

Boundaries in Massachusetts Property, Land Use, and Environmental Law, Where They Are, and How they Change

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This is a fresh look at some traditional and modern Massachusetts doctrines and laws about the various kinds of boundaries which real estate clients and their counsel deal with in titles, transactions, permitting, and litigation, but sliced differently on how they are determined, how they are subject to change, and how not to be surprised when they morph or move.

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I. BOUNDARIES AT THE WATER'S EDGE

A. Ownership of Coastlines

“The waters and the land under them beyond the line of private ownership are held by the State, both as owner of the fee and as repository of sovereign power, with a perfect right of control in the interest of the public.” *Home of Aged Women v. Commonwealth*, 202 Mass. 422, 427 (1909). The Commonwealth may create land below the low water line, and the title of that land belongs to the Commonwealth, with no remedy available in damages for the adjacent littoral owner. *Id.* However, that does not mean that whenever the Commonwealth creates new surface land, by filling in the subsurface flats, title to such land is invariably in the Commonwealth. *Michaelson v. Silver Beach Imp. Ass’n, Inc.*, 342 Mass. 251 (1961).

The Commonwealth controls the navigable tide waters and land under them “for all useful purposes, the principal of which . . . (are) navigation and the fisheries.” *Id.* at 256 (citing *Commonwealth v. City of Roxbury*, 75 Mass. 451, 483 (1857)). The *Michaelson* court notes that this doctrine is not unlimited; in order for the Commonwealth to have the right to ownership, the works creating the new surface land must be related to the Commonwealth’s traditional powers in the waters. *Id.* at 256 (citing *Home of Aged Women v. Commonwealth*, 202 Mass. at 435).

Title by grant from the colony or the Commonwealth, if not built upon, is subject to the authority of the legislature “for the protection of the harbors and of the public right of navigation.” *City of Boston v. Richardson*, 105 Mass. 351, 362 (1870).

When the boundary of a littoral owner’s property is modified by accretion or reliction, generally the “line of ownership follows the changing water line,” meaning that the littoral property owner acquires title to the land that has been added by accretion or reliction. *Allen v. Wood*, 256 Mas. 343, 349 (1926); *Burke v. Commonwealth*, 283 Mass. 63, 68 (1933). It does not matter whether the littoral increase happens from natural causes, or from natural and artificial causes, the land that forms gradually and imperceptibly is still owned by the littoral property owner. *Adams v. Frothingham*, 3 Mass. 352, 363 (1807); *See also St. Clair County v. Lovington*, 90 U.S. 46, 66 (stating that whether the flow of the water is natural or affected by artificial means is immaterial, so long as the proximate cause was the deposits made by water). The exception to this is in cases where the littoral owners themselves were the cause of the formation; in such cases the property owner does not gain ownership of such land. *See Michaelson v. Silver Beach Imp. Ass’n, Inc.*, 342 Mass. 251, 254 (1961) (citing *Adams v. Frothingham*, 3 Mass. 352, 363 (1807); *County of St. Clair v. Lovington*, 90 U.S. 46 (1874)).

B. Accretion, Avulsion & Reliction: Boundaries Changed by Natural and Unnatural Processes

Accretion

Accretion is the process by which an area of land is increased by the gradual deposit of soil due to the action of a river, lake, sea or other body of water. In *Allen v. Wood*, 256 Mass. 343, 349 (1926), the court referred to “accretion” as “when the line between water and land bordering thereon is changed by the gradual deposit of alluvial soil upon the margin of the water.” The added soil is called “alluvion”. See *Inhabitants of Deerfield v. Arms*, 34 Mass. (Pick) 41 (1835) (stating that where land is formed by alluvion . . . by slow and imperceptible accretion, it is the property of the owner of the adjoining land.)

The test for what is considered “gradual and imperceptible” is that though the witnesses may see from time to time that progress has been made, they could not perceive it while the process was going on.” *St. Clair County v. Lovington*, 90 U.S. 46, 68 (1874). *Bergh v. Hines* established the well-settled authority for the proposition that littoral boundaries are not fixed because natural processes of accretion or erosion change them, and . . . easements, stated to run with such a boundary, ordinarily will follow the naturally changing line”; against the recognition of moveable landward boundaries of littoral property owners; artificial accretion not a recognized method of changing littoral boundaries. 44 Mass. App. Ct. 590, 592 (1998).

If the accretion forms simultaneously on several littoral properties, the rights of each owner are determined by equitable division – giving each property the same proportion of waterfront as it would have had absent the accretion. *Burke v. Commonwealth*, 283 Mass. 63, 67 (1933); *Allen v. Wood*, 256 Mass. 343, 256 (1926).

Reliction

Previously referred to as dereliction, is the process by which land is uncovered or exposed by gradually receding water. See *St. Clair County v. Lovington*, 90 U.S. 46, 67 (1874); See also *Jefferis v. East Omaha Land Co.*, 134 U.S. 178 (1890) (citing to *Rex v. Lord Yarborough*, 3 Barn. & C. 91).

Avulsion

The process by which there is a sudden and perceptible change in the location of a body of water, either covering or uncovering land. If soil is added or removed very rapidly rather than gradually, where the land is covered or uncovered by a sudden and perceptible change in the shoreline, the boundary line remains the same and title is left as it was before the change. See *State of Nebraska v. State of Iowa*, 143 U.S. 359 (1892) (citing *Trustees of Hopkins Academy v. Dickinson*, 63 Mass. 544 (1852) and several other state supreme court cases¹).

In *Stop the Beach Renourishment, Inc. v. Florida Dept. of Env'tl. Prot.*, the Court describes accretions as “additions of alluvion (sand, sediment, or other deposits) to waterfront land,” and relictions as “lands once covered by water that become dry when the water recedes.” 560 U.S. 702 (2010) (holding that Florida Supreme Court did not engage in unconstitutional taking of littoral property owner’s rights to future accretions by upholding the State’s decision to restore eroded beach by filling in submerged land). It notes that in order for an addition to dry land to

¹ *Buttenuh v. Bridge Co.*, 123 Ill. 535 (1888); *Hagan v. Campbell*, 8 Port. 9 (1838); *Murray v. Sermon*, 1 Hawks 56 (1820).

qualify as an accretion (it uses this term to refer to both accretions and relictions collectively), “it must have occurred gradually and imperceptibly . . . so slowly that one could not see the change occurring, though over time the difference became apparent.” *Id.* at 708 (citing to *County of St. Clair v. Lovington*, 23 Wall. 46, 66–67, (1874)). It also defines avulsion, as a “sudden or perceptible loss or addition to land by the action of the water or a sudden change in the bed of a lake or the course of a stream.” *Id.* (citing *Board of Trustees of Internal Improvement Trust Fund v. Sand Key Assoc., Ltd.*, 512 So.2d 934, 936 (Fla.1987)).

C. Great Ponds and Rivers: Boundaries of Freshwater Bodies²

The applicability of long-established littoral ownership rules to Great Ponds is still an open question. *Kubic v. Audette Babcock*, 2019 WL 267907 (Jan. 17, 2019) (citing *Opinion of Justices to Senate*, 474 Mass. 1201, 1207 (2016)). The court notes that the SJC in the OOI observed: “The natural water lines of a great pond, as with other bodies of water, may of course change over time as a result of natural events including accretion or reliction. This would seem to be especially true in cases of coastal ponds, where the contours of the coastlines, beaches and ponds will be affected by storms, rises in sea level, and other forces. The question then becomes whether the boundaries of the littoral property on great ponds change along with these natural changes in the water lines. It is a question that raises important and complex competing principles of private property law and the Commonwealth's protection of the public trust that were not addressed in the *Lorusso* case, [*Lorusso v. Acapesket Improv. Ass'n*, 408 Mass. 772 (1990)].” The court in that case declined to decide this issue in its resolution of the case before it.

“Accretions to land bounding a river *or* the sea belong to the owner of the adjoining land.” *Allen v. Wood*, 256 Mass. 343, 349 (1926). In apportioning accretions on non-navigable river frontage, the division of frontage is made with the goal of giving each property holder relatively the same proportion of their ownership of the new river line as they had in the old river line. *See Id.* at 349-350 (1926) (citing *Deerfield v. Arms*, 34 Mass. 41 (1835)).

D. Conveyance by Deeds: Boundaries on Ways, Walls, Fences, Watercourses or Other Monuments

“Every instrument passing title to real estate abutting a way, whether public or private, watercourse, wall, fence or other similar linear monument, shall be construed to include any fee interest of the grantor in such way, watercourse or monument, unless (a) the grantor retains other real estate abutting such way, watercourse or monument, in which case, (i) if the retained real estate is on the same side, the division line between the land granted and the land retained shall be continued into such way, watercourse or monument as far as the grantor owns, or (ii) if the retained real estate is on the other side of such way, watercourse or monument between the division lines extended, the title conveyed shall be to the center line of such way, watercourse or monument as far as the grantor owns, or (b) the instrument evidences a different intent by an express exception or reservation and not alone by bounding by a side line.” M.G.L. c. 183, § 58.

In *Paulick v. Wellfleet Conservation Trust*, the court held that the petitioners in the case had registerable title to the accreted upland associated with their lots, noting that the grantees through the language in their deeds had essentially conveyed the moveable boundaries. 2012 WL 5288169 (Oct. 24, 2012).

² See section VII covering Great Ponds on the definition and categorization of Great Ponds.

II. LEGAL RIGHTS OF RIPARIAN AND LITTORAL OWNERS

A. Riparian

A riparian owner, as part of the ownership of the land, has the right to have the natural flow of a stream come to their land and to make such use of the water as is reasonable with respect to similar rights of all other riparian owners. *See Elliot v. Fitchburg Railroad*, 64 Mass. 191, 193 (1852); *See also Stratton v. Mt. Hermon Boys' School*, 216 Mass. 83, 85 (1913) (stating that “the use of water flowing in a stream is common to all riparian owners and each must exercise this common right so as not essentially to interfere with an equally beneficial enjoyment of the common right by his fellow riparian owners. Such use may result in some diminution, obstruction or change in the natural flow of the stream, but the interference cannot exceed that which arises from reasonable conduct in light of all circumstances having due regard to the exercise of the common right by other riparian owners.”).

This doctrine of “reasonable use” applies equally to both upper and lower riparian property owners against each other. *Taft v. Bridgeton Worsted Co.*, 237 Mass. 385, 389 (1921). The definition of “reasonable” in the context of riparian water use depends on a number of factors related to the interests of the users in balance with the interests of other riparian owners. *See Stratton v. Mt. Hermon Boys' School*, 216 Mass. 83, 85 (1913) (“What is reasonable and just use of flowing water is dependent upon the state of civilization, the development of the mechanical and engineering art, climatic conditions, the customs of the neighborhood and the other varying circumstances of each case.”)

Riparian property owners may not make unreasonable use of water, by obstructing or diverting it, as they are subject to liability to other riparian property owners who would suffer damage from such actions. *Elliot v. Fitchburg Railroad*, 64 Mass. 191, 196 (1852). Unreasonable use also includes pollution if that injures the riparian property of another. *Parker v. American Woolen Co.*, 195 Mass. 591, 600 (1907).

