, the scope of the PTD in Maryland is derived chiefly from its common law roots.

Like Virginia, Maryland was one of the thirteen original colonies. However, the grants of navigable waters in the colony, once held by King Charles I, were transferred mainly to a single individual, Lord Baltimore. In 1821, the court in *Browne v. Kennedy* found that the King only had power to grant what he

[85] Browne v. Kennedy, 5 H. & J. 195, 204-06 (Md. 1821).
[86] Administrative Law Judge Decision for Diffendal. v. Dep't of Natural Res., 112 A.3d 1116 (Md. Ct. Spec. App. 2015).
[87] *Browne*, 5 H. & J.at 196-98, 211.
[88] Smith v. Maryland, 59 U.S. 71, 74-75 (1855).
[89] Dept. of Natural Resources v. Mayor and City Council of Ocean City, 332 A.2d 630, 634 (Md. 1975); Van Ruymbeke v. Patapsco Indus. Park, 276 A.2d 61, 62 (Md. 1971).

initially held, so Lord Baltimore's rights to navigable waters remained subject to the rights under the PTD.[90] When Maryland entered the union, those rights and limitations held by Lord Baltimore became vested in the state. This state ownership of bottom lands was emphasized in the appellate ruling of *Harbor Island Marina v. Board of County Commissioners*, where the judge said:

> one aspect of [Maryland's] history, which is established beyond all question, is that nearly all of the navigable waters, as well as the lands beneath them, are owned by the State for the benefit of all its citizens.[91]

The citizen benefits protected by this ruling were left vague and narrow. Maryland has primarily maintained the original, narrow scope from the traditional common law PTD, characterized by Kanner as a "restrictive view."[92] Any expansion of the interpretation of the public trust doctrine has come from the legislature, not the courts. Maryland courts have time and time again refused to extend the doctrine from the traditional purposes of navigation, commerce, and fishing,[93] instead delegating a considerable amount of discretion to the state legislature in administering the PTD.[94] Although the legislature has liberal discretion, it has not used that discretion to significantly expand the state's doctrine.

Maryland's statutes only explicitly mention the public trust doctrine twice. Once within a statute specific to wildlife protection,[95] and once in a statute focusing on determining the impact of diminishing natural resource policing on public trust lands.[96] Other laws, like the Maryland Wetlands Act of 1970, have been mentioned as relating to the PTD. However, no case has applied the PTD to wetlands in the state.[97] Further, other activities that could constitute an expansion

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[90] *Browne*, 5 H. & J. at 196-98, 211.
[91] Harbor Island Marina v. Board of County Commissioners, 286 Md. 303, 314 (1979).
[92] Allan Kanner, *The Public Trust Doctrine, Parens Patriae, and the Attorney General as the Guardian of the State's Natural Resources*, 16 DUKE ENVIRONMENTAL LAW & POLICY FORUM 57 (2005).
[93] Becker v. Litty, 566 A.2d 1101, 1104-05 (Md. 1989); *Dept. of Natural Res.*, 332 A.2d at 633-34 (citing Shively, 152 U.S. 1).
[94] Anne Arundel County v. City of Annapolis, 721 A.2d 217, 225 (Md. 1998).
[95] MD. CODE ANN., NAT. RES. § 10-201.
[96] *Id.* § 1-201.
[97] The Maryland Wetlands Act of 1970 gave the Maryland Department of the Environmental control of proposed activities in tidal wetlands. Stuart M. Salsbury, *Maryland's Wetlands: The Legal Quagmire*, 30 MD. L. REV. 240 (1970).

of the public trust doctrine, like swimming, the right to anchor, and the use of small watercraft, for example, have been specifically excluded from PTD protection in previous court rulings.[98]

Recently though, Maryland courts have suggested a change, explicitly stating that activities like recreation and swimming could be afforded protection under the public trust doctrine.[99] However, these rulings, also suggest that all allowable activities under the state's PTD must relate to the original designations of citizen benefit on public trust land. This limits the expansion power of these more recent rulings and calls into question whether more environmentally focused "uses" of public trust land, like wetland or natural resource protection, could be included under the doctrine.

Despite the possibility of expansion being recognized in the courts, the legislature has not followed suit with explicitly codified protection of these activities. In 2013, members of the House in the Maryland General Assembly attempted to pass a bill to specifically protect the public's right to recreate in public waters[100] after Maryland Attorney General at the time, Doug Gansler, stated that, "On Maryland's water...Maryland law does not recognize a right to recreate."[101] Despite what House members saw as an attack on the traditional and historic rights of Marylanders, the bill was never moved out of the House. With common activities like swimming and boating for pleasure not specifically protected, Maryland citizens have limited options to protest if those rights were ever prohibited, and most citizens likely do not know these common activities are not protected in public waters.

Unlike Virginia, Maryland has not included any public trust language within its constitution.[102] There is a provision within the Maryland constitution that could apply to the public trust doctrine, as it states all legislative and executive entities are "Trustees of the Public."[103] However, the Maryland Court of

[98] Dep't of Natural Res. v. Ocean City, 332 A.2d 630, 634 (Md. 1975).
[99] Clickner v. Magothy River Ass'n Inc., 35 A.3d 464, 473 (Md. 2012).
[100] Md. House Bill 993 (2013) (Bill authors emphasize that the effect of this legislation would be none. All this bill was attempting to do was to codify the public trust doctrine with respect to public waters in a manner that Maryland said it was already protecting under common law).
[101] Tunis v. Dep't of Natural Res., OAH case number DNR-FSA 092-12-38826; Dept. of Natural Res. v. Ocean City, 332 A.2d 630, 634 (Md. 1975).
[102] Bausch & Lomb, Inc. v. Utica Mut. Ins. Co., 625 A.2d 1021, 1034 (Md. 1993) ("Neither the Maryland Constitution nor any statute proclaims the State to be the owner of the waters within its borders").
[103] Md. Const. Decl. of Rts. art 6.

Appeals has specifically concluded this language does not create obligations under the PTD.[104]

With limited constitutional guidance and very few guiding statutes and court decisions, Maryland agencies have a fair amount of discretion when deciding if their activities have done enough to consider the limited scope of the public trust within the state. In the state, an ageny must receive permission from the legislature before granting public trust lands.[105] Beyond this restriction, state agencies must simply demonstrate that they have considered the PTD in their decisions, such as considering user conflicts, the effect on navigability, etc. The state has no standard for determining what constitutes "consideration of the public trust doctrine," allowing for significant agency discretion.[106]

Citizens also have limited option for intervention if they feel an agency is not following their PTD responsibilities. There are no avenues within Maryland for citizens to pursue a court action; the public does not have standing in such cases, and no statutes, common law, or provisions in the constitution provide for a public trust doctrine cause of action.[107] This is unlike Virginia, where the legislature has explicitly provided standing to any person aggrieved by VMRC's decisions with submerged lands.[108] The Attorney General in Virginia has also been granted standing in suits concerning activities that could harm trust resources, although recent actions in the King's Grant case of *North South Development v. Crawford* show the Commonwealth's hesitation to get involved.[109]

Maryland continues to have uncertainty related to the contours of the public trust doctrine in the state. This uncertainty makes it more difficult for the state to consistently enforce what activities are permitted on public trust lands and for the public to understand their rights. The lack of specific protections for a potentially expanded interpretation of the PTD is limiting Maryland's ability to facilitate full utility and protect the land that is held in trust for the public.

