TITLE vs. TIDAL

(THE WATER BOUNDARIES OF NEW JERSEY)

( THE LIMIT OF SOVEREIGN OWNERSHIP)

Water boundaries, while the oldest and most visible of boundaries are probably the most misunderstood and bitterly contested.

by
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THE PUBLIC TRUST DOCTRINE

- United States, it is generally accepted that the individual states hold title on behalf of the public to most of the submerged lands under navigable water.

- This ownership is by what is known as *The Public Trust Doctrine*. 


THE PUBLIC TRUST DOCTRINE

- Although chiefly a product of common law, has roots as far back as the ancient Roman Civil Code of Justinian I, written about 500 A.D.
THE PUBLIC TRUST DOCTRINE

“By the law of nature these things are common to all mankind— the air, running water, the sea, and consequently the shores of the sea. No one, therefore, is forbidden to approach the seashore, provided that he respects habitations, monuments, and the buildings, which are not, like the sea, subject only to the law of nation.”

Book II of the Institutes of Justinian
THE PUBLIC TRUST DOCTRINE

- The earliest mention of this theory in English law was by Thomas Diggs, an engineer, surveyor & lawyer in a book entitled “Proofs of the Queen’s Interest in Land Left by the Sea and the Salt Shores Thereof.”
THE PUBLIC TRUST DOCTRINE

- In America, this doctrine began to take its present shape with a series of U.S. Supreme Court cases beginning with *Martin v. Waddell* in 1842. According the Court in that case:

  "When the revolution took place the people of each state became themselves sovereign, and in that character hold the absolute right to all their navigable waters and the soil under them for their own common use...."

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The Colonies and the Revolutionary War

A. S. Barnes, A Brief History of the United States (New York, NY: American Book Company, 1885)

Downloaded from Maps ETC, on the web at http://etc.usf.edu/maps  [map #02685]
THE PUBLIC TRUST DOCTRINE

- In 1845 in *Pollard’s Lessee v. Hargan*, the court ruled that states admitted to the Union after the original 13 colonies also has these rights.

- In 1876, the case of *Barney v. Keokuk* ruled that state title in navigable waters extended to inland waters as well as tidal waters.
THE PUBLIC TRUST DOCTRINE

- It may be generally stated that the states, in their sovereign capacity, hold title to the beds under navigable waters.

- With this background we may now address the key issue of this workshop:

  The limit of sovereign ownership.
The limit of sovereign ownership.

Special Property Titles

Unlike most property titles, the title to lands subject to the public trust rights is not singular, due to the special and public nature of these lands. Instead, lands subject to public trust rights are vested with two co-existing titles, one dominant and the other subservient.
The limit of sovereign ownership.

Special Property Titles

The *jus publicum* is the dominant title and can be described as the bundle of trust rights granted to the public to fully use and enjoy these lands and waters for commerce, navigation, fishing, bathing and other related public purposes.
The limit of sovereign ownership.

Special Property Titles

The *jus publicum* is the dominant title and can be described as the bundle of trust rights granted to the public to fully use and enjoy these lands and waters for commerce, navigation, fishing, bathing and other related public purposes.

These public rights are vested in the state as owner and trustee of lands subject to public trust rights.
The limit of sovereign ownership.

Special Property Titles

The subservient title *jus privatum*, represents the private property rights that may exist in the use and possession of lands subject to public trust rights.
The limit of sovereign ownership.

Special Property Titles

The subservient title *jus privatum*, represents the private property rights that may exist in the use and possession of lands subject to public trust rights.

The courts often cite the important distinction between these two titles when defining a state’s authority to convey lands subject to public trust rights to private ownership and when describing the public rights remaining in these lands that have been so conveyed.
The limit of sovereign ownership.

Special Property Titles

A state can convey its *jus privatum* interest into private property ownership but can never convey the *jus publicum* interest nor relinquish its trust responsibilities.
The limit of sovereign ownership.

Special Property Titles

A state can convey its *jus privatum* interest into private property ownership but can never convey the *jus publicum* interest nor relinquish its trust responsibilities.