Riparian rights, on watercourses that are navigable, are subject to “navigation servitudes” held by the federal government. *Amory v. Commonwealth*, 321 Mass. 240, 246 (1947) (“Federal government possess(es) plenary control over all navigable streams in the interest of interstate commerce and has full authority to control the flow in navigable streams and, for the protection of these streams, to control the flow of their tributaries.”); *See also St. Anthony Falls Water-Power Co. v. Board of Water Com'rs*, 168 U.S. 349 (1897).

If property is only on one side, the right to use the riparian water body extends to the middle thread of that body. *Holyoke Co. v. Lyman*, 82 U.S. (15 Wall.) 500 (1872).

B. Littoral

In *Woods v. Brimm*, the Superior Court noted that there are few Massachusetts cases that directly address littoral rights. 27 Mass. L. Rptr. 389 (2010) (citing *Lummis v. Lilly*, 385 Mass. 41, 45 (1982)). In *Lummis*, the SJC stated that the “jurisprudence on the rule governing littoral rights is not abundant,” and noted that of the case law that does address the rights of littoral property owners, it is usually within the context of the public interest in private littoral rights. *Lummis v. Lilly*, 385 Mass. 41, 45 (1982) (citations omitted). The SJC, in *Lummis*, extended the reasonable use doctrine to the context of littoral ownership rights. *See Id.*³

³ See also section III. B. on the reasonable use doctrine for caselaw extending reasonable use to the littoral rights context.

III. RIGHTS TO DIVERT WATER AND WATER FLOW

A. Traditional Common Enemy Doctrine

In cases of artificial channeling of surface water, the traditional rule was that liability depended on whether “the defendant caused surface water, which might otherwise have been absorbed or have flowed elsewhere, to be artificially channeled and discharged on the plaintiff’s land in a place and quantity sufficient to entitle the plaintiff to relief.” Liability was established based on the construction of the drainage channels, not based on the amount of water discharged, and recovery of damages depended on whether the injury suffered was more than inconsequential. *See Jacobs v. Pine Manor College*, 399 Mass. 411, 415-416 (1987) (citing *Kapayanis v. Fishbein*, 344 Mass. 86, 87 (1962); *Kuklinska v. Maplewood Homes, Inc.*, 336 Mass. 489, 493 (1957)).

B. Reasonable Use

New doctrine of “reasonable use” now governs water diversion cases. In *Tucker v. Badoian*, the court stated that only harmful interferences with surface water flow that are unreasonable can form the basis of liability. 367 Mass. 907, 917 (1978). What is considered reasonable is a question of fact for the fact finder’s determination, but the court provided a number of factors relevant to the determination, including the amount of harm, the foreseeability of the harm, the purpose and motive of the possessor, among several other relevant factors. *Id.*

The reasonable use doctrine applies to both draining of water onto land and preventing the drainage of water from land. *Von Henneberg v. Generazio*, 403 Mass. 519, 525 (1988).

The reasonable use doctrine has been extended to the context of rights of littoral ownership. *See e.g. Lummis v. Lilly*, 385 Mass. 41 (1982) (extending reasonable use doctrine to the installation and maintenance of a stone groin on oceanfront property); *See also Backman v. Lilly*, No. 116033, 1992 WL 12151916 (Mass. Land. Ct. May 29, 1992) (deciding that the installation and maintenance of groin along oceanfront property was a considered a reasonable use).

IV. EASEMENTS: BOUNDARIES BY DEEDS AND RELOCATION

A. Deed of Rights & More

Where an easement arises by grant and not by prescription, and is not limited in its scope by the terms of the grant, it is available for the reasonable uses to which the dominant estate may be devoted.” *Parsons v. New York, N.H & H.R. Co.*, 216 Mass. 269 (1913).

“It is well established that an ‘easement is not to be limited to such use as seemed likely to be made about the time of the conveyances which created it. In the absence of express limitations, . . . a general right of way obtained by grant may be used for such purposes as are reasonably necessary to the full enjoyment of the premises to which the right of way is appurtenant.” *Tehan v. Security Natl. Bank of Springfield*, 340 Mass. 176, 182 (1959).

A dominant estate holder’s full enjoyment of a right of way includes “the right to enter upon the servient estate on which no actual way has been prepared and constructed and to make such changes therein as will reasonably adapt it to the purposes of a way.” *Walker v. E. William & Merrill C. Nutting*, 302 Mass. 535, 543 (1939) (citing to *Sullivan v. Donohoe*, 287 Mass. 265 (1934); *Guillet v. Livernois*, 297 Mass. 337 (1937)).

It also includes the right to “make reasonable repairs and improvements to the right of way.” *Chatham Conservation Foundation, Inc. v. Farber*, 56 Mass. App. Ct. 584 (2002) (citing *Guillet v. Livernois*, 297 Mass. 337, 340 (1937)).

B. Reasonable Relocation of Easements

It was well recognized for some time that in Massachusetts law, once the location of an easement has been fixed, it could not be changed by either the holder of the easement or the owner of the servient estate without the other’s consent.⁴ The parties could agree to relocation of the easement and the substitution with a new location for the old one, either expressly or implicitly, such as when one party uses a new location or route and the other party tacitly accepts.⁵ This rule of no unilateral relocation applied whether the easement was created expressly, by implication, or by prescription.

However, in 2004, Massachusetts abandoned this long-established no unilateral relocation rule, and adopted the approach which permits the owner of a servient estate to change the location of an easement without the consent of the easement holder, subject to certain limitations. *M.P.M. Builders, LLC v. Dwyer*, 442 Mass. 87, 88, 91 (2004). This decision adopted the Restatement of Property, Third (Servitudes) §4.8(3) rule, which provides:

Unless expressly denied by the terms of an easement, . . . the owner of the servient estate is entitled to make reasonable changes in the location or dimension of an easement, at the servient owner’s expense, to permit normal use or development of the servient estate, but only if the changes do not

- (a) Significantly lessen the utility of the easement,
- (b) Increase the burdens on the owner of the easement in its use and enjoyment, or
- (c) Frustrate the purpose for which the easement was created.⁶

This rule of reasonable relocation applies only when there is no express prohibition against relocation of the easement in the instrument that created it. *M.P.M. Builders, LLC v. Dwyer*, 442 Mass. at 91. The court also required that, if the easement holder and the owner of the servient estate are unable to reach agreement as to the relocation of the easement, the servient estate owner must seek a declaration from the court that the proposed changes meet the criteria of the rule. *Id.* at 93. The servient estate owner may not resort to self-help remedies but must seek a declaratory judgment before making any alterations. *Id.*

⁴ *Smith v. Lee*, 14 Gray (80 Mass) 473, 480 (1860); *Bannon v. Angier*, 84 Mass. 128, 129 (1861) (abrogated by, *M.P.M. Builders, LLC v. Dwyer*, 442 Mass. 87 (2004)); *Naumkeag Steam Cotton Co. v. American Glue Co.*, 244 Mass. 506, 508 (1923); *Davis v. Sikes*, 254 Mass. 540, 546 (1926) (abrogated by, *M.P.M. Builders, LLC v. Dwyer*, 442 Mass. 87 (2004)); *Anderson v. De Vries*, 326 Mass. 127, 132 (1950) (abrogated by, *M.P.M. Builders, LLC v. Dwyer*, 442 Mass. 87 (2004)).

⁵ *Byrne v. Savoie*, 225 Mass. 338, 340 (1916); *Boston Consol. Gas Co. v. Oakes*, 279 Mass. 230, 237 (1932); *Desotell v. Szczygiel*, 338 Mass. 153, 158 (1958); *Proulx v. D'Urso*, 60 Mass. App. Ct. 701, 705 (2004).

⁶ See also *Carlin v. Cohen*, 73 Mass. App. Ct. 106, 110-112 (2008) (if either party requests judge to reconsider issue whether maintenance of relocated easement would be more burdensome to easement holder to maintain, case would be reconsidered and judge may impose on owner of servient estate increased costs of maintenance caused by relocation that are not de minimis); *Martin v. Simmons Properties, LLC*, 467 Mass. 1, 21-22 (2014) (although dominant owner had right under easement to discharge water into two specified storm drains, servient owner was not required to restore drains after he had covered them because servient owner had placed drains elsewhere on property and there was no evidence that existing drains would be inadequate to handle runoff from dominant owner's lot or from any building that might be constructed on dominant owner's lot).

C. Easements by Prescription and Adverse Possession

Prescriptive Easements

A party may obtain a prescriptive easement through twenty or more years of uninterrupted, open, notorious, and adverse use of another's land. G.L. c. 187, § 2. "The extent of an easement arising by prescription, unlike an easement by grant, is fixed by the use through which it was created." *Lawless v. Trumbull*, 343 Mass. 561, 562 (1962) (See also *Baldwin v. B. & M.R.R.*, 181 Mass. 166, 168 (1902); *Smith v. City of Gloucester*, 201 Mass. 337 (1909), where the Court stated that "the right gained by prescription is limited to the use which brought the prescriptive right into existence.") Courts have allowed that "some latitude . . . in variation of the use is permitted," but "the variations in use cannot be substantial; they must be consistent with the general pattern formed by the adverse use." *Lawless*, 343 Mass. at 563. Indeed, "in the law of easements, a mutation is not within the scope of normal development." *Glenn v. Poole*, 12 Mass. App. Ct. 292, 295 (1981). Furthermore, "unreasonably broad and substantial changes in . . . adverse use cannot be justified except by continuing that substantial use for a new prescriptive period." *O'Brien v. Hamilton*, 15 Mass. App. Ct. 960, 962 (1983). Substantial changes in use "may be found to overload the easement." *Id.*

Adverse Possession

The elements of adverse possession are:

1. Actual use

Adverse possession of another's land must be "actual," meaning that the possessor must make some physical use or occupation of the land just as the average owner of similar property would use and enjoy it. *Shaw v. Solari*, 8 Mass. App. Ct. 151, 156-57 (1979). Such activities may include erection of a fence,⁷ clearing the land, planting a lawn, and placing a structure on the land,⁸ or cultivating the land.⁹ Of course, the nature and extent of the occupancy required to establish a right by adverse possession will vary with the character of the land, the purposes for which the land is adapted, and the uses to which it is put. *LaChance v. First Nat'l Bank & Trust Co. of Greenfield*, 201 Mass. 488, 490 (1938).

2. Open and Notorious

Acquisition of title by adverse possession requires the use of the land to be open and notorious in order to "secure to the owner a fair chance of protecting himself." *Foot v. Bauman*, 333 Mass 214, 217 (1955). Use of the land is open if it is made without attempted concealment, and it is notorious if it is known to persons who could reasonably be expected to notify the owner if he maintained a reasonable degree of supervision over his premises – actual knowledge by the owner of the use is not necessary.

⁷ *Shaw v. Solari*, 8 Mass. App. Ct. 151 (1979).

⁸ *Lyon v. Parkinson*, 330 Mass 374 (1953).

⁹ *Collins v. Cabral*, 348 Mass 797 (1965).

3. Exclusive Possession

An adverse possessor, to gain title, must hold the property to the exclusion of everyone else, rightfully or wrongfully. *Ottavia v. Savarese*, 339 Mass. 330 (1959). In particular, the possession must not be shared with the disseised owner. *Norcross v. Widgery*, 2 Tyng (2 Mass.) 506 (1807).

