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EVOLVING WATER LAW AND MANAGEMENT IN THE U.S.: DELAWARE

JAMES R. MAY*

Water law in Delaware is a complex tapestry resulting from four centuries of common, civil, and constitutional law. It contains remnants of both natural flow doctrine and riparian rights, and has culminated in a regulated riparian overlay that—for the most part—has the Delaware Division of Environmental Resources and Environmental Control manage reasonable water uses. Water rights in Delaware are also affected by the Delaware Coastal Zone Act—a pioneering state law that prohibits new industrial uses within Delaware’s 120-mile long coast—and a federal program managed by the Delaware River Basin Commission designed to coordinate water use of the entire 400-mile reach of the Delaware River, from its headwaters in upstate New York, to where it forms the Delaware Estuary, opens into the Delaware Bay, and empties into the Atlantic Ocean. Lastly, water rights in Delaware are shaped by a century of cases adjudicated under original jurisdiction by the U.S. Supreme Court, primarily resolving water and riparian use disputes between Delaware and New Jersey.

Shaped like a 130-mile long jagged isosceles triangle, the State of Delaware is small, flat, and awash in water. Delaware has a variety of plentiful water resources that belie its modest size (only Rhode Island is smaller). The northern tip of the state lies in the Piedmont region and is characterized by a bed of crystalline rock that runs from New England to Alabama. Most of the state, however, is within the Atlantic Coastal Plain province, which is typically flat. Indeed, Delaware is flatter than Kansas, with a mean elevation of sixty feet, and a high point of 448 feet, which means that water flows across the state like billiards on a felt tabletop.¹

Water is arguably the state’s most significant resource.² More than one in every six square miles in the state is under water, which means about 540 out of a total area of approximately 2,500 square miles, exclusive of the Delaware

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1. See U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE UNITED STATES: 226 (2012) <http://www.census.gov/library/publications/2011/compendia/statab/131ed.html> (last visited Nov. 12, 2016); WATERS & RIGHTS, *infra* note 4.

2. See James R. May, *Unfinished Business Restoring Water Quality in Delaware*, 16 DEL. LAW. 14, 14–15 (1998).

River and Bay is submerged.³ In addition, some 490 square miles of the Delaware River and Bay lie within the boundaries of the state.⁴ There are also large areas of fresh and saltwater marshes and hydric soils.⁵ All in all, Delaware boasts about 3,000 miles of rivers and streams, 4,500 acres of lakes, reservoirs, and ponds, 130,000 acres of freshwaters wetlands, 90,000 acres of coastal and tidal wetlands, 850 square miles of estuaries and bays, and twenty-five ocean coastal miles.⁶

This article surveys evolving water law and management in Delaware, and is divided into three sections. The first tracks the evolution of water rights law in Delaware over four centuries, and its remnants in the modern regulatory regime. The second surveys modern water rights law in Delaware, focusing on the processes and standards for obtaining a permit to use, withdraw, or divert water in the state. The third addresses other modern regulatory influences on water rights law in Delaware, namely the Delaware Coastal Zone Act, the Delaware River Basin Commission, and the U.S. Supreme Court. It concludes that waster law in Delaware is a pastiche of many influences over four centuries of development, culminating in what can be thought of as a modern example of regulated riparian rights, with some additional regulatory layers.

I. THE EVOLUTION OF WATER RIGHTS IN DELAWARE

Historically, water has served as the state's lifeblood. Delaware was first home to Eastern Algonquian tribes that relied on Delaware's bountiful water supply for fishing, hunting, and sustenance.⁷ Then Dutch and Swedish explorers in the early and mid-1600's settled portions of what would become Delaware, largely due to ready access and availability of intricate and connected water systems.⁸ These attributes made it valuable for ingress and egress into William Penn's Pennsylvania during English colonization.⁹ By the time Delaware became the nation's first state in 1787, it already possessed some of the most elaborate water laws in the country.¹⁰

The state's special brand of water laws attracted commerce large and small, including French émigré Eleuthere Irenee duPont de Nemours. DuPont established black powder mills along the banks for the shallow but brisk-flowing Brandywine River, and with it, launched the industrial revolution.¹¹ Water access remains essential to Delaware's great petrochemical, pharmaceutical, agri-

3. *How Much of Your State is Wet?*, U.S. GEOLOGICAL SURV., <http://water.usgs.gov/edu/wetstates.html> (last visited Sept. 23, 2016).

4. CHARLES M. ALMOND, III, 4-DE WATERS & RIGHTS § I, (Amy K. Keller, ed., 3rd ed. LexisNexis/Matthew Bender 2016) [hereinafter WATERS & RIGHTS].