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[104] Kerpelman v. Board of Public Works of Md., 276 A.2d 56, 61 (Md. 1971) (holding that the Maryland public trust doctrine is a common law doctrine, and Article 6 of the constitution does not change or expand this).
[105] Dundalk v. Smith, 54 A. 628, 628 (Md. 1903).
[106] Adams v. Carey, 190 A. 815, 820 (Md. 1937).
[107] *Kerpelman*, 276 A.2d at 61.
[108] VA. CODE ANN. § 28.2-1205(F) (providing jurisdictional review "in accordance with the provisions of the Administrative Procedure Act" to "any person aggrieved by a decision of the Commission under this section").
[109] Virginia v. Newport News, 164 S.E. 690 (Va. 1932); Beasley, *supra* note 69.

A. Private Owership

Like Virginia, Maryland's colonial past has infringed on its public ownership of submerged lands. Maryland recognizes grants of submerged lands pre-1862 and has held that land can be privately owned.[110] These land grants are, however, less common in Maryland than in Virginia, and thus, they have not had as much of an impact on public trust lands. Further, unlike Virginia, Maryland only allows private ownership down to the mean high-water mark.[111] The use of the more stringent mean high-water mark is a continuation of the original common law division between public and private land that Virginia has since moved away from.

B. Oysters and the Public Trust Doctrine in Maryland

Land grants in Maryland, like in Virginia, have been heavily influenced by the state's oyster industry. After immense oyster harvests in the nineteenth century, Maryland, like Virginia, saw reductions in their oyster populations into the early twentieth century. To respond to these difficulties in the industry and attempt to revitalize the oyster industry, the Maryland General Assembly passed the Haman Oyster Culture Law in 1906.[112] The aim of the law was to determine where oysters were on submerged lands via a comprehensive survey, almost fifteen years after Virginia performed a similar survey for similar purposes.[113] Determining where these barren bottoms were allowed Maryland to focus restoration attention and funding on public bars and allow for leasing of barren bottom in order to plant oysters and enhance the industry.[114] Again, like Virginia, the Yates Oyster Bars that were established from the survey are still the standard by which the state decides how to spatially manage its submerged waterbottoms. Areas with oyster bars are statutorily protected from being used in any other manner, and areas not included in the original bars can be made available for lease by the state.[115]

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[110] Stansbury v. MDR Development L.L.C., 871 A.2d 612, 620-21 (Md. Ct. Spec. Appl. 2005).
[111] Van Ruymbeke v. Patapsco Indus. Park, 261 Md. 470 (1971).
[112] Kennedy & Breisch, *supra* note 4, at 4.
[113] *Id.*
[114] CASWELL GRAVE, A MANUAL OF OYSTER CULTURE IN MARYLAND (1912).
[115] MD. DEP'T OF NATURAL RES., MARYLAND'S HISTORIC OYSTER BOTTOM: A GEOGRAPHIC REPRESENTATION OF THE TRADITIONAL NAMED OYSTER BARS (1997), *available at* http://dnr.maryland.gov/fisheries/Documents/maryland_historic_oyster_bottom.pdf (last visited June 24, 2020).

In a joint effort with Virginia, restoration efforts are currently taking place in Maryland to attempt to revitalize the oyster population within the Chesapeake Bay. Plans encouraging restoration on public bars and increased development of private leases have introduced new spatial management issues within Maryland.[116] The recognized economic and ecological benefits from oyster aquaculture, both in Virginia and Maryland, have been creating issues with competing uses within the public trust area. The differing interpretations and scope of the PTD in Maryland and Virginia have significantly contributed to the states' differing paths in developing an oyster aquaculture industry as well as the priority given to private leases versus public bars.

V. The Public Trust Doctrine and Aquaculture

As public use of public trust areas has expanded beyond the traditional definition, courts and state legislatures have begun to realize that the doctrine needs to evolve.[117] A broader interpretation of the PTD allows states flexibility to protect activities that were not considered when the doctrine was originally conceived but are now common, like recreation. In broadening the interpretation, states hope to better serve the public that their lands were intended to benefit.[118] The PTD, then, represents one of the most flexible tools states have that can help them determine how to best manage and utilize their navigable waters. When considering expansions to public trust activities, however, determining whether an activity does provide public benefit can be difficult. Coastal aquaculture in the United States represents the most substantial potential expansion of the definition of the PTD and could redefine in what ways public lands can be utilized.

Near-coast aquaculture is an especially difficult activity to consider under the public trust doctrine because of the private nature of operations. Aquaculture that takes place in state coastal waters is primarily operated under a leasing system.[119] Under the leasing system, the state agrees to give up some amount of the public submerged bottom for a set amount of time for the rearing of species that will be sold for and accrue private benefit. Some states also allow leasing of the water column for aquaculture operations. Water column leases for aquaculture

[116] U.S. ARMY CORPS OF ENG'RS, CHESAPEAKE BAY OYSTER RECOVERY: NATIVE OYSTER RESTORATION MASTER PLAN (2012).
[117] National Audubon Soc'y v. Superior Court, 658 P.2d 709, 719 (Cal. 1983) (noting that the public trust doctrine has "evolved in tandem with the changing public perception of the values and uses of waterways").
[118] Neptune City v. Avon-By-The-Sea, 294 A.2d 47, 52 (N.J. 1972).
[119] VA. CODE ANN. §§ 28.2-103 & 28.2-201; MD. CODE ANN., NAT. RES. §§ 4-11 & 4-11A.

use cages and/or floats to suspend the species on or under the surface of the water but above the submerged land surface. The permit for a water column lease can fall under the same leasing framework as on-bottom leases or they may require a separate process or additional information. Virginia has separate permits for aquaculture on bottom versus above-bottom aquaculture.[120] Maryland's aquaculture leasing process requires the same basic application for both water column and submerged leases. However, additional information concerning the proposed water column lease (e.g., description of cage marking methods, gear recovery plan) must be provided.[121]

This leasing of the public bottom creates unconventional use and "private property" rights for the leaser. This is further complicated by the non-traditional "ownership" rights that states exert over public trust land in the first place. Aquaculture, for this reason, can be considered riskier than on-shore farming due to this lack of "bundle of rights" that is commonly associated with the transfer of title of land or property.[122] Lack of exclusive rights and contingencies on temporary "ownership" makes it more difficult for aquaculture operations to protect their investment from theft, trespass, and competing uses. Initial startup costs, a particular problem within the oyster aquaculture realm in Chesapeake Bay, also dissuade some potential aquaculturists.[123]

Regardless of these challenges, the United States has seen a huge expansion in coastal aquaculture operations over the last forty years.[124] As this expansion has occurred rapidly, individual states have been forced to play catch up in determining how and to what extent they want aquaculture enterprises to operate in their coastal waters. While these operations bring in substantial tax revenue to the states, there are growing concerns about the scale of these operations, private benefits, and potential harm to public fisheries, as well as where these operations fit within the scope of the PTD.