4. Continuous Possession

The adverse possessor of land must occupy it continuously for 20 years. *Town of Nantucket v. Mitchell*, 271 Mas 62 (1930). This means that there should be no significant break or interruption in the continuous possession of the land for the statutory period. *Shoer v. Daffe*, 337 Mass. 420 (1958). If there is an interruption, there can be no acquisition of title by adverse possession. *Old South Society v. Wainwright*, 156 Mass. 115 (1892). If the acts of possession are occasional or intermittent or equivocal, there is insufficient continuity; *Parker v. Parker*, 1 Allen (83 Mass.) 245 (1861); *Kershaw v. Zecchini*, 342 Mass 318 (1961) yet, when land is normally used for seasonal activities, such use is sufficiently continual. *Lebel v. Nelson*, 29 Mass. App. Ct. 300 (1990).

“Tacking” is the concept that allows the requirement of continuous possession for 20 years to be met by adding together the periods of possession by successive occupiers. *Frost v. Courtis*, 172 Mass 401 (1899); *Wishart v. McKnight*, 178 Mass. 356, 360-362 (1901); *Luce v. parsons*, 192 Mass. 8, 12 (1906).

5. Adverse Use

The key to adverse possession is that the possessor’s use of the land must be adverse or hostile to the true owner, meaning without the permission of the owner. If the true owner gives permission to use his land, there can be no adverse possession. *Kendall v. Selvaggio*, 413 Mass. 619 (1992). However, an owner who know of the possessor’s use and acquiesces or tacitly agrees to it may lose title to the possessor by adverse possession. *Sargent v. Ballard*, 9 Pick. (26 Mass.) 251, 254 (1830). See *Begg v. Ganson*, 32 Mass. App. Ct. 217, 219-221 (1993) (stable operator’s violation of agreement with owners for continued use of property, by erecting extension of stable and opening public riding stable, did not convert his use from permissive to adverse).

M.G.L. c. 260 § 21 provides that “An action for the recovery of land shall be commenced, or an entry made thereon, only within twenty years after the right of action or of entry first accrued, or within twenty years after the demandant or the person making the entry, or those under whom they claim, have been seized or possessed of the premises.” Adverse possession is the expiration of the statute of limitations on an action to recover the land. It should be noted that in order to perfect title, person who acquired property through adverse possession should bring a claim against the true landowner to quiet title, and after succeeding in such claim, record the court decree to and register title to the property.¹⁰

¹⁰ See John H. Perten, *Adverse Possession*, in *Real Estate Title Practice in Massachusetts* (MCLE, 3rd ed. 2017).

Recent Cases

In *Miller v. Abramson*, the Court of Appeals ruled that the Miller's had acquired, by adverse possession, a disputed property from the Abramsons. 95 Mass. App. Ct. 828 (2019). The court focused on the character of the use and that of the size and vegetation of the surrounding land and in finding adverse possession, concluding that the evidence indicated that the Millers had used the disputed area "precisely as the average owner of a similar property would use it in a suburban neighborhood populated with single family homes." *Id.* at 834.

In *Mancini v. Spatacular, LLC*, the Appeals Court ruled that Mancini had acquired through adverse possession land adjoining her property from Spatacular who was the title holder of those properties. 95 Mass. App. Ct. 836 (2019). Most notably, the Appeals Court stated that the test for adverse possession focuses on the "degree of control exercised" by the possessors. *Id.* at 841-42 (citing *Shaw v. Solari*, 8 Mass. App. Ct. 151 (1979)). It also further noted that most importantly, the intensity and nature of the use required to demonstrate the requisite level of control is context-driven, "the actual use and enjoyment of the property as the average owner of similar property would use and enjoy it, so that people residing in the neighborhood would be justified in regarding the possessor as exercising the exclusive dominion and control incident to ownership, establishes adverse possession in the absence of evidence that his possession is under a license or tenancy." *Shaw v. Solari*, 8 Mass. App. Ct. 151, 156-57 (1979).

In *Barnett v. Myerow*, a case addressing longstanding dispute between neighbors on a beach parcel in Edgartown, Martha's Vineyard, over rights on the beach parcel – plaintiff was the upland owner, and the defendant owned the beachfront. 95 Mass. App. Ct. 730 (2019). Plaintiffs claimed that because the waterfront owners had knowledge that they claimed title in all of the beach, then their use of any one portion of the beach was sufficient to put them on notice for use of the entire beach area in question. The court rejected this argument, and supported this rejection with the established legal principle that a prescriptive easement only extends to the area actually used, and that intermittent and irregular use is insufficient to meet the plaintiffs burden of proving an easement by prescription. *Id.* at 740-42. (citing to *Boothroyd v. Bogartz*, 68 Mass. App. Ct. 40 (2007); *Hoyt v. Kennedy*, 170 Mass. 54 (1898)).

Trustees of 3-5 Harvard Road Condominium v. Tam, 2018 WL 6053034 No. 16MISC000662 (Nov 19, 2018). A residence and a commercial condominium occupied in part by a day-care facility shared a poorly delineated boundary in a densely populated neighborhood between Coolidge Corner and Brookline Village. The plaintiff sought a claim to title by adverse possession to a narrow, pie-shaped strip of land running adjacent to their rear yard on land in the record ownership of the defendant. The court held that, except for a small area occupied by a shed, adverse possession claim failed where based on non-exclusive use of land by children attending day care center and for various random and infrequent leaf raking and other activities, including hanging of wet clothing to which the owner of the property objected.

JPM Development, LLC v. Nemetz, 2018 WL 5905128 No. 17MISC000558 (Nov 8, 2018). JPM Development sued Nemetz, claiming that appurtenant to its property is a six-foot drainage easement across the Nemetzes' abutting properties. The court entered in favor of JPM Development a prescriptive easement to allow drainage of stormwater across downhill property.

Putney v. O'Brien, 2018 WL 6183338 No. 14MISC488153 (Nov 27, 2018). Plaintiffs sought a declaration that they had a prescriptive easement to continue draining surface water onto defendants' neighboring property via an existing drainage system which outlets through a pipe in the stone wall which separates the two parties' properties. Based on duration of adverse use, prescriptive easement established to drain naturally accumulating surface water, but not water from basement sump pump, roof gutters, or swimming pool, onto neighbor's land.

V. DOCTRINE OF MERGER: BOUNDARIES CHANGED BY CIRCUMSTANCES OF OWNERSHIP

The doctrine of merger holds that adjacent lots will be treated as held in common ownership for zoning purposes, even if title to the lots is held in different forms, if the same owner “could have used his adjoining land to avoid or diminish the nonconformity.” See *Murphy v. Board of Appeal of Billerica*, No. 195-P-551 (Feb. 18, 2020) (citing *Planning Bd. Of Norwell v. Serena*, 406 Mass. 1008, 1009 (1990)); See also *Sorenti v. Board of Appeals of Wellesley*, 345 Mass. 348 (1963).

In *Murphy v. Board of Appeals of Billerica*, the Appeals court affirmed a decision of the Land Court in a case that applied the doctrine of merger. Murphy claimed that the land in question continued to have grandfather protection, and that the ZBA had erred in upholding a denial of a building permit due to the inadequate size of the lot. When the land had become non-conforming, there was a more generous zoning provision in place that protected the property from the application of the merger doctrine. Years later, the anti-merger provision was eliminated. Despite this change, the landowner claimed that the protection from merger continued, but the ZBA and Land Court disagreed. The Appeals court affirmed, holding that the lots had in fact merged, notwithstanding the “creative” forms of ownership in the property which the plaintiff had created.

VI. WETLAND RESOURCE BOUNDARIES

A. Wetlands Protection Act

M.G.L. c. 131, §40, along with MassDEP regulations 310 CMR §§ 10.01-99 pursuant to the Act, set out a comprehensive scheme of protection for wetlands and land bordering waters, by specifically governing activity that entails the “removal, filling, dredging, or alteration of wetlands and lands bordering waters.”

Municipal laws, in the form of wetland protection ordinances or bylaws, may offer more stringent protection of wetlands and other natural resource areas than the WPA does. 310 CMR 10.01(2) (“nothing contained in 310 CMR 10.00 should be construed as preempting or precluding more stringent protection of wetlands or other natural resource areas by local by-law, ordinance or regulation”); See also *Golden v. Selectmen of Falmouth*, 358 Mass. 519, 526 (1970) (stating that the Act “establishes minimum Statewide standards leaving local communities free to adopt more stringent controls”).

B. Definitions

MassDEP regulations lay out key definitions, including definitions for a list of “resource areas” that fall within the jurisdiction of the WPA and an administrative zone, something in the nature of a setback, around some of them. 310 CMR 10.00.

Bordering Vegetated Wetlands

BVWs are defined as “freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs.

Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants.” 310 CMR 10.55(2)(a).

“Fresh water” wetlands are defined to include “wet meadows, marshes, swamps, bogs, areas where groundwater, flowing or standing surface water or ice provide a significant part of the supporting substrate for a plant community for at least five months of they year; emergent and submergent plant communities in inland waters; and that portion of any bank which touches any inland waters.” M.G.L. ch. 131 § 40.

The boundary of a BVW is the “line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist. Wetland indicator plants shall include but not necessarily limited to those plant species identified in the Act. Wetland indicator plants are also those classified in the indicator categories of Facultative, Facultative+, Facultative Wetland-, Facultative Wetland, Facultative Wetland+, or Obligate Wetland in the National List of Plant Species That Occur in Wetlands: Massachusetts (Fish & Wildlife Service, U.S. Department of the Interior, 1988) or plants exhibiting physiological or morphological adaptations to life in saturated or inundated conditions. 310 CMR 10.55.

Buffer Zone

“The area of land extending 100 feet horizontally outward from the boundary of any area specified in 310 CMR 10.02(1)(a).” 310 CMR 10.04. The areas that are subject to the protection of a buffer zone include “(a)ny bank, freshwater wetland, any coastal wetland, any beach, any dune, any flat, any marsh, or any swamp bordering on the ocean, any estuary, any creek, any river, any stream, any pond, or any lake.” 310 CMR 10.02(1)(a).

Bordering Land Subject to Flooding

Bordering land subject to flooding (BLSF) is “an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland.” 310 CMR 10.57(2)(a)(1).

The boundary of BLSF is the estimated maximum lateral extent of flood water which will theoretically result from the statistical 100-year frequency storm. The boundary is determined by reference to the most recently available flood profile data prepared for the community within which the work is proposed under the National Flood Insurance Program (NFIP, currently administered by the Federal Emergency Management Agency, successor to the U.S. Department of Housing and Urban Development); boundaries determined using this method are presumed to be accurate, a presumption which is rebuttable and may be overcome only by credible evidence from a registered professional engineer or other professional competent in such matters. 310 CMR 10.57(2)(a)(3).