This leads to a scenario in which a private property owner can be in possession of lands which the state is the trustee of certain public rights of access to and use of under the Public Trust Doctrine.
The limit of sovereign ownership.

Special Property Titles

Because the *jus publicim* title is dominant, a private property owner may not legally prevent the public from using lands below the mean high water line.
Datums and Boundaries

High Seas → Exclusive Economic Zone → Territorial Sea → Contiguous Zone → Mean Lower low water line → Baseline → Mean low water line → Inland Waters → Mean higher high water line → Chart Datum

12 n. mi. → 200 n. mi.

Mean higher high water → Mean high water → Mean low water → Chart Datum

Legal Continental Shelf

3 n. mi. → State Submerged Lands → Ordinary (Summer) berm → Crest of berm

Mean lower low water

Trough → Inshore bar → Longshore bar

State Owned Tidelands → State Owned Tidelands → Privately Owned Uplands

State Owned Tidelands → Privately Owned Tidelands (TX)

Privately Owned Uplands

AL, AK, CA, CT, FL, MD, MS, NJ, NY, NC, OR, RI, SC, WA

*Natural Resources Boundary. 3 Marine Leagues (9 n. mi.) for the States of Texas and Florida in the Gulf of Mexico and for the Commonwealth of Puerto Rico.*
The First New Jersey Case to apply the Public Trust Doctrine, identifying common property as including the air, the running water, the sea, the fish and the wild beasts “…. to be held, protected, and regulated for the common use and benefit.”
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The case came about when the plaintiff, an owner of land next to the Raritan River, claimed private ownership of the fishing rights in its tidal oyster beds.

Arnold v. Mundy 6N.J.L. 1, 95 (1821)
RIPARIAN RIGHTS

The rights of owners adjacent to an area now or formerly flowed by the tide of a natural waterway.
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The rights of owners adjacent to an area **now or formerly flowed by the tide** of a natural waterway.

This includes lands that were previously flowed by the tide but have been filled in and are no longer flowed by the tide.
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However, regardless of whether the owners’ title extends beyond the dry land, the title to land below the mean (average) high-water mark of navigable waters, as well as the waters themselves, belongs to the public.
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Mean High Water Line is defined as:

The average of all the high water heights observed over the National Tidal Datum Epoch (19 years).
RIPARIAN RIGHTS (Tidelands)

• TYPES OF CONVEYANCES
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    ➢ Tidelands Leases are generally 20 years
RIPARIAN RIGHTS (Tidelands)

• TYPES OF CONVEYANCES

• **Statement of No Interest**, in some cases, the State of New Jersey agrees that it has no tidelands ownership interest in the owner’s property in a recordable document called a Statement of No Interest.
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• Statement of No Interest, in some cases, the State of New Jersey agrees that it has no tidelands ownership interest in the owner’s property in a recordable document called a Statement of No Interest.

➢ Used to document when “Article VIII, Section 5, Paragraph 1 of the New Jersey Constitution requires the State to assert its riparian claim to land which has not been flowed by the tide since November 3, 1941, by November 3, 1982, or forfeit its claim. Similarly, as to land which acquires the status of property not tidally flowed for 40 consecutive years after November 3, 1981, the State must assert its riparian claim before the conclusion of the 40 year period or lose it.”
What are “MAPS SHOWING AREAS NOW OR FORMERLY BELOW MEAN HIGH WATER”?
“Article VIII, Section 5, Paragraph 1 of the New Jersey Constitution requires the State to assert its riparian claim to land which has not been flowed by the tide since November 3, 1941, by November 3, 1982, or forfeit its claim. Similarly, as to land which acquires the status of property not tidally flowed for 40 consecutive years after November 3, 1981, the State must assert its riparian claim before the conclusion of the 40 year period or lose it. These maps are adopted to avoid these forfeitures and constitute the State’s claims to riparian lands. The claims lines do not reflect the changes constantly occurring from the movement of land and water at the ocean’s shore and elsewhere, or the impact of additional data which may become available or usable after the maps were drawn. Also, the claims lines do not show valid grants made by the State and, therefore, also do not reflect grant overlaps, ungranted riparian land inshore or adjacent to grants, or the legal effects of failed grants. Nor do the lines drawn reflect or impact on claims made in particular litigation, or reflect filling under the Wharf Act of 1851 or the location of the former head of tide in inland waterways. In all these respects the lines are subject to alteration.