Questions over the use of public trust submerged bottoms for private growing and rearing of oysters have been around since the early twentieth

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[120] VA. CODE ANN. §§ 28.2-103, 28.2-201 & 28.2-603.1.
[121] MD. CODE ANN. § 04-11A; Md. Code Regs 08.02.23.03.B.
[122] Andrea Marston, *Aquaculture and the Public Trust Doctrine: Accommodating Competing Uses of Coastal Waters in New England*, 21 VT. L. REV. 335 (1996).
[123] *Oyster Aquaculture and Restoration*, MD. SEA GRANT, http://www.mdsg.umd.edu/topics/oysters/oyster-aquaculture-and-restoration (last visited June 24, 2020).
[124] AQUACULTURE LAW AND POLICY - GLOBAL, REGIONAL AND NATIONAL PERSPECTIVES (Nigel Bankes et al. eds., 2016).

century. One of the first court cases in the United States to address the issue of private aquaculture operations on the public bottom was concerning oysters. In 1908, a Florida court considered whether exclusive use of an oyster bed for aquaculture was a legitimate use of such lands under the public trust doctrine.[125] The court sided with the aquaculturist, saying that the private rearing of oysters could benefit the public if it was directed towards the public good versus an individual. However, determining what "public good aquaculture" would look like or how aquaculture could accomplish this directive was left undefined.

Other states have also grappled with maintaining the "publicness" of their waters while at the same time hoping to advance a lucrative aquaculture industry. North Carolina exhibits a case where public ownership of bottomlands prevailed over centuries of de-facto private ownership of the public bottom. In a seminal case, the North Carolina Supreme Court in *State v. Credle* emphasized the public ownership of all submerged bottoms.[126] While private cultivation was legal within the state and had been in one form or another since an 1887 act, many oyster harvesters had been treating their waterfront property as de-facto private property.[127] Mr. Credle, the appellant in the case, had even been paying taxes on this land that he had been granted from his father.[128] The court, however, decided on a strong reaffirmation of the traditional PTD, eliminating many private oyster cultivation practices within the state. The court advised that any future decisions on the scope of the public trust doctrine should be left up to the North Carolina state legislature.[129] As of today, oyster aquaculture still operates within North Carolina, but at a fraction of the rate of operations with Maryland and Virginia. This reduced rate of shellfish leasing can be attributed to the "rigorous requirements [that] exist to protect existing public uses for navigation and fishing."[130] North Carolina is an example of a state limiting oyster aquaculture under the PTD.

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[125] Ellis v. Gerbind, 47 So. 353, 354 (Fla. 1908).
[126] Rohrer v. Credle, 369 S.E.2d 825 (N.C. 1988).
[127] 1887 N.C. SESS. LAWS Ch. 119, sec. 6.
[128] Benjamin Schachtman, *Growing the 'Best Damn Oyster': Inside the Effort to get Local Oyster Farming up to Speed*, PORT CITY DAILY, Jan. 27, 2017, https://portcitydaily.com/in-our-hometown/2017/01/27/growing-the-best-damn-oyster-inside-the-effort-to-get-local-oyster-farming-up-to-speed/ (last visited June 24, 2020).
[129] Valerie B. Spalding, *The Peal in the Oyster: The Public Trust Doctrine in North Carolina*, 12 CAMPBELL L. REV. 23, 69 (1989).
[130] JAMES W. WILLIAMS III, CHICAGO TITLE INS. CO., WATER RIGHTS (2004), *available at* https://www.northcarolina.ctt.com/docs/pdf/Water%20Rights%20%20Williams%20Dec%202004.pdf (last visited June 24, 2020).

Many states, however, argue for a liberal interpretation of the "public" benefits of aquaculture. One of the chief public benefit arguments of aquaculture focuses on the ability of aquaculture operations to reduce pressure to overfish natural stocks, an issue in some commercial fisheries today.[131] The de-emphasis on the commercial fishery through a shift to farmed products might provide time for the wild stock to recover while still providing a continuous source of seafood.[132] However when rearing non-sedentary species, like finfish, there are issues of breed stock mixing with wild stock which could threaten the genetic integrity of the wild stock.[133] There have also been arguments praising the economic development potential of aquaculture, with the benefit to the public including increased jobs through the industry itself, production distribution, or processing.

Regardless of the reasoning states give to support the inclusion of private aquaculture in public spaces, it's likely that economic benefits and job creation are perhaps the most important drivers; oysters, for example, are the most rapidly developing sector of Virginia's shellfish aquaculture in terms of job growth and revenues.[134] These economic arguments for use of public trust land however must necessarily connect back to the *Illinois Central Railroad* case and other cases that question whether *any* extent of economic activity really counts as direct "public benefit" under the PTD.[135] Marston argues that state legislatures must be careful when balancing various interests in the development of their aquaculture industries to not prioritize aquaculture because of the economic incentive to the state.[136] In cases where the state is acting as an inadequate trustee, she even suggests that courts should step in to help protect the public interest.[137]

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[131] Marston, *supra* note 122, at 335.
[132] There is some debate about the ability of aquaculture species to provide wild stock recovery time due to the large amount of fish meal (which is harvested from wild fish) necessary to feed some species, such as Atlantic Salmon. While other proposed options for fish meal have been used, the impact of fish meal production on wild stock is still significant. *See, e.g.*, Rosamond L. Naylor et al., *Effect of Aquaculture on World Fish Supplies*, 405 NATURE 1018 (2000); Albert G.J. Tacon & Marc Metian, *Global Overview on the Use of Fish Meal and Fish Oil in Industrially Compounded Aquafeeds: Trends and Future Prospects*, 285 AQUACULTURE 1 (2008).
[133] Jeffrey A. Hutchings, *The Threat of Extinction to Native Populations Experiencing Spawning Intrusions by Cultured Atlantic Salmon*, 98 AQUACULTURE 119 (1991).
[134] KAREN HUDSON, VIRGINIA INST. OF MARINE SCI., VIRGINIA SHELLFISH AQUACULTURE SITUATION AND OUTLOOK REPORT: RESULTS OF THE 2016 VIRGINIA SHELLFISH AQUACULTURE CROP REPORTING SURVEY 3 (2017).
[135] Ill. Cent. R.R. Co. v. Ill., 146 U.S. 387 (1892).
[136] Marston, *supra* note 122, at 368.
[137] *Id.*