Where NFIP Profile data is unavailable, the boundary of BLSF shall be the maximum lateral extent of flood water which has been observed or recorded. In the event of a conflict, the issuing authority may require the applicant to determine the boundary of BLSF by engineering calculations which shall be:

- a. based upon a design storm of seven inches of precipitation in 24 hours (i. e., a Type III Rainfall, as defined by the U.S. Soil Conservation Service);

- b. based upon the standard methodologies set forth in U.S. Soil Conservation Service Technical Release No. 55, Urban Hydrology for Small Watersheds and Section 4 of the U.S. Soil Conservation Service, National Engineering Hydrology Handbook, and
- c. prepared by a registered professional engineer or other professional competent in such matters. 310 CMR 10.57(2)(a)(3).

The boundary of the ten-year floodplain is the estimated maximum lateral extent of the flood water which will theoretically result from the statistical ten-year frequency storm. 310 CMR 10.57(2)(a)(4).

Note: Riverfront Areas and Land Subject to Flooding do not have buffer zones associated with them. *See* M.G.L. ch. 131, § 40.

Land Subject to Coastal Storm Flowage

Land subject to “any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater.” 310 CMR 10.04.

Land Subject to Flooding

310 CMR 10.04 provides that the definition for land subject to flooding is provided in 310 CMR 10.57(2), provided in Section VI B 3 above.

Vernal Pools

“Confined basin depressions which, at least in most years, hold water for a minimum of two continuous months during the spring and/or summer, and which are free of adult fish populations, as well as the area within 100 feet of the mean annual boundaries of such depressions, to the extent that such habitat is within an Area Subject to Protection under M.G.L. c. 131, § 40 as specified in 310 CMR 10.02(1).¹¹

Riverfront Area

The term “River” means a “natural flowing body of water that empties to any ocean, lake, or other river and which flows throughout the year.” M.G.L. ch. 131, § 40.

Riverfront are is the land that is “situated between a river's mean annual high-water line and a parallel line located two hundred feet away, measured outward horizontally from the river's mean annual high-water line.” M.G.L. ch. 131, § 40.

Riverfront areas do not apply to “any mosquito control work done under the provisions of clause (36) of section five of chapter forty, of chapter two hundred and fifty-two or of any special act or to forest harvesting conducted in accordance with a cutting plan approved by the department of environmental management, under the provisions of sections forty to forty-six, inclusive, of chapter one hundred and thirty-two; and shall not include any area beyond one hundred feet of river's mean annual high water mark: in which maintenance of drainage and flooding systems of cranberry bogs occurs; in which agricultural land use or aquacultural use occur; to construction,

¹¹ Thus protected if within another resource area.

expansion, repair, maintenance or other work on piers, docks, wharves, boat houses, coastal engineering structures, landings, and all other structures and activities subject to licensing or permitting under chapter ninety-one and its regulations; provided that such structures and activities shall remain subject to statutory and regulatory requirements under chapter ninety-one and section forty of chapter one hundred and thirty-one or is the site of any project authorized by special act prior to January first, nineteen hundred and seventy-three.” M.G.L. ch. 131, § 40.

The “riverfront area boundary line” is the line “located at the outside edge of the riverfront area. M.G.L. ch. 131, § 40.

VII. WATERS OF THE UNITED STATES: CHANGING FEDERAL BOUNDARIES

The Navigable Waters Protection Rule: Definition of “Waters of the United States.”¹²

A. Purpose, Background and Overview

Generally “aims to restore and maintain the integrity of the nation’s waters while preserving traditional sovereignty.” Stated Purpose is to “improve clarity” of what is and what is not considered jurisdictional under federal navigable water, and to “improve predictability” allowing for economic growth to move forward.

Waters of the United States (WOTUS) is a threshold term in the Federal Clean Water Act (CWA or the Act). It establishes the scope of federal jurisdiction under the Act. CWA regulatory programs address navigable waters, defined in the statute as the “waters of the United States, including the territorial seas.”

The reform involves a two-step process arising from Executive order. Step one, repeals 2015 Rule and recodifies prior regulations. Step two, the WOTUS Rule, revises the definition of WOTUS, replacing the 2019 rule.

B. Four Categories of WOTUS

1. Territorial seas and traditional navigable waters (defined in paragraph (a)(1) of the rule)

The category of “waters of the United States” defined in (a)(1) includes “territorial seas, and water which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide.” The territorial seas are defined as “the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of three miles. and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide. The agencies have not changed their interpretation of traditional navigable waters in this rule.¹³

¹² The pre-publication version of the final Navigable Waters Protection Rule is located at https://www.epa.gov/sites/production/files/2020-01/documents/navigable_waters_protection_rule_prepublication.pdf

¹³ Refer to legal test established in *The Daniel Ball*, 77 U.S. (10 Wall.) 557, 563 (1870).

2. Tributaries (defined in paragraph (a)(2) of the rule)

The final rule defines “tributary” to mean a river, stream, or similar naturally occurring surface water channel that contributes surface water flow to the territorial seas or traditional navigable waters in a typical year either directly or through one or more tributaries, lakes, ponds, and impoundments of jurisdictional waters, or adjacent wetlands. A tributary must be perennial or intermittent in a typical year. The alteration or relocation of a tributary does not modify its jurisdictional status as long as it continues to satisfy the flow conditions of this definition. A tributary does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a subterranean river, through a culvert, dam, tunnel, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature.

A tributary includes a ditch that either relocates a tributary, is constructed in a tributary, or is constructed in an adjacent wetland as long as the ditch satisfies the flow conditions of the “tributary” definition. A ditch can also be a traditional navigable water if it meets the conditions of that category. All other ditches are excluded from the definition of “waters of the United States,” other than those identified in paragraph (a)(1) and (2) ditches any portion of which are constructed in an adjacent wetland that lack perennial or intermittent flow but that develop wetlands in all or portions of the ditch that satisfy the “adjacent wetlands” definition in paragraph (c)(1).

Distinction from 2015 – No significant nexus test; all ephemeral streams are non-jurisdictional, whereas some may be found jurisdictional under previous rule.

3. Lakes and ponds, and impoundments of jurisdictional waters (defined in paragraph (a)(3) of rule)

A lake, pond or impoundment of a jurisdictional water meets the definition of “waters of the United States” if it (1) satisfies any of the conditions in paragraph (a)(1), *i.e.*, it is a traditional navigable water like Lake Michigan or Lake Mead; (2) contributes surface water flow to the territorial seas or a traditional navigable water in a typical year either directly or through one or more jurisdictional waters; or (3) is inundated by flooding from a paragraph (a)(1) through (3) water in a typical year. A lake, pond, or jurisdictional waters does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a culvert, dike, spillway, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature.

4. Adjacent wetlands

Adjacent wetlands are defined to mean wetlands that

- (1) abut a paragraph (a)(1) through (3) water;
- (2) are inundated by flooding from a paragraph (a)(1) through (3) water in a typical year;
- (3) are physically separated from a paragraph (a)(1) through (3) water only by a natural berm, bank, dune, or similar natural feature; or
- (4) are physically separated from a paragraph (a)(1) through (3) water only by an artificial dike, barrier, or similar artificial structure so long as that structure allows for a direct hydrologic surface connection between the wetlands and the paragraph (a)(1) through

(3) water in a typical year, such as through a culvert, flood or tide gate, pump, or similar artificial feature.

Thus, under the final rule, an adjacent wetland is jurisdictional in its entirety when a road or similar artificial structure (*i.e.*, not naturally occurring) divides the wetland, as long as the structure allows for a direct hydrologic surface connection through or over the structure in a typical year.

C. Waters and Features that Are Not Waters of the United States

In paragraph (b) of the final rule, the agencies are codifying twelve exclusions from the definition of “waters of the United States.” Such waters cannot be determined to be jurisdictional under any of the categories in the rule under paragraph (a). Any water not enumerated in paragraphs (a)(1) through (4) is not a “water of the United States.” In addition to this general exclusion, the final rule specifies additional exclusions for certain common landscape features and land uses that are more appropriately regulated, if at all, under the sovereign authorities of States and Tribes. These include, in addition to the Waters not listed as WOTUS:

1. Groundwater
2. Ephemeral features, including ephemeral streams, swales, gullies, rills, and pools
3. Diffuse stormwater run-off and directional sheet flow over upland
4. Ditches not identified as WOTUS
5. Prior converted cropland
6. Artificially irrigated areas
7. Artificial lakes and ponds
8. Water-filled depressions incidental to mining or construction activity
9. Stormwater control features
10. Wastewater recycling features
11. Waste treatment systems¹⁴

VIII. GREAT PONDS

Great Ponds are defined as any ponds containing in their natural state more than ten acres of land, and shall be subject to any rights in such ponds which have been granted by the commonwealth. M.G.L. c. 91, § 35. Under the regulations, they are defined as any pond which contained more than ten acres in its natural state, as calculated based on the surface area of lands lying below the natural high-water mark. The title to land below the natural low water mark is held by the Commonwealth in trust for the public, subject to any rights which the applicant demonstrates have been granted by the Commonwealth. Mass DEP for regulatory purposes shall presume that any pond presently larger than ten acres is a Great Pond, unless the applicant presents topographic, historic, or other information demonstrating that the original size of the pond was less than ten acres, prior to any alteration by damming or other human activity. 310 CMR 9.02.

The high-water mark for Great Ponds means “the present arithmetic mean of high-water heights observed over a one-year period using the best available data as determined by the

¹⁴ For detailed descriptions of each category, refer to the pre-publication version of the final Navigable Waters Protection Rule, at 244-247.

Department.” *Id.* The natural high-water mark means the historic high-water mark, and the natural low water mark means the historic low water mark. *Id.*

Public Access to Great Ponds. M.G.L. c. 91, § 18A provides for public access to Great Ponds “upon petition of ten citizens of the commonwealth that in their opinion public necessity requires a right of way for public access to any great pond within the commonwealth, the department and the attorney general or a representative designated by him sitting jointly shall hold a public hearing and receive such evidence thereon . . .”

This right to public access to Great Ponds does not apply to a body of water that is “used as a source of water supply by the commonwealth or by any town or district, or water company,” and does not affect the rights of the commonwealth or any town, district or water company to “use and control the water of any such pond for the purposes of a water supply . . .” nor does it affect or diminish existing rights to use the water for manufacturing purposes. *Id.*

A littoral property owner on a Great Pond has ownership of the soil to the low water mark. See *Inhabitants of West Roxbury v. Stoddard*, 89 Mass. 158, 167 (1863); *Potter v. Howe*, 141 Mass. 357, 359 (1886).

Great Ponds which are not being used as a source of water supply, or for certain other purposes, are considered public for the purposes of hunting or boating and are open to all inhabitants of the commonwealth for fishing. M.G.L. c. 131, § 45.¹⁵

A list of jurisdictional great ponds is provided by MassDEP at <https://www.mass.gov/doc/massachusetts-great-ponds-list/download>.

IX. PRIVATE PONDS

The owner of a private pond, had the right to dispose of the water, and of the ice, explicitly holding that the owner of the pond owns the water in it. *Richards v. Gauffret*, 145 Mass. 486 (1888).

In *Inhabitants of Lynnfield v. Inhabitants of Peabody*, the court directly addressed the question of whether an owner of a private pond may make regulations for the use of the pond, and confirmed that owner has exclusive right to use of the water in the pond while it is within the pond, but not to the detriment of property owners on an outlet stream of a pond. 106 Mass. 977 (1914) (stating that even when pond is privately owned, rights of owner to water are not absolute, but subject to the riparian rights of present or future owners of land upon the outlet stream, and that such title confers a right to the bed of the pond with existing rights in the waters, as far as the center of the pond if the grantor’s ownership extended so far).