5. *Id.*

6. May, *supra* note 2; *see generally* W. BARKSDALE MAYNARD, THE BRANDYWINE: AN INTIMATE PORTRAIT 5 (University of Pennsylvania Press, 2015) (discussing the Brandywine River and its relation to the development of the state of Delaware in a historical narrative).

7. MAYNARD, *supra* note 6, at 17.

8. *See id.* at 18-21.

9. *Id.* at 27.

10. *See* WATERS & RIGHTS, *supra* note 4.

11. MAYNARD, *supra* note 6.

cultural and animal farming, automotive, port, fishing, crabbing, housing, shopping, motel, restaurant, and tourism industries.¹²

Disputes about water use in Delaware have had profound effects on water and constitutional law in the United States. There is evidence of the recognition of water rights in Delaware as early as 1658, as settlers vied for position for siting water-powered mills. Determining water rights for mill operations remained the dominant force in Delaware water law for the next two hundred and fifty years. Indeed, the colonial assembly enacted water laws to sort out use by mill operators in 1719, 1760, and 1773. Post-independence, the state's assembly enacted water laws in 1819, 1859, 1869, and 1911, some of which remain in effect even though the water-powered mills that once dominated are but memories.¹³ The idea that the Commerce Clause contains a 'dormant' or 'negative' aspect originated in a water rights case from Delaware. Chief Justice John Marshall coined the phrase "dormant Commerce Clause" in *Willson v. Black Bird Creek Marsh Co.*, a case that allowed Delaware to issue a license to block navigation of the Blackbird Creek, absent a countervailing federal law.¹⁴

Thus, reaching back four centuries, with a wildly varied colonial past and dominated by mill-races first and industry later, modern water law in Delaware is a bit of this and a bit of that, like an old house restored over time to fit new owners and new codes. While it generally favors eastern water law and its riparian flavors, water law in Delaware defies simple classification.

II. MODERN WATER RIGHTS IN DELAWARE¹⁵

Modern water rights in Delaware can be thought of as a system of regulated riparian rights in the service of reasonable uses. In Delaware, the Delaware Division of Natural Resources and Environmental Control (DNREC) is charged with effectuating state policy to develop, use, and control surface water and groundwater "to make the maximum contribution to the public benefit."¹⁶ Accordingly, DNREC issues permits to "construct, install, replace, modify, or use any equipment or device or other article . . . intended to withdraw ground water or surface water for treatment and supply."¹⁷ Moreover, DNREC must authorize any increases in water use—again, to ensure public benefit.¹⁸

As with many states in the eastern U.S. the ultimate inquiry on whether to grant a permit application is whether the requested use is "reasonable."¹⁹ Rea-

12. May, *supra* note 2.

13. See generally DEL. CODE ANN. tit. 23, §§ 1901-04 (2015) (discussing Delaware laws related to dam building, which replaced laws related to water powered mills).

14. *Willson v. Black Bird Creek Marsh Co.*, 27 U.S. 245, 252 (1829).

15. See generally WATERS & RIGHTS, *supra* note 4, at §§ 1-V (giving an overview of water use in Delaware); Charles M. Allmond, III, *Riparian Rights in Delaware*, 2 DEL. LAW. 44, 44-49 (1983) (tracing the development of water rights in Delaware).

16. See DEL. CODE ANN. tit. 7, § 6001 (2015).

17. § 6003(b)(4) (2015).

18. § 6030 (2015).

19. See generally JOSEPH M. DELLAPENNA, WATER AND WATER RIGHTS, CH. 7 (Amy K. Keller, ed., 3rd ed. LexisNexis/Matthew Bender 2016) (discussing application of reasonable use theory). See, e.g., *McCarthy v. Abe*, 1993 WL 93373, at *1 (Del. Ch. Mar. 3, 1993) (stating that pumping water into a drainage ditch emptying into plaintiff's land "is not compatible with the

sonableness determinations in Delaware are influenced by longstanding approaches for managing natural watercourses—waters that flow naturally along a discrete natural channel with a bed and banks—which historically were generally subject to the riparian rights to uses undiminished in quantity and unchanged in quality or temperature.²⁰ Delaware's regulated riparian rights approach also borrows from the natural flow doctrine, which recognizes the "right to the stream, using it so as not to injure any others."²¹ In essence, this allows diversion and other uses, provided water flow is returned to the natural channel before reaching the next riparian owner, and so on.²² Moreover, as with most eastern states, and following more than a century of precedent, DNREC also applies the reasonable use doctrine to groundwater withdrawals so as not to jeopardize common supplies for neighboring owners.²³