Non-economic challenges to aquaculture under the public trust doctrine also present emerging issues. "Not-In-My-Backyard" or NIMBY lawsuits arise from local residents' objection to some form of new or further development in their area.[138] Despite broad, widely dispersed benefits of NIMBY projects, like airports, homeless shelters, and waste disposal sites, the concentrated costs of these projects evokes powerful local resistance. NIMBY opposition to aquaculture in public trust waters centers around riparian landowners aesthetic view concerns, the potential negative environmental impacts, and the interference of operations with the navigability of waterways.[139] The intersection of NIMBY attitudes and aquaculture can also have the adverse impact of discouraging growth of the industry,[140] despite county economic development plans that encourage the growth of aquaculture industries.[141]

Regardless of the challenges, many states have taken advantage of the flexibility that has been provided to them under the PTD to encourage aquaculture development within their coastal waters. Within the Chesapeake Bay, oysters are currently the main species of interest in aquaculture operations because of the expansion possibilities.[142] At the height of the oyster industry within the Chesapeake Bay in the late 1800's, watermen in both states heavily opposed any private aquaculture operations.[143] Fear of outside industries establishing dominance and a corresponding loss of independence and financial security prevented aquaculture development in both states for years.[144] The prolific decline

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[138] Barak D. Richman, *Mandating Negotiations To Solve The NIMBY Problem: A Creative Regulatory Response*, 20 UCLA J. ENVTL. L. & POL'Y 223 (2001/2002); Kennedy v. Upper Milford Township Zoning Hearing Board, 779 A.2d 1257 (Pa. 2001).

[139] Marston, *supra* note 122, at 337, 350 & 357; Harding v. Comm'r of Marine Res., 510 A.2d 533 (Me. 1986).

[140] Timothy Wheeler, *St. Mary's County, MD, Issues Moratorium on use of Commercial Docks for New Aquaculture Leases*, BAY JOURNAL, Dec. 12, 2018, https://www.bayjournal.com/article/st._marys_county_md_issues_moratorium_on_use_of_commercial_docks_for_new_aq (last visited June 24, 2020).

[141] ST. MARY'S COUNTY, MARYLAND COMPREHENSIVE PLAN (2010), *available at* https://www.stmarysmd.com/docs/compPlan.pdf (last visited June 24, 2020); *See* Lakeside Lodge, Inc. v. New London, 960 A.2d 1268 (N.H. 2008).

[142] Hudson, *supra* note 134, at 7. Hard clams, *Mercenaria mercenaria*, are the larger industry right now, with 2016 revenues at $38.1 million. However, this industry is relatively mature, producing relatively the same number of clams over the last ten years. The relative recently developed oyster aquaculture industry has not yet reached this stability, providing additional opportunities for growth.

[143] CHRISTINE KEINER, THE OYSTER QUESTION: SCIENTISTS, WATERMEN, AND THE MARYLAND CHESAPEAKE BAY SINCE 1880 81-90 (1st ed. 2009).

[144] *Id.*

in the oyster population within the public fishery has led both states to focus more attention on the development of their aquaculture industries.

The divergent development and adoption of the PTD in Maryland and Virginia, however, has led to two very different approaches to oyster aquaculture on public trust lands. The expanded nature and developed legal precedent of the public trust doctrine in Virginia made the transition to aquaculture easier from a legal point of view. On the other hand, the limited nature of the public trust doctrine in Maryland has hindered the state's advance into the world of private oyster aquaculture and helps explain why it is behind Virginia in both production and economic value.[145] Despite these differences, both states are currently fostering the development of economically successful oyster aquaculture industries.

A. Aquaculture in Virginia

Private leasing of land for aquaculture in Virginia was originally distrusted by local watermen. However, decreases in the harvest of oysters from the public fishery led to state interest in performing some sort of oyster restoration.[146] Post-Baylor survey in the 1890's, the state was able to determine which areas contained oysters, and thus, were protected and could be restored as the public bottom. However, the public bottom restoration was not seen as enough to help bolster oyster populations, and thus, Virginia began to lease submerged lands to individuals who would create new reefs and stock them with oysters.[147]

Aquaculture continued to develop within the Commonwealth. In 1992, Virginia established a Virginia Aquaculture Advisory Board and gave it the broad mandate of advising VMRC on policy matters related to aquaculture.[148] The most significant advancement of aquaculture within Virginia, however, came with the introduction of the triploid oyster in the early 2000's - a sterile oyster that focuses more of its energy on growth and not reproduction and the production of

[145] CHANTELLE M. GREEN ET AL., DEPT. OF LEGISLATIVE SERV., FOSTERING SHELLFISH AQUACULTURE PRODUCTION IN MARYLAND AND OTHER STATES 17 (2013), *available at* https://mdcoastalbays.org/files/pdfs_pdf/Untitled_attachment_00004.pdf (last visited June 24, 2020).
[146] Merrill Leffler, *A Century of Conflict: Oyster Farming vs. Oyster Hunting*, 8 MARYLAND SEA GRANT MAGAZINE 2 (1987).
[147] *Id.*
[148] Green et al., *supra* note 145, at 6.

gametes.[149] Triploid oysters grow to market size quicker, allowing for year-round consumption and the harvest of oysters before disease infection.[150] Triploids were originally introduced to Virginia in the early 2000's as a comparison for *Crassostrea ariakensis*, a non-native oyster species that was, at the time, being proposed for introduction into Chesapeake Bay as a way to revitalize the struggling public oyster fishery.[151] When *C. ariakensis* was rejected for introduction into the Bay, aquaculturists in the state began using triploid oyster seed on their private leases.[152] The reported higher viability from a commercial standpoint, as well as year-round quality, continues to make triploid oysters the number one choice for aquaculture operations within Virginia.[153] The use of triploids has helped the oyster aquaculture industry within the Commonwealth boom, with sales of aquaculture market oysters rising from a little over one million oysters in 2005 to around forty million in 2016.[154] These numbers show Virginia as the top producer of aquaculture oysters on the east coast.[155]

In 2006, Virginia's Secretary of Natural Resources and Commissioner of Marine Resources convened a Blue-Ribbon Oyster Panel, which created a set of recommendations on the future of the oyster industry within the state. Recommendations included propositions to expand the private hatchery capacity and enhance the role of aquaculture for economic, habitat, and job benefits.[156] The coupling of state motivation and incentives with the introduction of triploid oysters led to increased private investment in aquaculture throughout Virginia. It became logistically easier and more financially lucrative to privately grow and harvest oysters.