In *Attorney General v. Herrick*, the court reiterated that the waters of a pond that is not a great pond are owned by its private owners, stating that “the (colonial) ordinance secures to the commonwealth, in the great ponds, the same kind of ownership in the water that an individual purchaser of the entire area of a small pond would by a perfect deed, or by an original grant from the government, without restrictions.” 190 Mass. 307, 309 (1906).

¹⁵ Note that a Great Pond as defined for the purposes of M.G.L. c. 131, and defined in § 1, is one that is 20 acres in size or more

In *Brooks Pond Conservation Association v. Starr*, the Appeals Court upheld Superior Court decision that Brooks Pond was not considered a Great Pond. The Court based its decision on testimony from expert witnesses regarding the size of Brooks Pond in its natural state, and the lack of listing of the Brooks Pond as a Great Pond by the Department of Environmental Protection. 79 Mass. App. Ct. 1130 (2011).

The abutters of a private pond do not by virtue of that ownership have any ownership rights in the pond or any right to use the pond. *Chambers v. Glen Echo Improvement Association*, 23 Mass. L. Rptr 509 (2008); *See also Davis v. Spaulding*, 157 Mass. 431, 435 (1892) (“Water percolating underground and not running in a definite stream or watercourse, is in law a part of the land itself . . . and is the absolute property of the owner of the land.”).

See also Howe v. DiPierro Manufacturing Co., 1 Mass. App. Ct. 81, 85 (1973) (holding that an owner of land could fill in a pond and swamp on his land and enclose a natural water course on his land in a culvert, provided this does not cause flooding of a downstream property).

X. TIDELANDS AND WATERWAYS

A. Chapter 91 Waterways Definitions

M.G.L. c. 91 provides for the licensing of any structure, or filling of any lands or flats in or over tidewaters below the high water mark,¹⁶ construction of pipelines within harbors,¹⁷ construction or extension of structures, or filling of lands in or over any river or stream for which public funds have been expended for improvements for flood control,¹⁸ and a number of other activities. *See also* 310 CMR 9.04(1). 310 CMR 9.02 provides definitions for waterways covered within Chapter 91 jurisdiction. These include:

Waterway

A “waterway” is defined as any area of water and associated submerged land or tidal flat lying below the high-water mark of any navigable river or stream, any Great Pond, or any portion of the Atlantic Ocean within the Commonwealth, which is subject to 310 CMR 9.04. These include:

- (a) Great Ponds;
- (b) The Connecticut River;
- (c) The section of the Westfield River in the Towns of West Springfield and Agawam lying between the confluence of said river with the Connecticut River and the bridge across said river at Suffield Street in said Town of Agawam;
- (d) the non-tidal portion of the Merrimack River; and
- (e) any non-tidal river or stream on which public funds have been expended for stream clearance, channel improvement, or any form of flood control or prevention work, either upstream or downstream within the river basin, except for any portion of any such river or stream which is not normally navigable during any season, by any vessel including canoe,

¹⁶ M.G.L. c. 91, § 14.

¹⁷ *Id.*

¹⁸ M.G.L. c. 91, §§ 12, 12A.

kayak, raft, or rowboat; the Department may publish, after opportunity for public review and comment, a list of navigable streams and rivers. 310 CMR 9.04.

In *Moot v. Department of Environmental Protection* the SJC held that 310 CMR 9.04(2), which provided that “trust lands” subject to licensing and permitting requirements under Chapter 91 included “all filled tidelands, except for landlocked tidelands” to be invalid, because it relinquished the Department’s obligation under Chapter 91 to protect public rights in Commonwealth tidelands as it allowed landlocked tidelands to be exempt entirely from the statutory licensing procedures. These involve a determination by the Department as to whether a proposed use of filled tidelands meets the “proper public purpose” requirement for non-water dependent uses of filled land. *Moot v. Department of Environmental Protection* 448 Mass. 340, 352 (2007). Following *Moot*, provisions relative to fill, uses and structures on landlocked tidelands were modified to address this invalidity of this exemption. M.G.L. c. 91, §§ 18, 18B.

Tidelands

Generally defined by the regulations as “present and former submerged lands and tidal flats lying between the present or historic high-water mark, whichever is farther landward, and the seaward limit of state jurisdiction.

Tidelands include both flowed and filled tidelands...” Flowed Tidelands are “present submerged lands and tidal flats which are subject to tidal action,” and Filled Tidelands are “former submerged lands and tidal flats which are no longer subject to tidal action due to the presence of fill.”

Formerly Filled Tidelands

Filled tidelands are also subject to Chapter 91 jurisdiction. As stated in 310 CMR 9.04 (2), “all filled tidelands, except for landlocked tidelands, and all filled lands lying below the natural high water mark of Great Ponds,” are considered “trust lands” and subject to the licensing and permitting requirements of Chapter 91.

Commonwealth Tidelands

Defined as “tidelands held by the Commonwealth, or by its political subdivisions or a quasi-public agency or authority, in trust for the benefit of the public; or tidelands held by a private person by license or grant of the Commonwealth subject to an express or implied condition subsequent that it be used for a public purpose.” The regulations direct the MassDEP to presume that (a) “tidelands are Commonwealth tidelands if they lie seaward of the historic low water mark or of a line running 100 rods (1650 feet) seaward of the historic high water mark, whichever is farther landward; such presumption may be overcome only if the Department issues a written determination based upon a final judicial decree concerning the tidelands in question or other conclusive legal documentation establishing that, notwithstanding the Boston Waterfront decision of the Supreme Judicial Court, such tidelands are unconditionally free of any proprietary interest in the Commonwealth,” and (b) “tidelands are not Commonwealth tidelands if they lie landward of the historic low water mark or of a line running 100 rods (1650 feet) seaward of the historic high water mark, whichever is farther landward; such presumption may be overcome only upon a showing that such tidelands, including but not limited to those in certain portions of the Town of Provincetown, are not held by a private person.”

Private Tidelands

Privately owned tidelands are subject to the Public Trust Doctrine. *See Commonwealth v. Alger*, 61 Mass. (7 Cush.) 53, 81 (1851). These are tidelands “held by a private person subject to an easement of the public for the purposes of navigation and free fishing and fowling and of passing freely over and through the water.”

This means that ownership of the shore is subject to the rights of every member of the public to:

- pass on foot over the shore for the purposes of fishing and fowling¹⁹
- pass over the shore in boats and other vessels for navigation, fishing and fowling²⁰
- to swim or float in tidal waters²¹

However, these rights do not include the rights to use the shore for bathing or sunning. *See Butler v. Attorney General*, 195 Mass. 79 (1907); *See also Opinion of the Justices to Senate*, 383 Mass. 895 (1981).

MassDEP is directed to presume, in accordance with the Colonial Ordinances of 1641-1647 that “tidelands are private tidelands if they lie landward of the historic low water mark or of a line running 100 rods (1650 feet) seaward of the historic high water mark, whichever is farther landward; such presumption may be overcome upon a showing that such tidelands, including but not limited to those in certain portions of the Town of Provincetown, are not held by a private person or upon a final judicial decree that such tidelands are not subject to said easement of the public.”

In *Porter v. Sullivan*, 7 Gray 441 (1856) and *Valentine v. Piper*, 22 Pickering 85, 93-94 (1839), the court made it clear that ownership of an upland parcel and the flats may be separated. “An owner may separate his upland from his flats, by alienating the one without the other.” *Valentine* at 94. “The owner may convey the upland land without the flats, or the flats without the upland.” *Porter* at 445. However, this is not a conclusive presumption but rather rebuttable.

B. Boundaries and List of Ways

The Massachusetts Historic Shoreline Change Project, compiled and maintained by the Massachusetts Coastal Zone Management Office, provides maps and data that show the relative positions and long-term change rates of historic shorelines between the mid 1800s and 2009. The project presents both long-term (approximately 150-year) and short term (approximately 30-year) shoreline change rates at 50-meter. This database is available at <https://www.mass.gov/service-details/massachusetts-shoreline-change-project>.

The Massachusetts Ocean Resource Information System (MORIS) also provides information related to Chapter 91 jurisdiction, by maintaining GIS layers of resource area information pertaining to Chapter 91 waterways. Information about access to these maps and data is available at <https://www.mass.gov/service-details/massachusetts-ocean-resource-information-system-moris>.

¹⁹ *Commonwealth v. Hilton*, 174 Mass. 29 (1899); *Paine v. Woods*, 108 Mass. 160 (1871); *Proctor v. Wells*, 103 Mass. 216 (1869); *West Roxbury v. Stoddard*, 89 Mass. (7 Allen) 158 (1863); *Commonwealth v. Roxbury*, 75 Mass. (9 Gray) 451 (1857); *Dunham v. Lamphere*, 69 Mass. (3 Gray) 268 (1855); *Sale v. Pratt*, 36 Mass. (19 Pick.) 191 (1837); *Ingraham v. Wilkinson*, 21 Mass. (4 Pick.) 268 (1826); *Commonwealth v. Charlestown*, 18 Mass. (1 Pick.) 180 (1822).

²⁰ *Old Colony St. Ry. Co. v. Phillips*, 207 Mass. 174 (1911); *Butler v. Attorney General*, 195 Mass. 79, (1907).

²¹ *Butler v. Attorney General*, 195 Mass. 79 (1907).

Where the shore of a river is relatively straight, abutting owners' title to the riverbed is delineated by extending the shared lot line at right angles to the centerline of the river, unless the grantor expressly states otherwise. *Knight v. Wilder*, 2 Cush. 199, 208-209 (1848). Divisions are made by drawing lines at right angles from the termini of the side lines on the shore to and at right angles with the throat of the stream. *Tappan v. Boston Water-Power Co.*, 157 Mass. 24, 30 (1892).

XI. BOUNDARIES IN DEEDS: CANONS OF INTERPRETATION

A. Particularity and Presumed Intent

A deed must describe the land conveyed with sufficient particularity so as to identify it. *McHale v. Treworgy*, 325 Mass. 381, 385 (1950). In order for the conveyance made to be valid, it is essential that the land that is the subject of the conveyance be capable of identification; if the conveyance does not describe the land with sufficient particularity so as to make its identification possible, the conveyance is null, and is invalid conveying no land. *Id.*

“The basic principle governing the interpretation of deeds is that their meaning, derived from the presumed intent of the grantor, is to be ascertained from the words used in the written instrument, construed when necessary in the light of the attendant circumstances.”²² *Shefel v. Lebel*, 44 Mass. App. Ct. 175, 179 (1998).

B. Inconsistencies and Lack of Evidence

Where inconsistent descriptions of a parcel of land are contained within a deed, ambiguity is resolved by the more specific description which governs; the addition of an inconsistent general description does not enlarge the grant. *See Presbrey v. Presbrey*, 95 Mass. 281, 13 Allen 281, 283 (1866); *Morse v. Chase*, 305 Mass. 504, 507–508 (1940); *W.M. Gullicksen Mfg. Co. v. MacNeil*, 347 Mass. 568, 575, 199 N.E.2d 195 (1964), citing *Crabtree v. Miller*, 194 Mass. 123, 126, 80 N.E. 225 (1907).