Certain activities are exempt from the permit process. These include damming a stream that originates on one's property when doing so does not detrimentally affect another, damming a stream flow of less than one-half million gallons per day, or creating a pond not larger than sixty thousand square feet for conservation, recreation, propagation and protection of fish and wildlife, watering of stock, or fire protection.²⁴

Judicial standards of review for resolving water disputes in Delaware are hardly exceptional east of the Mississippi. First, riparian ownership in Delaware of a non-tidal stream is deed-specific, but failing that, ownership defaults to the middle of the stream.²⁵ Second, in the event of erosion, rights of way are lost until restored by accretion.²⁶ Third, riparian owners are entitled to both natural water quality and quantity.²⁷ Fourth, riparian rights yield to those of state or federal governments with no right to perpetual flow, for instance.²⁸ However,

reasonable user standard.”).

20. See generally *State ex rel. Buckson v. Pennsylvania R.R.*, 228 A.2d 587 (Del. Super. Ct. 1967); *further proceedings*, 237 A.2d 579 (Del. Super. Ct. 1967), and, 244 A.2d 80 (Del. Super. Ct. 1968), *aff'd*, 267 A.2d 455 (Del. 1969) (determining the title and related rights to a strip of “foreshore” both parties claim ownership to and discusses the principles of riparian rights ownership).

21. See *Delaney v. Boston*, 2 Del. (2 Harr.) 489, 493 (Del. Super. Ct. 1839) (“The owner of property adjoining a stream, has a right to own the stream, using it so as not to injure any others. He cannot detain it nor divert it from its natural course or descent. If he own on both sides, he may erect a mill; if he have or can get all the land that the pond will dam, and if the ponding [of] the waters will not back the waters so as to injure anyone above, or detain them so as to injure any below.”).

22. See, e.g., *Beck v. Kulesza*, 156 A. 346, 349 (Del. Super. Ct. 1926) (“However . . . a riparian owner who, by his willful act diverts the waters of a natural stream from its accustomed channel, and causes it to flow upon the lands of his neighbor, or into a nearby stream to overflow its banks, is liable for the damages resulting from such diversion. Any obstruction of the natural course of a stream is done at the risk of being answerable in damages to other riparian owners who sustain loss thereby.”); *accord Wagner v. Tidewater Oil Co.*, 191 A.2d 326 (Del. Ch. 1963).

23. See, e.g., *Little v. Am. Tel. & Tel. Co.*, 67 A. 169, 172 (Del. Super. Ct. 1907); *MacArtor v. Graylyn Crest III Swim Club, Inc.*, 187 A.2d 417, 419 (Del. Ch. 1963); *Artesian Water Co. v. New Castle Cty.*, No. 5106, 1983 WL 17986, at *4 (Del. Ch. Aug. 4, 1983).

24. § 6029 (2015).

25. See, e.g., *Hearn v. Abbott*, No. 89C-11-001, 1992 WL 207270, at *2 (Del. Super. Ct. Aug. 6, 1992).

26. See, e.g., *Scureman v. Judge*, 747 A.2d 62, 66-67 (Del. Ch. 1999).

27. See, e.g., *Forman v. Ford*, 33 A. 617 (Del. Ch. 1886); *Jessup & Moore Paper Co. v. Ford*, 33 A. 618, 619 (Del. Ch. 1887), *further proceedings*, 44 A. 778 (Del. Ch. 1895).

28. See, e.g., *Bailey v. Philadelphia, Wilmington & Baltimore R.R.*, 4 Del. (4 Harr.) 389, 396

governmental uses potentially raise takings issues.²⁹ For example, the state must compensate landowners for flooding that results from government activities, such as highway construction.³⁰ Fifth, landowners have no duty to prevent natural runoff from harming adjoining land, but may not collect and direct it to a neighbor.³¹ Sixth, damming a stream does not create concomitant fishing rights.³² Last, DNREC is given wide but not unchecked discretion in determining ‘reasonable’ uses. For example, courts have upheld DNREC’s authority to order removal of a dock,³³ but invalidated an attempt to charge a lease fee for subaqueous land beneath the landholder’s pier.³⁴ Moreover, applicants may appeal DNREC’s decision-making to the Delaware Environmental Appeals Board³⁵ and then to the Superior Court of Delaware.³⁶

Yet, in what can sometimes be quite a consequential departure from practices elsewhere, riparian ownership along tidal streams extends to the low-water mark, unlike the practice in most eastern states, which limits ownership of riparian areas of tidal waters to the high-water mark.³⁷

III. RELATED LAWS AND CONTROVERSIES THAT INFLUENCE WATER USE IN DELAWARE³⁸

Two laws not directly related to water rights and law in Delaware nonetheless have a profound impact upon it: The Delaware Coastal Zone Act,³⁹ and the Delaware River Basin Compact.⁴⁰ The Delaware Coastal Zone Act (“CZA”) was the first comprehensive coastal land-use law in the world aimed at curbing industrial uses of a coastal area.⁴¹ Delaware’s coastal zone—which runs

(Del. 1846) (“The owner of such property holds it subject, to the right of the public to use the stream at the will of the legislature; and if, in the use of it, indirect damage arises to such property, it is an inconvenience to which he must submit unless the State makes compensation as a mere gratuity. It is *damnum absque injuria*.”).