This boom in oyster aquaculture within Virginia is a result of the proactive aquaculture policies adopted by the Commonwealth. This is evident via the

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[149] Michael W. Fincham, *Trials & Errors & Triploids - Odyssey of an Oyster Inventor*, 9 CHESAPEAKE QUARTERLY 2 (2010).
[150] *Id.*
[151] J.A. Moss et al., *Pathogens in Crassostrea ariakensis and other Asian Oyster Species: Implications for Non-native Oyster Introduction to Chesapeake Bay*, 77 DISEASES OF AQUATIC ORGANISMS 207 (2007).
[152] Standish K. Allen & David Bushek, *Large-scale Production of Triploid Oysters, Crassostrea virginica (Gmelin), Using "Stripped" Gametes*, 103 AQUACULTURE 241-42 (1992).
[153] Hudson, *supra* note 134, at 4.
[154] *Id.*
[155] Tamara Dietrich, *Virginia Still Tops in Hard Clam, Oyster Farming*, THE DAILY PRESS, July 31, 2017, http://www.dailypress.com/news/science/dp-nws-clam-oyster-aquaculture-20170731-story.html (last visited June 24, 2020).
[156] VA. BLUE-RIBBON OYSTER PANEL, REPORT AND RECOMMENDATIONS OF THE BLUE-RIBBON OYSTER PANEL 3-10 (2007).

codification of aquaculture laws, providing protection and validity to the private leasing of the public bottom. Any riparian bottom that is not currently leased, does not impede navigation, and is not within the Baylor survey grounds is available for lease within Virginia.[157] Virginia limits leases to residents of the Commonwealth or corporations which have 60% stock ownership by Virginia residents.[158] These significant residency requirements prevent any large outside investment into Virginia's industry. Individual leases outside the mainstem of the Chesapeake Bay cannot exceed 250 acres, but an individual can own and operate up to 3,000 acres total.[159] Lease duration is initially set at ten years, but can be extended for an additional ten-year term if there has been "significant production or planting of oysters."[160] This "use-it-or-lose-it law" is relatively weak, meaning that lease holders can hold onto their leases almost indefinitely.[161] Leasing has been streamlined in Virginia, as well as in Maryland, by a state/federal partnership that utilizes a general federal permit.[162] This federal permit establishes areas pre-approved for aquaculture, eliminating the significant barrier of requiring a lease applicant to obtain separate permits related to federal wetlands, waterways and the state and federal Coastal Zone Management Act.[163]

Business-favorable policies and state grants have allowed oysters to turn into big business in Virginia. Due to their growing role in the economy, aquaculturists have a significant amount of political sway, enough to fight off unfavorable changes to aquaculture law.[164] Hatcheries, the method of production of oyster seed and spat, are private industries in Virginia with high production

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[157] VA. CODE ANN. § 28.2-603.
[158] *Id.* § 28.2-604.
[159] *Id.* §§ 28.2-609-610.
[160] *Id.* § 28.2-613.
[161] Rona Kobell, *Oyster Aquaculture in MD, VA Hit Some Snags in 2014*, BAY JOURNAL, Nov. 6, 2014.
[162] The U.S. Army Corps of Engineers has created several nationwide permits (NWP) to expedite the permitting of activities anticipated to cause minimal impacts. NWP 48 authorizes the permitting of commercial shellfish aquaculture in United States waters. However, there are variations in the applicability of NWP 48 state-by-state which can complicate the aquaculture permitting process. *See, e.g.*, Elizabeth Andrews & Angela King, *Guidance Materials on Starting or Expanding an Aquaculture Operation*, *in* OVERCOMING IMPEDIMENTS TO SHELLFISH AQUACULTURE THROUGH LEGAL RESEARCH AND OUTREACH: CASE STUDIES 58 (2019), http://nsglc.olemiss.edu/projects/shellfish-aquaculture/files/casestudies.pdf (last visited June 24, 2020).
[163] Green et al., *supra* note 145, at 6.
[164] Corey Nealon, *Virginia Oyster Industry Fights off Aquaculture Bills*, THE DAILY PRESS, Apr. 4, 2011, http://www.dailypress.com/news/gloucester-county/dp-nws-cp-aquaculture-two-20110404-story.html (last visited June 24, 2020).

levels that are able to supply the growing need for seed for the public and private oyster fishery.[165] The business-friendly focus of aquaculture policy however, has recently started experiencing issues Marston foresaw when it came to allowing private expansion into the public bottom.[166]

Currently, the most significant conflicts occurring in Virginia with oyster aquaculture leases are in the Lynnhaven River near Virginia Beach. Within leased areas in the Lynnhaven, aquaculturists are beginning to increase the use of cages for aquaculture operations, growing methods that aquaculturists claim help protect their crop from predators and poachers.[167] Opponents to the cages see aquaculture as becoming an overwhelming presence, with cages causing accidents for recreational boaters and planting sites being eyesores for waterfront homeowners.[168] Currently, 2,397 acres of the Lynnhaven's 2,460 acres of river bottom are being leased. However, less than 1% of those leases comprise the more controversial on-bottom cages.[169] The heavy presence of aquaculture has led to significant user conflicts and is raising questions about how to balance competing stakeholder rights of public use.[170] The General Assembly in 2017 attempted to address one of these conflicts, the antiquated system of notification. Previously, notification of commercial oyster leases was done via a sixty-day posting at the county courthouse, with no guarantee that citizens in the areas under review are directly made aware of the propositions.[171] The revised notification system requires VMRC to post proposed leases on their website and directly notify nearby riparian owners of the proposed lease.[172] While this change

[165] Hudson, *supra* note 134, at 6.
[166] Marston, *supra* note 122, at 358.
[167] Dave Mayfield, *The Oyster Cage Debate: Is there Enough Lynnhaven River for Everyone?*, THE VIRGINIAN-PILOT, June 1, 2016, http://pilotonline.com/news/local/environment/article_a688ec2f-561e-57b0-b59f-77e69f9fa7b4.html (last visited June 25, 2020).
[168] *Id*.
[169] *See, e.g.*, Elizabeth Andrews & Angela King, *Managing Use Conflicts on the Lynnhaven River*, *in* OVERCOMING IMPEDIMENTS TO SHELLFISH AQUACULTURE THROUGH LEGAL RESEARCH AND OUTREACH: CASE STUDIES 64 (2019), http://nsglc.olemiss.edu/projects/shellfish-aquaculture/files/casestudies.pdf (last visited June 25, 2020).
[170] *Id. See also* Dave Mayfield, *Virginia Regulators Leave Lynnhaven Oyster Rules Unchanged; Lawmakers Invited to Weigh in*, THE VIRGINIAN-PILOT, Sept. 27, 2016, https://pilotonline.com/news/local/environment/article_389aef82-3564-54f8-9fe3-ed7deb710c81.html (last visited June 25, 2020).
[171] Pamela D'Angelo, *State Regulators Try to Solve Oyster Farming Conflict in Virginia Beach*, VIRGINIA PUBLIC RADIO, Sept. 27, 2016, https://www.wvtf.org/post/state-regulators-try-solve-oyster-farming-conflict-virginia-beach#stream/0 (last visited June 25, 2020).
[172] VA. CODE ANN. § 28.2-606.