If the deed lacks evidence of a different intention, the priority for descriptions to be relied on is as follows:²³

1. Monuments, which includes neighboring land owned by someone other than the grantor²⁴
2. Courses and bearings in a running description²⁵
3. Distances²⁶
4. Area²⁷

²² See *J.S. Lang Engr. Co. v. Wilkins Potter Press*, 246 Mass. 529, 532 (1923); *Suburban Land Co. v. Billerica*, 314 Mass. 184, 189–190 (1943); *Barchenski v. Pion*, 9 Mass.App.Ct. 896, (1980).

²³ See *Raymon v. Jackson*, 297 Mass. 509, 511 (1937) (“Area is comparatively unimportant in the construction of a deed. Distances are of less weight than courses exactly defined. Monuments are usually given more weight than either.”).

²⁴ See *Daviau v. Betourney*, 325 Mass. 1, 2 (1949) (“Boundaries by other lands, as well as by other kinds of monuments, control distances in the construction of a deed.”); *Ryan v. Stavros*, 348 Mass. 251 (1964); *Sheftel v. Lebel*, 44 Mass. App. Ct. 175 (1998); *Fulgenitti v. Cariddi*, 292 Mass. 321 (1935); *Holmes v. Barrett*, 269 Mass. 497 (1930); *McMahon v. Blanchard*, 265 Mass. 56 (1928); *Stefanick v. Fortuna*, 222 Mass. 83 (1915); *Temple v. Benson*, 213 Mass. 128 (1912); *Howe v. Bass*, 2 Mass. 380 (1807).

²⁵ See *Iverson v. Swan*, 169 Mass. 582 (1987).

²⁶ See *Raymon v. Jackson*, 297 Mass. 509, 511 (1937).

²⁷ See *Holmes v. Barrett*, 269 Mass. 497 (1930); *Hall v. Eaton*, 139 Mass. 217 (1885); *Powell v. Clark*, 5 Mass. 355 (1809); *Morse v. Kelley*, 305 Mass. 504, 507-508 (1940).

Parol evidence is admissible, for the purpose of determining the intent of the parties, where the description of property in a deed is ambiguous. “Where general terms only are used to designate the subject-matter of the agreement or conveyance, or the description is of a nature to call for evidence to ascertain the relative situation, nature and qualities of the estate, then parol evidence is not only admissible, but is absolutely essential to ascertain the true meaning of the instrument, and to determine its proper application with reference to extrinsic circumstances. *Gerrish v. Towne*, 69 Mass. (3 Gray) 82, 87 (1854).

C. Ambiguities and Extrinsic Evidence

There are two forms of latent ambiguity: (1) where an instrument clearly describes a person or thing, and two or more persons or things exactly fit with that description, and (2) where no person or thing exactly fits the description provided in an instrument but two or more persons or things partially fit that description. *Adams v. Peterson*, 35 Mass. App. Ct. 782 (1994).

The doctrine of acquiescence provides that, where the description in the deed is unclear, extrinsic evidence is admissible to establish the parties’ interpretation of the deed, as exhibited by their behavior. However, these acts must amount to an acceptance of a line, fence or other marker as a boundary. Simply agreeing to the existence of a fence or a line as a barrier is insufficient to establish a boundary under this doctrine. *Ryan v. Stavros*, 348 Mass. 251, 260-61 (1964) (citing *Iverson v. Swann*, 169 Mass. 582, 583–584 (1897); *Douglas v. Harty*, 343 Mass. 775 (1961)).

D. Access to Public and Private Ways

The question sometimes arises whether the owners of land within a proposed subdivision have the right to use the ways on which access is proposed. If the ways in a previously developed subdivision have not been accepted as public ways, this may be problematic.

A way is not public unless it has become in one of three ways: (1) a laying out by public authority in the manner prescribed by statute; (2) prescription; or (3) prior to 1846, a dedication by the owner coupled with acceptance by the public. *Fenn v. Town of Middleborough*, 7 Mass. App. Ct. 80, 83-84 (1979) (citing *Longley v. City of Worcester*, 304 Mass. 580, 587-589 (1939); *Ulliaz v. Gillette*, 357 Mass. 96, 104 (1970)).

This point was illustrated by *Southwick v. Planning Board of Plymouth*, 65 Mass. App. Ct. 315 (2005). A subdivision was approved and built, but the subdivision way was not accepted as a public way. Pursuant to G.L. c. 183, sec. 58, each of the owners of the subdivision lots held title to the centerline of the subdivision way, subject to the rights of the owners of the other lots in the subdivision to pass and repass.

E. Boundaries by the Water or Bank

The “presumption of law, is that title to the flats follows that of the upland on which they lie, and proof of title to the upland establish(es) a title to the flats.” *Porter v. Sullivan*, 7 Gray 441, 445 (1856). “The general principle is that a boundary by the tide water passes the flats, but a boundary by the land under the water excludes them.” *Commonwealth v. Roxbury*, 75 Mass. 451, 524 (1857). The “flats are included in a grant bounded ‘by the harbor,’²⁸ ‘by the sea or salt

²⁸ *Mayhew v. Norton*, 17 Pick. 359 (1835).

water,’²⁹ ‘by the sea,’³⁰ ‘by the creek,’³¹ ‘on the stream,’³² or ‘river,’³³ or ‘bay.’³⁴ On the other hand, ‘by the shore,’³⁵ or ‘beach,’³⁶ or ‘flats’³⁷ excludes the flats.” *Id* and all cases cited therein.

Porter v. Sullivan, 7 Gray 441 (1856) and *Valentine v. Piper*, 22 Pickering 85, 93-94 (1839) make clear that ownership of an upland parcel and the flats may be separated. “An owner may separate his upland from his flats, by alienating the one without the other.” *Valentine* at 94. “The owner may convey the upland land without the flats, or the flats without the upland.” *Porter* at 445. However, this is not a conclusive presumption but rather rebuttable.

The owner of an upland parcel also owns the adjoining flats as far out as the mean low water line OR 100 rods (1650 ft) from the mean high-water line, whichever is less, unless the two parcels are severed. *Opinion of the Justices*, 365 Mass. 681, 685 (1974); *See also Mayhew v. Norton*, 34 Mass. (17 Pick.) 357 (1835).

In *Storer v. Freeman*, 6 Mass. 439, 439-440 (1810) the SJC described the distinction between a conveyance bounded “by the sea or salt water” or other boundaries equivalent in meaning, and a conveyance not expressly bounded on the sea or salt water, but rather extending to the sea-shore or bounded by the sea-shore. The SJC substituted “flats” for “shore” and held that:

“the land described will then extend to the flats, and be bounded by the flats. On this substitution the construction is manifest. The land conveyed extends *to* the flats, but not *over* them; and the flats, being a bound of the land conveyed, are not a part of it. Thus, by a strict and technical construction of the description of the land conveyed, we are satisfied that no part of the flats passed by the first deed.” *Id.* (emphasis in original).

In *Hatch v. Dwight*, 17 Mass. 289, 298 (1821), the court stated that “(t)he land released is limited to the bank of the stream, which necessarily excludes the stream itself; and there are no general words by which a right to keep up a dam there, can be said to be conveyed.”

Kane v. Vanzura held that tidelands were not adjacent to the uplands conveyed under the deed in the usual sense, as the uplands abutted a way on one side and the tidelands abutted the way on the other side. In such circumstances, the way is considered a bounding monument, and such a boundary by a way excludes the flats which are beyond it. 78 Mass. App. Ct. 749, 754 (2011).

However, these cases recognize that these general rules may be affected by a contrary intent evidenced by the specific language in a deed. *Commonwealth v. Roxbury*, 75 Mass. at 524.

²⁹ *Green v. Chelsea*, 24 Pick. 77 (1836).

³⁰ *Saltonstall v. Long Wharf*, 7 Cush. 200 (1851).

³¹ *Harlow v. Fisk*, 12 Cush. 302 (1853).

³² *Lapish v. Bangor Bank*, 8 Greenl. 92, 93 (1831).

³³ *Moore v. Griffin*, 22 Maine, 350 (1843).

³⁴ *Partridge v. Luce*, 36 Maine, 19 (1853).

³⁵ *Storer v. Freeman*, 6 Mass. 439 (1810).

³⁶ *Niles v. Patch*, 13 Gray, 257 (1859).

³⁷ *Storer v. Freeman*, 6 Mass. 439 (1810); *Saltonstall v. Long Wharf*, 7 Cush. 200 (1851).

F. How Far Out to Sea: Mean Low or 100 rods

The high-water line at ordinary tides is the landward boundary of tidal flats or seashore. The sea-shore is defined as the margin of the sea, in its usual and ordinary state. *Storer v. Freeman*, 6 Mass. 435, 439 (1810). “(W)hen the tide is out, low water mark is the margin of the sea; and when the sea is full, the margin is high water mark. The sea-shore is therefore all the ground between the ordinary high-water mark and low water mark.” *Id.*

See also Castor v. Smith, 211 Mass. 473, 474-475 (1912) (defining the term “beach” in grants of lands bounded upon tidal waters, to mean “the space between ordinary high and low water maker, or the space over which the tide usually ebbs and flows) (emphasis added).

Every owner of land bounded on tidal waters has title to the shore or flats to low water mark, but no farther than 1,650 feet (or 100 rods). The Colonial Ordinance of 1641-1647 declared that private ownership along the tide waters extend to the ‘low water mark where the sea doth not ebb above one hundred rods, and not more wheresoever it ebbs further’ subject to the public rights of navigation, fishing, and fowling.

G. Defining the Low Water Mark

Neither the Colonial Ordinance of 1641-1647 nor *Storer v. Freeman* specified criteria for identifying the exact location of an ordinary low water mark, but it was generally “clear that the court did not mean a low water mark reflecting the lowest possible level the sea might ever have reached.” *Rockwood v. Snow Inn Corp.*, 409 Mass. 361, 367 (1991) (reviewing the case law on boundaries of tidelands).

Butler v. Attorney General, 195 Mass. 79, 83 (1907). Under the colonial ordinance of 1641-47, private ownership, subject to the right of navigation and other public rights, is extended to low-water mark where the sea doth not ebb above one hundred rods, and not more wheresoever it ebbs further.

In *East Boston Co. v. Commonwealth*, the court, constraining the Colonial Ordinance as referring to the “extreme low water mark,” considered the reference to be the extreme low water at an ebb of the tide “resulting from usual causes and conditions.” In *Opinion of the Justices*, 365 Mass. 681, 684 (1974), the Justices interpreted *Storer* as holding that the Colonial Ordinance of 1641-1647 “extended private titles to encompass land as far as mean low water line or 100 rods from the mean high-water line, whichever was the lesser measure.” The Appeals Court had made the determination that the “low water mark” or terms of similar nature and effect shall mean the mean low water mark as defined by the National Geodetic Vertical Datum (NGVD), resolving the ambiguity of the much more subjective “usual causes and conditions” test which “provides little predictive value, and creates the need for case-by-case adjudication.” *Spillane v. Adams*, 76 Mass. App. Ct. 373, 386-392 (2010) (establishing that the standard for determining the location of the low water mark for the purposes of determining party ownership is based on the NGVD).