29. *Wilmington v. Parcel of Land Known as Tax Parcel No. 26.067.00.004*, 607 A.2d 1163, 1169 (Del. 1992).

30. *See e.g.*, *State v. Hawkins*, No. 91C-10-183-WTQ, 1995 WL 717407 (Del. Super. Ct. Nov. 22, 1995).

31. *See, e.g.*, *Chorman v. Queen Anne’s R.R.*, 54 A. 687 (Del. Super. Ct. 1901).

32. *See, e.g.*, *Hagan & Blaisdell v. Del. Anglers & Gunners Club*, No. 7989, 1992 WL 82369 (Del. Ch. Apr. 22, 1992).

33. *Clark v. Moore*, No. 1485, 1992 WL 322057, at *1 (Del. Ch. Oct. 22, 1992).

34. *Oceanport Indus. v. State*, No. 12553, 1993 WL 181297, at *5 (Del. Ch. May 18, 1993) (“To hold that a riparian owner’s property right to wharf out over publicly owned subaqueous land is subject to the State’s proprietary ownership rights would stand the riparian right on its head.”), *aff’d without published opinion*. *State v. Oceanport Indus.*, 639 A.2d 74 (Del. 1994).

35. § 6008 (2015).

36. § 6009 (2015).

37. *Bickel v. Polk*, 5 Del. (5 Harr.) 325, 326 (Del. Super. Ct. 1851); *see e.g.*, *State v. Reybold*, 5 Del. (5 Harr.) 484 (Del. Gen. Sess. 1854); *Harlan & Hollingsworth Co. v. Paschall*, 5 Del. Ch. 435 (1882); *Phillips v. State*, 449 A.2d 250 (Del. Super. Ct. 1982); *Buckson*, *supra* note 20.

38. This section has been adapted by the author in part from sections of James R. May & Wendy L. Myers, *It is Still Not a Shore Thing: Environmental Improvement and Industrial Uses of Delaware’s Coastal Zone*, 17 DEL. LAW. 20 (1999).

39. DEL. CODE ANN. tit. 7 §§ 7001–13 (LEXIS through 80 Del. Laws, ch. 201) (2015).

40. *Id.* §§ 6501–11.

41. James R. May & Wendy L. Myers, *It is Still Not a Shore Thing: Environmental Improvement and Industrial Uses of Delaware’s Coastal Zone*, 17 DEL. LAW. 20, 20 (1999) [hereinafter *Shore Thing*].

from Swede's Landing in Wilmington, through the Bombay and Prime Hook National Wildlife Refuges, to the state's southern beaches, freshwater wetlands, and inland bays—stands as the state's most distinguishing feature.⁴² It serves as a primary flyway for the Northern Hemisphere's most significant avian migration.⁴³ The Delaware coastal zone's wetlands are recognized under the Ramsar Convention, an international treaty that recognizes wetlands of international importance.⁴⁴

The coastal zone is also central to the state's multi-million dollar tourism industry.⁴⁵ For example, tourists flock from world-round to view shore birds stopping over to fatten themselves on a banquet of horseshoe crab eggs each spring before the birds proceed along on a grueling 5,000 mile trek to northern climes.⁴⁶

To protect these resources, the Delaware Legislature enacted the CZA at the behest of then-governor Russell Peterson in 1971.⁴⁷ The CZA aims to protect the "natural environment of its bay and coastal areas," for recreation, tourism, and environmental uses, and establishes that the "protection of the environment, natural beauty and recreational potential of the State is . . . of great concern."⁴⁸ The CZA also complements the federal Coastal Zone Management Act, which has states like Delaware develop "Coastal Zone Management Plans" to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."⁴⁹

The CZA forbids large and new industrial development in the coastal zone, regulates certain existing uses, and is agnostic about commercial and residential development.⁵⁰ Specifically, the CZA prohibits new "heavy industry" and "bulk product transfer facilities"⁵¹ but

42. *Id.*

43. *Id.*

44. *Id.*

45. *Id.*

46. *Id.*

47. *Id.*

48. *Id.*; see also DEL. CODE ANN. tit. 7, § 7001 (LEXIS through 80 Del. Laws, ch. 201) (2015).