did improve awareness, it has also stoked conflict as demonstrated through the increased number of protested leases.[173] As of January 2019, there are currently four hundred leases backlogged with an average wait time of two to three years.[174]

Aquaculture's success within the Commonwealth coupled with its protected status under the Virginia Code suggest that aquaculture operations are considered a right allowed under the public trust doctrine.[175] As of now, however, the PTD has not been brought up in relation to the user conflicts within the Lynnhaven. Work is ongoing in an effort to reduce the conflicts.[176] Though the state has encouraged aquaculture production, it has not satisfactorily taken into consideration how to balance the right to state-owned bottomland with previously recognized rights of recreation, swimming, fishing, etc. Case law related to oyster aquaculture and the PTD in Virginia is nonexistent, thus necessitating that any changes to help address conflicts must currently come through legislation. If Virginia wants to allow oyster aquaculture as a protected activity on public land, then it needs to create a more regimented way of dividing up areas for different public uses. One manner of doing so would be to partake in coastal and marine spatial planning.

Coastal and marine spatial planning (CMSP) is a way for planners to consider the many different uses of waterways at once, allowing for better decisions concerning ocean uses and reducing potential conflicts.[177] Many states, including Virginia,[178] Rhode Island, California, Massachusetts, and Florida, have begun incorporating CMSP into their ocean resource management plans.[179] Most of this incorporation, however, is taking place within ocean waters, helping to balance issues with fishing, oil and gas exploration, navigation, etc. Despite the lack of examples of non-ocean coastal planning, there is no reason why Virginia could not take this approach to help find balance in its expanded scope of PTD activities. The zoning power proscribed to VMRC could be expanded further to

[173] Andrews & King, *supra* note 169, at 69.
[174] Timothy Wheeler, *Lawyers Not Cannons the Big Guns in the Latest Round of Oyster Wars*, BAY JOURNAL (2019) (on file with author).
[175] VA. STATE CODE §§ 28.2-103 & 28.2-201.
[176] Andrews & King, *supra* note 169.
[177] Presentation from Nicholas Lund, Ocean & Coastal Law Fellow, Nat'l Sea Grant Law Ctr., What is Coastal and Marine Spatial Planning? (May 2011), *available at* http://nsglc.olemiss.edu/Slide%20Shows/MSP.pdf (last visited June 25, 2020).
[178] *Virginia Ocean Planning*, VA. DEP'T OF ENVTL. QUALITY, http://deq.state.va.us/Programs/CoastalZoneManagement/CZMIssuesInitiatives/OceanPlanning/VirginiaOceanPlanning.aspx (last visited June 25, 2020).
[179] Lund, *supra* note 177.

help reduce and better plan for any potential user conflicts that arise because of oyster aquaculture expansion, especially as VMRC currently has around 400 pending oyster ground applications.[180] A more methodological approach to the use of public trust lands will be necessary if Virginia wants to avoid future litigation and continued user conflicts.

B. Aquaculture in Maryland

Despite its younger oyster aquaculture industry, Maryland was actually one of the first states in the United States to permit the privatization of oyster bottoms.[181] Early advocates for oyster privatization, like scientist W.K. Brooks, attempted to convince Marylanders of the "wisdom of cultivating the Chesapeake's untapped reserves of 'embedded wealth' via private [oyster] enterprise."[182] Arguments focusing on the economic benefits of private aquaculture fell on deaf ears due to an ill-timed resurgence of the public fishery in the same year as Brooks' report was published.[183] Further issues including poor placement of leases, which hindered oyster growth due to inappropriate habitat conditions, frequent poaching, and watermen's dislike of privatization additionally discouraged the development of private culture of oysters within the state.[184] From the early twentieth century into the twenty-first century, aquaculture in Maryland remained an extremely small part of the oyster industry.

Until the early 2000's, the public oyster fishery remained at a constant level in Maryland. Before 2009, it was, in fact, illegal to lease bay or river bottoms in counties within the state.[185] Immense outbreaks of oyster parasites that contributed to a continually worsening oyster fishery were strong catalysts for the state to begin to consider private aquaculture ventures.[186] State officials saw

[180] Davis, *supra* note 27, at 86; VA. MARINE RES. COMM'N, ENGINEERING/SURVEYING DEP'T, OYSTER GROUND APPLICATIONS (2018).
[181] Keiner, *supra* note 143, at 76.
[182] *Id*. at 72.
[183] In an era when public fishing profits rang in at around $2 million in 1880- over $44 million in 2016 dollars. *See* CPI INFLATION CALCULATOR, http://www.in2013dollars.com/1880-dollars-in-2016?amount=2000000 (last visited June 25, 2020). *See also* Michael W. Fincham, *The Oyster Dreams of W.K. Brooks - Could science save a seafood industry?*, 12 CHESAPEAKE QUARTERLY 1 (2013), *available at* http://www.chesapeakequarterly.net/V12N1/main3/ (last visited June 25, 2020).
[184] *Id.*; W.K. Brooks, Remarks in Proceedings of the Convention Called to Consider and Discuss the Oyster Question, Richmond, Va. (1894).
[185] Rona Kobell, *129 Seek Oyster Aquaculture Permits since MD Streamlining Process*, BAY JOURNAL, Aug. 2, 2012.
[186] Kennedy & Breisch, *supra* note 4, at 4.

aquaculture as a way to help revitalize the oyster industry, with the additional benefit of rejuvenating the shellfish industry overall, creating jobs and economic opportunities, improving water quality, replenishing depleted wild stock of oysters and providing a constant stream of seafood to the marketplace.[187] In 2005, the state began to update its laws and policies related to aquaculture, using Virginia's policies as a guideline. First the state created an Aquaculture Coordinating Council to formulate and make proposals to advance aquaculture within the state, based off the Virginia Aquaculture Council.[188] Initial attempts to implement a licensing system began in 2007, although difficulties arose with streamlining the process considering the multi-agency permissions that needed to be obtained, as well as limits on the amount of land that could be leased.[189] Although recent attempts at streamlining the leasing process have been pushed through by the U.S. Army Corps of Engineers in Baltimore in response to complaints from growers and legislators, the issue of lease waiting time persists.[190]