For the purposes of M.G.L c. 91 regulations, the high-water line is an average of the high tide lines over a nineteen-year period. 310 CMR § 9.02.

XII. SHAPE OF LOTS OUT INTO WATER

A. Division of Water Sheet Generally

There is no single rule for the division of flats among upland property owners that applies to all cases. John J. Whittlesey, *Law of the Seashore, Tidewaters and Great Ponds* 59 (1932).

In *Walker v. Boston & M.R.R.* the SJC stated that there is no general rule of division. Due to the nature of irregularity and variety of coves, inlets, estuaries, and rivers, it is “impossible to apply to them any of the rules which have been applied to other cases.” 57 Mass. 1, 22 (1849). The court advised that the application of the Ordinance of 1641 “according to its true spirit; and by as near an approximation as practicable, to the rules which have been juridically established, to lay down such a line of division, as to give each riparian proprietor his fair and equal share.” *Id.*

The guiding principle, where conditions in a particular case do not accord with any established rule of division, is to give each property owner a fair and proportional share of the flats. *Law of the Seashore, Tidewaters and Great Ponds* at 59. The intention of the Ordinance was, if practicable, to give every proprietor the flats in front of his upland of equal width with his lot at high-water mark; but in many cases this approach isn’t practical. *See Gray v. Deluce*, 59 Mass. 9, 12 (1849) (determining that in the case of a cove, the division “is to be made by running a base line across the mouth of the cove, and the whole flat within the cove are to be divided among the proprietors, by parallel lines, at right angles with the base line...” also noting that these parallel lines were not to interfere with the rights of adjacent property owners).

See also Porter v. Sullivan, 73 Mass. 441, 443 (1856) (stating that shape proceeding seaward varies based on circumstances of a case, and noting that “if the shore is convex, the flats attached to it, in proceeding seaward, will expand; if very prominent, the flats will be of a fanlike shape.”); *See also Wonson v. Wonson*, 96 Mass. 71, 74 (noting that there is no established rule for division shorelines).

See also Tapan v. Boston Water-Power Co., 157 Mass. 24 (1892) (holding that when land bounds a running stream which is within the ebb and flow of the tide, and out of which the tide wholly ebbs, but which at ebb tide is still a stream with well-defined banks, the Colonial Ordinance of 1641-1647 does not extend the boundary of the land of the riparian or literal owners across the stream or beyond the line of low water of the stream).

There are several leading rules established for the division of flats. *Law of the Seashore, Tidewaters and Great Ponds* at 59-60. These are:

- (1) Dividing lines are, generally, to be drawn in the most direct course from high water mark towards low water mark,³⁸
- (2) Where practicable, each proprietor is entitled to flats in front of his upland of the same width at low water as at high water,³⁹ and
- (3) Flats are to be divided so as to give to each parcel a width at the outer or seaward end proportional to the high-water line.⁴⁰

³⁸ *Walker v. Boston & M.R.R.*, 57 Mass. 1 (1849); *Porter v. Sullivan*, 73 Mass. 441 (1856); *Attorney General v. Boston Wharf Co.*, 78 Mass. 553 (1859); *Wonson v. Wonson*, 96 Mass. 71 (1867).

³⁹ *Valentine v. Piper*, 39 Mass. 85 (1839); *Gray v. Deluce*, 59 Mass. 9 (1849); *Wonson v. Wonson*, 96 Mass. 71 (1867).

⁴⁰ *Walker v. Boston & M.R.R.*, 57 Mass. 1 (1849); *Gray v. Deluce*, 59 Mass. 9 (1849); *Porter v. Sullivan*, 73 Mass. 441 (1856); *Wonson v. Wonson*, 96 Mass. 71 (1867); *Tapan v. Boston Water-Power Co.*, 157 Mass. 24 (1892).

Smaland Beach Association, Inc. v. Genova provides a recent example of division of a riverbed, relying on *Tapan*. 94 Mass. App. Ct. 106, 112 (2018) (noting that where the shore of a river is relatively straight, abutting owners' title to the riverbed is delineated by extending the shared lot line at right angles to the centerline of the river, unless the grantor expressly states otherwise).

In cases where the high-water line is very curved, either concave or convex, the flats appurtenant to the corresponding upland cannot be of equal width throughout. *Id.* Divisions should be made in such a way as to give each proprietor access to the water, without interfering with access of neighbors. *Law of the Seashore, Tidewaters and Great Ponds* at 60; *Knight v. Wilder*, 56 Mass. 199 (1848); *Porter v. Sullivan*, 73 Mass. 441 (1856); *Wonson v. Wonson*, 96 Mass. 71 (1867).

The direction of the side lines of flats is not governed by the side lines of the upland. *Law of the Seashore, Tidewaters and Great Ponds* at 60.

See *Rust v. Boston Mill Corp.*, 23 Mass. 158 (1828) (deciding that in a case where the flats to be divided were within a deep cove with narrow mouth, where it was impossible to make the division among the several proprietors by parallel lines, from necessity the division was made by running converging divisional lines from high water mark to the mouth of the cove); See also *Piper v. Richardson*, 50 Mass. 155, 158 (1845) (emphasizing that the side lines of the upland have no influence in deciding the direction of the exterior side lines of the flats); See also *Curtis v. Francis*, 63 Mass. 427 (1852).

Where the shoreline generally follows a straight line, a straight line is drawn from the shoreline at high water mark, extending the side lines of the lots being extended at right angles from the shore towards low water. *Law of the Seashore, Tidewaters and Great Ponds* at 60; *Knight v. Wilder*, 56 Mass. 199 (1848); *Porter v. Sullivan*, 73 Mass. 441 (1856); *Wonson v. Wonson*, 96 Mass. 71 (1867).

If a cove is shallow and there is no channel, a base line is run across the mouth and parallel lines at right angles to the base line are drawn to the ends of the division lines of the upland area. *Law of the Seashore, Tidewaters and Great Ponds* at 62; *Gray v. Deluce*, 59 Mass. 9 (1849); *Attorney General v. Boston Wharf Co.*, 78 Mass. 553 (1859).

The direction of the side lines of flats in a cove may be modified by the course of the channel bounding them or by the position of other channels between part of that channel and the upland. *Law of the Seashore, Tidewaters and Great Ponds* at 63; *Walker v. Boston & M.R.R.*, 57 Mass. 1 (1849); *Commonwealth v. Alger*, 61 Mass. 53 (1851); *Porter v. Sullivan*, 73 Mass. 441 (1856); *Attorney General v. Boston Wharf Co.*, 78 Mass. 553 (1859). Lines may diverge to low water after passing the mouth of a cove. *Law of the Seashore, Tidewaters and Great Ponds* at 62; *Walker v. Boston & M.R.R.*, 57 Mass. 1 (1849).

For deep coves, out of which the tide ebbs completely at low water, these are divided by drawing a line across the mouth, and each proprietor is given a width on the baseline proportionate to the width of his/her shoreline and then straight converging lawns are drawn out. *Law of the Seashore, Tidewaters and Great Ponds* at 63; *Rust v. Boston Mill Corp.*, 23 Mass. 158 (1828); *Inhabitants of Deerfield v. Arms*, 34 Mass. 41 (1835); *Ashby v. Eastern R. Co.*, 46 Mass. 368 (1842); *Wheeler v. Stone*, 55 Mass. 313 (1848); *Tapan v. Boston Water-Power Co.*, 157 Mass. 24 (1892).

If the low water line is within the cove, between the high water line and base line from headland to headland, flats are divided by taking the whole length of the upland at high water, and ascertaining each owner's proportion, giving him/her the same proportion of the low water line, and then drawing the sidelines straight out from each proprietor's lines at high water to his/her corresponding points at low water. In determining the length of the lines, either at high or low water, a general line should be taken and not the actual length of the line if it happens to be elongated by deep indentations or sharp projections. *Law of the Seashore, Tidewaters and Great Ponds* at 64; *Wonson v. Wonson*, 96 Mass. 71 (1867).

Where a cove is not fully exposed at low tide, but is an arm of the sea with a constant channel, the proprietors take the proportion of the flats that is equal to their respective shore lines in relation to the channel line. *Law of the Seashore, Tidewaters and Great Ponds* at 64; *Ashby v. Eastern R. Co.*, 46 Mass. 368 (1842); *Walker v. Boston & M.R.R.*, 57 Mass. 1 (1849).

Where flats are in the bed of a freshwater stream which empties out into the ocean, and are covered by the tide at high water, the rule of division for ownership of opposite proprietors is to give each an equal share of the bed in proportion to his/her line in front of or adjacent to the upland, or by lines drawn at right angles to the thread of the stream. *Law of the Seashore, Tidewaters and Great Ponds* at 61; *Ingraham v. Wilkinson*, 21 Mass. 268 (1826); *Bardwell v. Ames*, 29 Mass. 333 (1839); *Harlow v. Fisk*, 66 Mass. 302 (1853); *Boston v. Richardson*, 95 Mass. 146 (1866) (additional citations omitted). The center of the stream is the midway line between the banks, but that is not necessarily the center of the channel. *Tapan v. Boston Water-Power Co.*, 157 Mass. 24 (1892). The lowest line of the tide in a river or cove, not that of a freshwater stream emptying into the sea, is what was intended by the Colonial Ordinance. *Id.* at 30.

B. Divisions by Curative Proceedings

M.G.L. c. 240, §§ 19 through 26, which are referenced in M.G.L. c. 185, §1(h), contain provisions that outline the approach for determinations of the lines and boundaries of ownership of land or flats adjacent to or covered by high water. M.G.L. c. 185, §1(h) gives the Land Court exclusive original jurisdiction over such determinations. The Land Court may, but is not required to, appoint commissioners to hear and report on such determinations.

A determination on this type of matter by the Land Court is final, but it does not affect any right or title of the Commonwealth to any flat, unless it consents to become a party to the proceeding. Edward C. Mendler, *Other Curative Proceedings*, *MACONVEY* § 10:9 (4th Ed. 2019).

C. Municipal Boundaries in the Ocean

M.G.L. c. 42, § 1 states that “(t)he seaward boundary of cities and towns bordering on the open sea shall coincide with the marine boundary of the commonwealth.”

Town of Orleans v. Town of Eastham, 2016 WL 6583812 No. 15MISC000275KFS (Nov. 4 2016) identifies the sources of law that should be relied upon to define such boundaries. It states that these include, but are not limited to the Atlas published by the Harbor and Land Commissioners, and colonial act establishing the towns.

XIII. GROUNDWATER OWNERSHIP AND USE

A. Use to the Detriment of Abutters and Application of the Standard of Reasonableness

The rights of property owners in subsurface or ground waters is distinct from their rights of ownership in surface waters. In *Davis v. Spaulding*, the SJC held that private landowners have an absolute ownership of subsurface waters, creating the absolute ownership doctrine. 157 Mass. 431, 435 (1892) (holding that “water percolating underground, and not running in a definite stream or water course, is in law a part of the land itself, in the same sense that earth, gravel, stones, or minerals of any kind are constituent parts of the land, and is the absolute property of the owner of the land . . .”).