49. 16 U.S.C. Sec. 1452.

50. See *Shore Thing*, *supra* note 41, at 20 n.1 ("The CZA does not regulate numerous industrial uses, such as those not constituting the "initiation, expansion of heavy industry or manufacturing uses . . . These include: The raising of agricultural commodities or livestock, warehouses or other storage facilities, not including tank farms, tank farms of less than five acres, parking lots or structures, health care and day care facilities, maintenance facilities, commercial establishments not involved in manufacturing, office buildings, recreational facilities and facilities related to the management of wildlife, facilities used in transmitting, distributing, transforming, switching, and otherwise transporting and converting electrical energy, the repair and maintenance of existing electrical generating facilities providing . . . [it] does not result in any negative environmental impacts, docking facilities which are not used as bulk product transfer facilities, maintenance and repair of existing equipment and structures, and any other activity which the Secretary determines . . . is not an expansion or extension of a non-conforming use or heavy industry. The CZA does not regulate other quasi-industrial, commercial and residential development in the zone." (internal quotation marks and citations omitted); see also 7 DEL. ADMIN. CODE § 101-5.0 (LEXIS through 19 Del. Reg. Issue 7 (January 1, 2016)) [hereinafter COSTAL REGULATIONS].

51. *Shore Thing*, *supra* note 41, at 21; DEL. CODE ANN. tit. 7, § 7003.

“grandfathers” in⁵² existing heavy industrial uses and bulk product transfer facilities, with the exception of “abandoned” facilities.⁵³

First, the CZA prohibits “[h]eavy industry use of any kind not in operation on June 28, 1971.”⁵⁴ “Heavy industry” is defined as uses “characteristically involving more than 20 acres,” and employing equipment⁵⁵ with the “potential to pollute when equipment malfunctions or human error occurs.”⁵⁶ Prohibited new heavy industry uses also include extension or expansion of certain “non-conforming uses”⁵⁷ beyond their footprints⁵⁸ and other similar heavy industrial uses.⁵⁹

Second, the CZA prohibits “[b]ulk product transfer facilities and pipelines, which serve as bulk transfer facilities that were not in operation on June 28, 1971.”⁶⁰ Corresponding regulations define “bulk product” as “loose masses of cargo such as oil, grain, gas and minerals, which are typically stored in the hold of a vessel.”⁶¹ In turn, a “Bulk Product Transfer Facility” includes the transfer of bulk products from vessel to vessel.⁶²

52. *Shore Thing*, *supra* note 41, at 21, 22 n.6. (“The CZA provides that ‘[a]ny nonconforming use in existence and in active use on June 28, 1971’ is not prohibited by the CZA”); § 7004 (2015).

53. *Shore Thing*, *supra* note 41, at 21; To determine whether a facility is abandoned or merely temporarily shut down, DNREC considers various factors, including the “status of environmental permits and/or business licenses, maintenance or machinery and structures, owner presence and involvement to some degree in reinstating the use and the duration of the cessation.” COSTAL REGULATIONS (12.3) (2016). A facility will not be deemed “abandoned” if the shutdown was involuntary and DNREC determines that the “owner had no intention to abandon the use.” (12.2). If the Secretary determines a facility abandoned, he must notify the owner of his intention to declare the facility abandoned. (12.4). The owner has 60 days from the receipt of such notification, to “demonstrate that there is or was no intention to abandon the use and when operation of the use will resume.” *Id.* DNREC must make a final decision concerning abandonment within 120 days from the date of original notification, taking into account all subsequent information. (12.5). The owner may appeal any such determination. (12.6); *see also* DEL. CODE ANN. tit. 7, § 7007.

54. *Shore Thing*, *supra* note 41, at 21; § 7003.

55. § 7002(d) (Such equipment includes that which “characteristically employ[s] some but not necessarily all of such equipment such as, but not limited to, smokestacks, tanks, distillation or reaction columns, chemical processing equipment, scrubbing towers, pickling equipment and waste-treatment lagoons; which industry, although conceivably operable without polluting the environment, has the potential to pollute when equipment malfunctions or human error occurs.”); *see also* COSTAL REGULATIONS (4) (2016).

56. *Shore Thing*, *supra* note 41, at 21; § 7002(d); *see also* COSTAL REGULATIONS (8.2.1) (2016).

57. *Shore Thing*, *supra* note 41, at 21 n.9 (“Nonconforming use” means a “use, whether of land or of a structure, which does not comply with the applicable use provisions in [the Act] where such use was lawfully in existence and in active use prior to June 28, 1971.”); DEL. CODE ANN. tit. 7, § 7002(f).