Continued opposition from traditional oyster harvesters and the public concerning the leasing of the public bottom has limited Maryland's aquaculture advances, despite strong state and federal support and interest.[191] For instance, a December 2018 county-level ordinance enacted a six-month moratorium on the use of commercial docks to land oysters from any newly issued aquaculture leases.[192] Concerns from waterfront landowners centered on the increased presence of water-column aquaculture leases which permit oysters to be raised in cages on or just off the bottom.[193] In a letter to the St. Mary's county commissioners, homeowners expressed hesitation over the aquaculture industry's rapid expansion that would "result in the conversion of our sleepy shoreline and marine areas into industrial uses incompatible with the expectations of

[187] Green et al., *supra* note 145, at 17.
[188] *Id*.
[189] Rona Kobell, *Maryland Aquaculture Leasing Streamlined*, BAY JOURNAL (2016) (on file with author); *Aquaculture in Maryland*, U.S. ARMY CORPS OF ENG'RS, http://www.nab.usace.army.mil/Missions/Regulatory/Aquaculture/ (last visited June 25, 2020).
[190] Kobell, *supra* note 189.
[191] *Id*.
[192] *July 31, 2018 Meeting Agenda – Request for Public Hearing for the Proposed Ordinance on Commercial Dock Use*, COMM'RS OF ST. MARY'S CNTY., http://www.co.saint-marys.md.us/agendas/BOCC/CSMC%20Agenda%207-31-18.pdf (last visited June 25, 2020); Wheeler, *supra* note 140.
[193] Timothy Wheeler, *Southern Maryland County Considers Limiting Dock Access for Oyster Farmers*, BAY JOURNAL, Aug. 6, 2018, https://www.bayjournal.com/news/fisheries/southern-maryland-county-considers-limiting-dock-access-for-oyster-farmers/article_cf0458b5-f99b-53c9-98c9-f08560ac77a9.html (last visited June 25, 2020).

recreational users of our waters and with surrounding residential areas."[194] Like Davis proposed, land owners in St. Mary's are requesting that the commissioners use zoning laws to limit aquaculture activity within the region by limiting aquaculture's access to the use of docks and marinas that support shellfish enterprises.[195] While the county will not extend the moratorium, issues over the use of public docks remain.[196] The lack of specificity in Maryland's public trust doctrine will continue to lead to instances of conflict between opposing public uses, especially as private aquaculture operations continue to grow.

Despite opposition, aquaculture operations in Maryland benefit from significant financial support from the state and federal governments. 2009 and 2011 regulations addressed start-up costs and eliminated location and ownership barriers to aquaculture leasing.[197] Unlike Virginia, up until 2017, Maryland did not have any private oyster hatcheries; all seed used for replenishing the public fishery, for restoration activities, and for aquaculture came from the University of Maryland Center for Environmental Science's Horn Point Hatchery on the Eastern Shore of Maryland.[198] In its first year, Hoopers Island Oyster Company, the first private hatchery in Maryland, produced 250 million larvae.[199] Increased production of oyster larvae helps ensure that non-restoration efforts in Maryland can also have access to valuable seed. Despite this success, there are still many barriers to entry for private hatchery development; significant financial capital is on the line, and many factors, like water temperature fluctuations, malfunctioning equipment, or large sediment depositions, make the investment risky.[200] Without further state investment, the resurgence of private oyster hatcheries within Maryland will be limited.

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[194] *Id*.
[195] *Id.*; Davis, *supra* note 27, at 90.
[196] Taylor Deville, *Extended Ban on Docks Use for Shellfish Farmers Nixed*, THE ENTERPRISE, May 1, 2019, https://www.somdnews.com/enterprise/news/local/extended-ban-on-dock-use-for-shellfish-farmers-nixed/article_ab2b5762-29e8-504a-b2bc-c46e6b40271c.html (last visited June 25, 2020).
[197] Green et al., *supra* note 145, at 18-19.
[198] Rona Kobell, *Entrepreneurs to Build Large Private Oyster Hatchery in MD*, BAY JOURNAL, June 19, 2016, https://www.bayjourneys.com/article/entrepreneurs_to_build_large_private_oyster_hatchery_in_md (last visited June 25, 2020).
[199] Victoria Wingate, *Van Hollen Shows Support for Aquaculture*, DORCHESTER STAR, Mar. 1, 2018, https://www.myeasternshoremd.com/dorchester_star/news/van-hollen-shows-support-for-aquaculture/article_80feaadb-cc0b-512f-85d5-29aeb5a2254d.html (last visited June 25, 2020).
[200] Kobell, *supra* note 198.

A provision included in the Maryland permitting program for oyster aquaculture highlights an important difference from the Virginia program. The provision seems aimed towards balancing the different protected rights that are enjoyed on public trust lands, stating that any aquaculture application:

> Requir[es] additional information in the application to ensure the proposed activities have minimal impacts on navigation and endangered species. These details include a description of structure spacing; the number and spacing of vertical and horizontal lines and buoys; information identifying how adverse effects to navigation and neighboring properties have been avoided; and notification to adjacent property owners.[201]

The discussion of navigation likely was added to account for the federal government's supremacy in maintaining navigable waterways and the inclusion of endangered species protections that are required under the Endangered Species Act of 1973.[202] However the inclusion of the necessity of reporting impacts to surrounding properties, including informing said property owners, shows Maryland attempting to avoid some of the use conflict issues currently occurring in the Lynnhaven. At the time of the state's permitting changes, aquaculturists were concerned that this provision would add to the permit wait time, something recent streamlining was attempting to shorten. Maryland still faces longer wait times than Virginia, with aquaculturists claiming in March 2018 that there were 130 permit applications currently sitting and waiting at the state level, with that number projected to increase to over 500 within three years.[203] Maryland is still attempting to find the right balance between streamlining the process and continuing to protect other public uses protected under the PTD.

One of the most notorious examples of leasing wait times within Maryland, and the most direct consideration of the relationship between aquaculture and the PTD within the state, is the case of aquaculturist Donald Marsh. Marsh first applied for a permit to grow oysters in Chincoteague Bay on

[201] *Aquaculture in Maryland*, *supra* note 189.
[202] Benjamin H. Longstreth, *Protecting 'the Wastes of the Foreshore': The Federal Navigational Servitude and its Origins in State Public Trust Doctrine*, 102 COLUM. L. REV. 471 (2002); 16 U.S.C. §§ 1538(a) & 1540(a).
[203] Wingate, *supra* note 199.

the Eastern Shore of Maryland in 2009.[204] The lease for 18.7 acres was initially granted by the Maryland Department of Environment, the agency in charge of aquaculture at the time, after a three-year review process.[205] Shortly after this initial approval, a group of local homeowners and recreational users challenged the issuance of the lease.[206] The plaintiffs argued that the proposed lease violated the PTD because it would severely limit the access of commercial fishing vessels and other boats to the area and infringe upon homeowners' views and recreational ability.[207] An Administrative Law Judge conducted a contested court hearing where the court concluded that the PTD applied, and, therefore, the Department of Natural Resources, the agency that was subsequently in charge of aquaculture in Maryland, must "consider the impact of the lease on the public's ability to carry on navigation, trade, and fishing in the proposed lease area."[208]