A landowner has the right to use subsurface waters as they saw fit, even if such use resulted in loss of water in neighboring land. *Id.*; *See also Gamer v. Town of Milton*, 346 Mass. 617, 620-621 (1964) (describing the Commonwealth’s reliance on the absolute ownership doctrine for subsurface percolating waters, and affirming that such ownership allows use of waters “as (owner) sees fit, even if this results in a loss of water in his neighbor’s land.”).

In *Wilson v. City of New Bedford*, the SJC stated that a property owner may use subsurface waters to the detriment of abutting property owners, and that the property owner may “dig a well . . . take the water which would otherwise pass by natural percolation into his neighbor’s land, and draw off the water which may come by natural percolation from his neighbor’s land . . .” 108 Mass. 261, 265 (1871).

There are limitations to the absolute ownership doctrine. Such rights are subject to the limitation in that they pertain only to natural percolation and not artificially created percolation. A landowner is liable for use or removal of percolating waters, where such removal is done with the malicious purpose of depriving an adjoining landowner of its use of groundwater. *Greenleaf v. Francis*, 35 Mass. 117, 122 (1836). An owner is liable for removal of percolating water if it is done in a negligent manner and results in injury to the adjoining owner’s land or any improvements made to the land. *See Gamer v. Town of Milton*, 346 Mass. 617, 621 (1964); *See also Deyo v. Athol Housing Authority*, 335 Mass. 459 (1957) (discussing the lack of a distinction between injuries stemming from collected or retained water from the flow of surface water or from subsurface percolation).

The SJC has been asked to modify this rule of absolute ownership to reasonable use, but has denied to do so, but also mentioned that it may be inclined to reexamine the doctrine in the future. *See Prince v. Stockdell*, 397 Mass. 843, 845 (1986) (stating that based on the case before them, they would not make a determination as to whether the reasonable use test should apply in the context of subsurface waters).

The Commonwealth, local government, water authorities, and water districts have extensive regulatory authority over groundwater and its use. *See* M.G.L. c. 21G (authorizing regulations limiting water withdrawal volumes); *See also Walsh v. Hingham Mut. Fire Ins. Co.*, 24 Mass. L. Rptr. 51 (2008) (providing a discussion of the authority of the Commonwealth over groundwater).

The Massachusetts Water Management Act recognizes the importance of protecting water resources for a number of public purposes, and authorizes the state to regulate large-volume withdrawals of 100,000 gallons per day or more. M.G.L. c. 21G, §§ 2-3; 310 C.M.R. § 36.07 (authorizing conditions on registered withdrawals).

Where groundwater is used as a public water supply, a protective radius around the supply well must be established to guarantee direct or perpetual ownership or control of the restricted area (referred to as Zone I). The size of this required protective radius is calculated based on the volume of water to be pumped from the well daily.

For such supplies that are larger than 100,000 gpd, the owner is required to also delineate the area of the aquifer that contributes to the well under worst-case pumping and recharge scenarios (Zone II), as well as further area from which surface and groundwater drain into Zone II (Zone III). *See* “Guidelines and Policies of Public Water Systems” Ch. 4, § 5; 310 CMR § 36.00.

B. Recent Cases on Well Withdrawals

Town of Concord v. Littleton Water Department, 2019 WL 5100376 No. 18 MISC000596 (Oct 11, 2019)

Where plaintiff, the Town of Concord, commenced an action against defendant, Littleton Water Department (LWD) seeking a declaration as to the extent to which LWD’s claimed right to withdraw water from Nagog Pond pursuant to Chapter 201 of the Acts of 1884, § 10, had been superseded by the Water Management Act (WMA), and specifically to what extent Concord’s registration of rights under the WMA essentially negated LWDs rights under the 1884 Act. The Land Court held that the WMA did in fact impliedly repeal the 1884 Act, and any rights granted to Littleton and Acton through the LWD to water withdrawals from Nagog Pond, including groundwater wells in the vicinity of the Pond.

XIV. SUBSURFACE & AIRSPACE: OWNERSHIP AND SHAPE

A. Airspace

At common law, ownership of land included ownership of the airspace above the surface of the land to an indefinite height. *See Smith v. New England Aircraft Co.*, 270 Mass. 511, 519 (1930) (referencing this doctrine but acknowledging that “whatever the precise technical rights of the landowner to the airspace above his land, the possibility of his actual occupation and separate enjoyment of it as a feasible accomplishment has through all periods of private ownership of land been extremely limited”); *See also Burnham v. Beverly Airways*, 311 Mass. 628, 635 (1942).

Traditionally, an owner could assert an action of trespass against an adjoining property owner for any intrusion into the airspace which overhang the plaintiffs land. *See Codman v. Evans*, 87 Mass. 308 (1862) (asserting trespass against property owner by adjoining property owner who erected a bay window over the plaintiff’s land); *See also Smith v. Smith*, 110 Mass. 302 (1872) (finding trespass where defendant erected a building (eves) over plaintiff’s land).

The air transportation industry spurred modification of this common law rule, with both federal and state laws that have been enacted to establish “navigable air space” above a prescribed minimum altitude over privately-owned land such that such action no longer constitutes trespass. *See M.G.L. c. 90, 35(p)* (defining navigable airspace); *M.G.L. c. 90, 46* (stating that the flight of aircraft within navigable airspace is lawful unless at such low altitudes as to interfere with the then existing use to which the land or water or space over the land or water is put by the owner or occupant).

Flights that are below the prescribed minimum altitude may be considered trespass against the right of the landowner, and may be enjoined if such trespass unjustifiably interferes with the owner's use of land. See *Burnham v. Beverly Airways*, 311 Mass. 628, 637 (1942) (enjoining flights below the prescribed minimum altitude of 500 feet over the plaintiff's house and grounds, as there was no public necessity for such an invasion and the noise it caused on plaintiff's property).

In some instances, even if flight is within the navigable airspace, it may be so low and so frequent, where the resulting attendant noise results in a direct interference with the use and enjoyment of private land effectuating a taking and resulting in an easement in the overhead airspace to which the landowner is entitled to damages as compensation. See *U.S. v. Causby*, 328 U.S. 256, 262 (1946); *Lacey v. U. S.*, 595 F.2d 614, 615 (1979); *Branning v. U. S.*, 654 F.2d 88, 97–99 (1981).

Federal regulations establish a general 500-foot navigable airspace line, below which rights belong to surface owners, however this number varies depending on the context. According to the regulations, the line over “congested areas” is drawn at “an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.” 14 C.F.R. § 91.119(b) (2010); over bodies of water or in “sparsely populated areas,” aircraft can fly less than 500 feet above the ground so long as they are not “operated closer than 500 feet to any person, vessel, vehicle, or structure.” *Id.* § 91.119(c); within six miles of some airports, the navigable airspace line may commence at heights of less than 500 feet above ground level to provide space for takeoffs and landings. *Id.* § 77.17.

A Landowner does have the right to exclude others from the use of low-altitude “non-navigable” airspace directly above their property. See *U.S. v. Causby*, 328 U.S. 256, 262 (1946) (finding that frequent government intrusions in the “immediate reaches above the claimants’ land” which amount to “direct and immediate interference with the enjoyment and use of the land” are actionable taking). But this right extends to the “immediate reaches” above a property owner’s land, which encompass areas that a landowner “could use in connection with the land” and the airspace through which unwelcome aerial intrusions would result in “subtract(ion) from the owner’s full enjoyment of the property.” *Id.*

Municipalities have sought to address concerns regarding trespass into this low-altitude zone, by regulating the activity of drones through ordinances, but such ordinances are likely to be found to be preempted based on the Federal Aviation Association regulation of drones. See *Singer v. Newton*, 284 F. Supp. 3d 125 (2017) (holding that FAA regulations, 14 C.F.R. § 107.1(a), which require unmanned aircrafts be within the visual line of sight of the operator or designated visual observer⁴¹ and below an altitude of 400 feet above ground level or within a 400 foot radius of a structure,⁴² preempted Newton from establishing its own ordinance to regulate the use of drones within airspace).

B. Subsurface

A person who owns or who has the right to possess land also owns or has the right to possess the surface beneath the land, including mineral rights. See *Milton v. Puffer*, 207 Mass. 416, 418 (1911); *United Electric Light Co. v. Deliso Const. Co.*, 315 Mass. 313, 317–321 (1943).

⁴¹ 14 C.F.R. §§ 107.3 and 107.31

⁴² *Id.* 107.51(b)

Restrictions may be placed on a landowner's right to extract minerals from his property, and such restrictions do not necessarily constitute a taking when the property as a whole retains substantial value. *See Daddario v. Cape Cod Com'n*, 425 Mass. 411, 416 (1997) (holding that decision by Cape Cod Commission denying a development permit for a sand and gravel extraction project did not amount to a taking); *See also Keystone Bituminous Coal Ass'n v. DeBenedictis*, 480 U.S. 470, 496-497 (1987); *Hodel v. Virginia Surface Mining & Reclamation Ass'n, Inc.*, 452 U.S. 264, 296-297 (1981).

XV. NUISANCE & TRESPASS ACROSS BOUNDARIES

We end this paper with a cautionary tale, rather than a comprehensive outline of all the various types of harms to real property, personal property, and persons that can occur across lot boundaries. Such a survey will have to wait another day.

In *Rattigan v. Wile*, the Supreme Judicial Court concluded that where activities on one's own property create or maintain unreasonable aesthetic conditions for neighbors, such activities are a cause of action for a claim of private nuisance. 445 Mass. 850 (2006).

The case at all levels of the Massachusetts judiciary involves a longstanding history of litigation (now in its 27th year of litigation with most recent case of *Wile v. Dinkin*, 2020 WL 215687 (Jan 14, 2020)).

In this specific matter, the two properties which abut a sandy beach and enjoy views of the ocean, one with a right of way through the other. *Rattigan*, on behalf of Edgewater House Trust, brought actions against the defendant, seeking a determination that the defendant did not in fact enjoy a right of way through the Edgewater and that the defendant's land was not buildable under the Beverly zoning bylaws. Those suits were unsuccessful, and then the defendant retaliated.

Over a period of 4 years, the defendant placed a number of "unusual objects at the edge of his lot, immediately adjacent to the boundary with the Edgewater property." *Id.* at 852. Defendant "dumped construction debris along the boundary line with Edgewater – broken concrete blocks, used pipe, and rushed metal components including a crane bucket . . . a 'gigantic, red, metal ocean container . . . used to ship freight . . . detached bed of a pick-up truck that at one point held a large truck tire, and an unusual 'wire frame or rack' from which hung a yellow detergent bottle and several plastic figures including a duck, a goose, and an owl . . . a construction trailer . . . several portable toilets . . . which generated an offensive odor that wafted over . . . fifteen foot white and yellow striped tent . . ." *Id.* at 852-853.

Despite plaintiff's efforts to shield its property from this view by shrubs and a trellis fence, the defendant responded and "moved the construction debris inexplicably" so that the materials continued to be prominently visible, even stacking some of the larger items on top of each other.

Additionally, the Defendant licensed the property for use as a heliport. *Id.* at 854. The SJC affirmed lower court judgment that the defendant's placement of items near the plaintiff's property was intended to harass his neighbors, and constituted an aesthetic interference with the plaintiff's right to use and enjoy their property. *Id.* at 857 – 861.

Stay tuned.