58. *See* § 7004(b)(5).

59. *Shore Thing*, *supra* note 41, at 21 n.10 (“These include: (1) The ‘conversion of an existing unregulated, exempted, or permitted facility to a heavy industry use’; (3) ‘offshore gas, liquid, or solid bulk product transfer facilities which were not in operation on June 28, 1971’; and (4) ‘any new tank farm greater than 5 acres in size not associated with a manufacturing use.’”); COSTAL REGULATIONS (4.1), (4.3), (4.4).

60. *Shore Thing*, *supra* note 41, at 21; DEL. CODE ANN. tit. 7, § 7003; COSTAL REGULATIONS (4.5).

61. *Shore Thing*, *supra* note 41, at 21; COSTAL REGULATIONS (3.0).

62. *Shore Thing*, *supra* note 41, at 21 (citing *Coastal Barge Corp. v. Coastal Zone Indus. Control Board*, 492 A.2d 1242, 1247 (Del. 1985)). *Coastal Barge* involved the vessel-to-vessel

Expanded or extended "manufacturing"⁶³ uses, or expansions or extensions of existing "nonconforming" uses, such as existing heavy industry, bulk product transfer facilities, and other non-conforming uses within their existing footprints, require a permit.⁶⁴ The CZA also requires a permit for "the construction of pipelines or docking facilities serving as offshore bulk product transfer facilities if such facilities serve only one on-shore manufacturing or other facility," and any "public sewage treatment plant or public recycling plant."⁶⁵

Permit applicants must include an "Environmental Impact Statement," that assesses whether a project "may result in any negative impact" on the coastal zone.⁶⁶ The state's evaluation must consider the "direct and cumulative environmental impacts" of the proposal.⁶⁷ To obtain approval, applicants "must more than offset the negative environmental impacts associated with the proposed project or activity."⁶⁸ The extent of any negative impact and the means by which to offset them are a function of various "environmental indicators."⁶⁹ The chosen offset project must be "clearly and demonstrably more beneficial to the environment in the Coastal Zone than the harm done

transfer of coal in the Delaware Bay. *Id.* at 1243. DNREC initially found that the operation was not regulated by the CZA. *Id.* at 1244. On appeal, the Board reversed the ruling, finding that the CZA prohibited the activity as a "bulk product transfer facility." *Id.* Coastal barge then appealed to the Delaware Supreme Court, who affirmed the Board's ruling. *Id.* Petitioners Coastal Barge argued that the CZA did not prohibit their operation because it involved neither a "port" nor a "facility," and did not constitute the "transfer of any substance from vessel to onshore facility." *Id.* at 1245. The Court disagreed, holding that the "ordinary common meaning" of the term "bulk product transfer facility" included vessel-to-vessel bulk transfers. *Id.* at 1247. In so doing, the Court reasoned that "a literal interpretation would lead to . . . unreasonable or absurd consequences." *Id.* at 1246.

63. *Shore Thing*, *supra* note 41, at 21 n.15 ("Manufacturing' means 'the mechanical or chemical transformation of organic or inorganic substances into new products, characteristically using power-driven machines and materials handling equipment, and including establishments engaged in assembling component parts of manufactured products, provided the new product is not a structure or other fixed improvement.');" *see also* DEL. CODE ANN. tit. 7, § 7002(c); § 7004(a) ("The CZA provides: '[M]anufacturing' uses not in existence and in active use on June 28, 1971, are allowed in the coastal zone by permit only.").

64. *Shore Thing*, *supra* note 41, at 21; DEL. CODE ANN. tit. 7, § 7004; COSTAL REGULATIONS (6.0).

65. *Shore Thing*, *supra* note 41, at 21; *see also* COSTAL REGULATIONS (6.0-.2).

66. *Shore Thing*, *supra* note 41, at 21; COSTAL REGULATIONS (8.2).

67. *Shore Thing*, *supra* note 41, at 21; COSTAL REGULATIONS (8.3.2).

68. *Shore Thing*, *supra* note 41, at 21.