This initial opinion followed Maryland's precedent of narrow interpretation of the public trust doctrine. This narrow view could have resulted in significantly limited aquaculture operations within the state, possibly increasing wait times for leases and limiting potential lease locations. The case, however, was first appealed to the Circuit Court, which reversed the judgment, and, finally, to the Court of Special Appeals, which rejected the appeal, concluding that the Administrative Law Judge erred in denying the lease on public trust grounds. The judge ruled that, in approving the lease after review, the State was rightly executing its regulatory power under the public trust doctrine.[209] After his battle for a state permit, Marsh received his U.S. Army Corps of Engineers permit in 2015 and is currently cultivating oysters.[210]

Since the PTD in Maryland is mainly common law-based, it is subject to modification by both state legislative acts and appellate court decisions. In terms of aquaculture, the judge ruled that in the state code pertaining to aquaculture, the legislature had specifically and purposefully incorporated the PTD into certain provisions, but not others.[211] The General Assembly of Maryland, the judge argued, decided that a thriving aquaculture industry would benefit the State, but

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[204] Edward J. Levin, *Natural Resources Article Trumps the Public Trust Doctrine,* GORDON FEINBLATT LLC, https://www.gfrlaw.com/what-we-do/insights/natural-resources-article-trumps-public-trust-doctrine (last visited June 25, 2020).
[205] Diffendal. v. Dep't of Natural Res., 112 A.3d 1116 (Md. Ct. Spec. App. 2015).
[206] *Id.*
[207] *Id.*
[208] *Id.* at 1124.
[209] *Id.* at 1129-30.
[210] Kobell, *supra* note 189.
[211] MD. CODE ANN. §§ 4-11A-07(c) & 4-11A-08(c).

did recognize that certain restrictions needed to be in place in order to protect other public interests.[212] These restrictions, the judge said, were purposefully laid out in the criteria that the Department of Natural Resources uses to determine the suitability of a lease.[213] Since the lease had satisfied all the statutory criteria, the judge said that the lease did not have to pass any additional, extra-statutory restrictions from the public trust doctrine; in fact the PTD had already been considered and weighed in favor of the aquaculture leases in this case.[214]

The *Diffendal v. DNR* case has already been cited as precedent in similar conflicts between homeowners and aquaculturists and has the potential to alter future public trust cases in Maryland, in terms of aquaculture and beyond.[215] This case suggests a broadening of Maryland's interpretation of the PTD, but how broad that interpretation might become is still unknown. As aquaculture continues to develop in the state, Maryland will have more opportunities to confront what the PTD means within its waters and how it can balance the rights of the public to protected activities.

C. Discussion

From its origin, the public trust doctrine was meant to preserve public lands for the good of the public. However, the days of the narrow definition of public use encapsulating only navigation, commerce, and fishing are behind us. Coastal aquaculture operations are just one of the examples of an expansion of the interpretation of the public trust doctrine, although a unique one in that it allows private ventures with indirect public benefits to utilize the public bottom.

For states like Virginia and Maryland with proud histories of a public fishery, this transition to aquaculture has been difficult both legally and culturally. The image of a waterman out fishing for oysters is being replaced with the image of a farmer tending crops, something that each state has had to grapple with in its development of aquaculture policies to grow an industry. Each state has dealt with these challenges differently, and the contrasts between aquaculture operations in Virginia and Maryland are a result of different interpretations and scope of the

[212] *Diffendal*, 112 A.3d at 1129-30.
[213] *Id.*
[214] *Id.*
[215] Rona Kobell, *Court Ruling Backs Lease for Oyster Farm in Chincoteague Bay*, BAY JOURNAL, July 9, 2015, https://t.bayjournal.com/article/court_ruling_backs_lease_for_oyster_farm_in_chincoteague_bay (last visited June 25, 2020).

PTD. Virginia has benefited from early forays into private leasing of the public bottom, which made the transition into larger scale aquaculture operations smoother and has resulted in their current domination of oyster aquaculture. However, user conflicts are abounding in Virginia and will continue to do so as long as the state does not adequately weigh other public uses of potential aquaculture land.

While Maryland has been relying on Virginia's statutes and policies as they have developed their own aquaculture industry, Virginia could learn from Maryland's suggested limited recognition of possible public trust conflicts as it attempts to further expand its industry.[216] Regardless, however, of the policies that each state pursues, both could benefit from a more collaborative, joint approach to the management of oyster aquaculture. Since Virginia and Maryland share two halves of one body of water, the Chesapeake Bay, the actions of one state will necessarily impact the other.

With the oyster aquaculture industry continuing to grow in both states, questions surrounding the interactions between aquaculture and the PTD will continue. Both Maryland and Virginia need to consider what they envision the public bottom will look like in five, ten, and twenty years in order to plan now for what they need to do to make that picture a reality. Both states have utilized aquaculture workgroups with a goal of reducing conflict, but this only constitutes a first step in what will need to be a more robust approach to the issues.[217] One of the ways in which both states can accomplish this is through legislative and regulatory changes. Currently, Maryland and Virginia lack statutory reasoning justifying the public benefit of private aquaculture operations. Examples from other states emphasize the importance of planning ahead and having specific definitions of oyster aquaculture's benefit to the public. Florida represents a state that has taken a more proactive approach, statutorily justifying the public benefits of submerged lands leasing for aquaculture.[218] Similar provisions would be helpful for Virginia and Maryland to help justify their parceling of public lands for private enterprises and provide a better guide for addressing user conflicts.

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[216] *Aquaculture in Maryland*, *supra* note 189.
[217] Wheeler, *supra* note 174.
[218] FLA. STAT. ANN. § 253.68. The law states that aquaculture represents a "practicable resource management alternative" to produce fish products, it both helps "conserve natural resources… reduce competition for natural stocks" which can "augment and restore populations." *Id.*

VI. CONCLUSION

The public trust doctrine represents one of the best means that states have to shape and direct the management of their state waters and submerged lands. The development of oyster aquaculture in both Maryland and Virginia represent examples of the impacts of different applications of the PTD. A broader interpretation of the PTD and early privatization of the public bottoms helped spur aquaculture development earlier in Virginia, resulting in Virginia's prominence in the oyster aquaculture industry. Maryland's emphasis on its public fishery and more traditional PTD interpretation originally limited the development of aquaculture, although this is now shifting due to significant state interest and investment. Both states, however, are facing increasingly complex and frequent user conflicts concerning the interactions of aquaculture with more traditional PTD activities. To ensure continued growth and development of their aquaculture industries, Maryland and Virginia need to better codify the scopes of their individual public trust doctrines. Increased specificity concerning the role that aquaculture plays within the public trust doctrine in both states could help address space and place conflicts with other users of public waters.