69. *Shore Thing*, *supra* note 41, at 21, n.18 ("Once developed, environmental indicators should provide a mechanism for evaluating whether the proposed project will meet the "environmental improvement" standard. Environmental indicators also help the State to develop an accurate picture of the health of the coastal zone, to measure developing trends, and to provide it with a basis to explain permitting decisions to the public and applicants.") (internal citations omitted); COSTAL REGULATIONS (3.0) ("Environmental Indicators" are "a numerical parameter which provides scientifically-based information on important environmental issues, conditions, trends, influencing factors and their significance regarding ecosystem health. Indicators inherently are measurable, quantifiable, meaningful and understandable. They are sensitive to meaningful differences and trends, collectible with reasonable Cost and effort over long time periods, and provide early warning of environmental change. They are selected and used to monitor progress towards environmental goals.").

by the negative environmental impacts associated with the permitting activities themselves.⁷⁰ Past achievements of the applicant, as well as the location and timing of the proposed offset, may affect the extent of offset required, and the offset need not occur in the coastal zone.⁷¹ Permits are then approved contingent on the completion of the offset.⁷² Permitting decisions may be appealed to the Board.⁷³

The ultimate objective of the permitting process is “environmental improvement” in the coastal zone,⁷⁴ considering: “(1) Environmental impact, (2) Economic effect, (3) Aesthetic effect, (4) Number and type of supporting facilities required and the impact of such facilities on all factors listed in this subsection, (5) Effect on neighboring land uses, and (6) County and municipal comprehensive plans for the development and/or conservation of their areas of jurisdiction.”⁷⁵

Project status under the CZA need not be guesswork. Project applicants may⁷⁶—and under some circumstances must⁷⁷—seek a “status decision” to

70. *Shore Thing*, *supra* note 41, at 21, n.20 (“The proposal must contain, at a minimum: [a] qualitative and quantitative description of how the offset project will more than offset the negative impacts from the proposed project . . . How the offset project will be carried out and in what period of time. What the environmental benefits will be and when they will be achieved. How the offset will impact the attainment of the Department’s environmental goals for the Coastal Zone and the environmental indicators used to assess long-term environmental quality within the zone. What, if any, negative impacts are associated with the offset project. What scientific evidence there is concerning the efficacy of the offset project in producing its intended results. How the success or failure of the offset project will be measured in the short and long term.”); COSTAL REGULATIONS (9.2).

71. *Shore Thing*, *supra* note 41, at 21, 22 n.21 (“An applicant who has ‘undertaken past voluntary improvements may be required to provide less of an offset than applications without a similar record of past achievements.’ Additionally, the Secretary may look more favorably on projects that ‘are within the Coastal Zone, that occur in the same environmental medium as the source of degradation of the environment, that occur at the same site as the proposed activity requiring a permit and that occur simultaneously with the implementation of the proposed activity needing an offset.’”) (internal citations omitted); COSTAL REGULATIONS (9.1.2).

72. *Shore Thing*, *supra* note 41, at 21; COSTAL REGULATIONS (9.3.1).

73. *Shore Thing*, *supra* note 41, at 21, n.22 (“The Board may accept DNREC’s permit decision, or modify the permit in any way. Any party who feels they are aggrieved by the decision of the Board may petition the Delaware Superior Court for review. The Court’s review is essentially *de novo*, as it may accept the Board’s decision or modify the permit as appropriate.”) (internal citations omitted); (citing DEL. CODE ANN. tit. 7 §§ 7007, 7008 (LEXIS through 80 Del. Laws, ch. 201)); COSTAL REGULATIONS (16.1-.3).

74. *Shore Thing*, *supra* note 41, at 21, n.17 (“The MOU provides: ‘[T]his means that each grandfathered heavy industrial facility, manufacturing facility, public sewage treatment plant, and public recycling facility should be allowed increased flexibility in permitting and operations only after DNREC had developed a carefully defined procedure for assessing applications to ensure that proposed activities meet the environmental improvement standard, as well as the six criteria cited in the Act.’”) (citing Memorandum of Understanding From the Delaware Coastal Zone Regulatory Advisory Comm. to the Delaware Department of Natural Resources and Environmental Control (Mar. 19, 1998) reprinted in LAWRENCE SUSSKIND ET. AL., NEGOTIATING ENVIRONMENTAL AGREEMENTS: HOW TO AVOID ESCALATING CONFRONTATION, NEEDLESS COSTS, AND UNNECESSARY LITIGATION 151,152 (2nd ed. 2000) (reproduced in full).

75. *Shore Thing*, *supra* note 41, at 21 (internal quotation marks omitted); tit. 7, § 7004(b); COSTAL REGULATIONS (8.3.2).

76. *Shore Thing*, *supra* note 41, at 21, n.12 (“Any applicant who wishes to begin a new activity or construct a new facility, may request that DNREC issue a status decision to determine if the proposed activity would be considered a heavy industry.”); COSTAL REGULATIONS (7.1).

77. *Shore Thing*, *supra* note 41, at 21 n.13 (“All new manufacturing facilities or research and

determine whether a project constitutes a prohibited use, requires a permit, or is exempted from the CZA⁷⁸ and to receive feedback on offsets, effects, and indicators.

Additionally, the Delaware River Basin Commission (DRBC) also plays a minor role in water law in Delaware.⁷⁹ The DRBC consists of the four Delaware River basin states (Pennsylvania, New Jersey, New York, and Delaware) and the federal government.⁸⁰ The DRBC focuses on such issues as watershed planning, water supply allocation, regulatory review, water conservation initiatives, drought management, and flood control.⁸¹ Those wishing to withdraw water from the Delaware River, including that adjacent to Delaware, must apply for a permit from the DRBC.⁸²

The U.S. Supreme Court has also been called upon to resolve water disputes three times between New Jersey and Delaware, with Delaware invariably coming out on top.⁸³ Most relevant to water law in Delaware, the Court has held that the state has exclusive jurisdiction over construction up to the low-tide water mark on the New Jersey side of the river based on the conditions of a 1681 lease that King Charles II's made to William Penn of three counties of what eventually became the State of Delaware.⁸⁴ In 2008 the Court held that a 1905 agreement between the two states did not derogate from Delaware's jurisdiction.⁸⁵ This had the effect of allowing Delaware-based on the Delaware Coastal Zone Act's prohibitions—to stop New Jersey from granting a permit to British Petroleum to build a liquefied natural gas pipeline and loading dock adjacent to the New Jersey shore.

Myriad other laws and programs that have only a remote influence water on use in Delaware are beyond the scope of this examination—including: the Natural Areas Preservation System Act,⁸⁶ and the Conservation and Preservation Easements Act,⁸⁷ as well as those that address fin fishing,⁸⁸ erosion and sedimentation control,⁸⁹ beach erosion control,⁹⁰ dredging and management of

development facilities proposed to be developed in the coastal zone must apply for a status decision.”); *see also* COSTAL REGULATIONS (7.4).

78. *Shore Thing*, *supra* note 41, at 21; *see also* COSTAL REGULATIONS (7.2).

79. *See generally* JOSEPH M. DELLAPENNA, *DELAWARE AND SUSQUEHANNA RIVER BASINS, 4 DE-RB-I WATER AND WATER RIGHTS* (Amy K. Keller, ed., 3rd ed. LexisNexis/Matthew Bender 2016) (discussing federal arrangements for managing water resources of interstate water basins in the region).

80. *About DRBC*, DEL. RIVER BASIN COMM'N, <http://www.nj.gov/drbc/about/> (last visited Sept. 18, 2016).

81. *Id.*

82. *See generally Applicant & Docket Holder Information*, DEL. RIVER BASIN COMM'N, <http://www.nj.gov/drbc/programs/project/application/> (last visited Sept. 18, 2016).

83. *See generally* Comment, *Controversy Between States - Border Dispute*, 122 HARV. L. REV. 505 (2008).

84. *New Jersey v. Delaware*, 552 U.S. 597 (2008).

85. *Id.*

86. DEL. CODE ANN. tit. 7, §§ 7301-12 (LEXIS through 80 Del. Laws, ch. 201).

87. *Id.* at §§ 6901-06.

88. *Id.* at §901-43 (discussing Delaware laws related to fin fishing, which influence water use in the state).

89. *Id.* at §§ 4001-17.

90. *Id.* at §§ 6801-12.

lagoons,⁹¹ wetlands,⁹² subaqueous lands,⁹³ and minerals in submerged lands.⁹⁴ The same holds for water pollution control, including that for discharges into streams supplying drinking water,⁹⁵ by waterborne vessels⁹⁶ and sewage treatment plants,⁹⁷ and for oil pollution.⁹⁸ Further, specific issues and responses to sea-level rise in the state are yet of minimal influence on water law in Delaware, and are thus beyond the scope of this article.⁹⁹

IV. CONCLUSION

Water law in Delaware is an amalgam that has evolved significantly over more than four centuries. Much of it revolved around mill works until the latter half of the Twentieth Century. These days, Delaware stands as an exemplar of regulated riparian rights, with agency oversight that manages water use, assignment, and development based on reasonable uses. Water law in Delaware is also influenced by the Delaware Coastal Zone Act, and, to a lesser extent as pertains to the Delaware River, by the Delaware River Basin Commission and the U.S. Supreme Court.

91. *Id.* at §§ 4301-89.

92. *Id.* at §§ 6601-20.

93. *Id.* at §§ 7201-17.

94. *Id.* at §§ 6101-43.

95. Tit. 16, §§ 1301-02.

96. Tit. 7, § 6035.

97. *Id.* at § 6033.

98. *Id.* at §§ 6201-16.

99. See generally Kenneth T. Kristl, *Rising Sea Levels: A Tidal Wave of Legal Issues?* 31 WTR-DEL. LAW. 16 (2014).