To the extent not precluded by the New Jersey Constitution or applicable law, the Tidelands Resource Council reserves the right to adjust the claims lines landward or waterward as new evidence becomes available.”
THE STORY OF NEW JERSEY’S CIVIL BOUNDARIES 1606 - 1968

by

John P. Snyder

First Edition

Bureau of Geology and Topography
Trenton, New Jersey
1969

Reprinted
New Jersey Geological Survey
2004
11. The Jersey Shoreline

The Jersey Shoreline on the Atlantic Ocean has often shifted following storms and high seas. While many shifts are not reflected in the maps in this book, there have also been former inlets which have been temporarily formed by storms and are marked on old maps of New Jersey.

Six "Shrewsbury Inlets" and four major floodings across the Sandy Hook peninsula have occurred since 1756. These were either opposite the mouth of the Navesink River or up to two miles north. From 1756 to 1810, 1850 to 1850, 1890 to 1900, small bays sometimes large ones could cross there at one or two points. Cranberry Inlet or New Inlet opened about 1753 or 1755 opposite the mouth of the Tomes River. It closed about 1817, serving as a point of the boundary of Deer township from 1768 to 1851. Turtle Gut Inlet appears on maps of 1777 and 1834, where Wildwood is now.

The boundary of New Jersey along the Atlantic Ocean is not defined by bearings and distances. The general problem of shoreline boundaries of states and countries has been the subject of numerous court cases which have not been completely resolved. The general problem, although the "coastal mile" has held historical prominence, the most recent attempt at formal clarification by Congress is the Submerged Lands Act, signed May 27, 1953. As it applies to states such as New Jersey, it declares that "the seaward boundary of each original coastal state is hereby approved and confirmed as a line drawn three geographical miles distant from its coastline along the line of ordinary low water." The term "low water line" means the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the upper limit of inland waters.

On Nov. 16, 1790, the New Jersey Legislature enacted that "the jurisdiction of this state, in and over a lot of land, since the point of Sandy Hook, in the county of Monmouth, containing four acres, on which a light house (built 1753) and other buildlings are erected, shall be and the same is hereby vested in, and vested in the United States of America, for ever hereafter." On March 12, 1846, a New Jersey statute declared that the jurisdiction in and over all that portion of Sandy Hook, in the county of Monmouth, owned by the United States, lying north of an east and west line through the mouth of Young's creek at low water, and extending across the island and cape of Sandy Hook from the cove there, and bounded on all other sides by the sea and Sandy Hook Bay, be, and the same is hereby ceded to the said United States, for military purposes; only so long as the area was used for military or other public purposes. (P. L. 1846, p. 229.)

The Sandy Hook area is unique in New Jersey in that it is not included in the boundaries of any municipality.
The most recent attempt at formal clarification by congress is the Submerged Lands Act, signed May 22, 1953. As it applies to states such as New Jersey, it declares that “the seaward boundary of each original coastal state is hereby approved and confirmed as a line 3 geographical miles distant from its coast line”.
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12. New Jersey’s Western Boundary

(Pages 16 – 18)
In 1934, the U.S. Supreme Court confirmed the Delaware-New Jersey boundary in a disputed part of the Delaware estuary. The boundary is composed of two segments. The northern part falls within the 12-mile circle. Within this area, Delaware extends to the 1934 mean low water line of the Delaware River along the New Jersey shore. This section is marked with six boundary reference monuments. Each has a precise location from which a specific direction and distance can be measured to find the actual boundary.
New Jersey’s Western Boundary

Article VII of the 1905 New Jersey-Delaware Compact did not secure to New Jersey exclusive jurisdiction of all riparian improvements commencing on its shores; New Jersey and Delaware have overlapping authority to regulate riparian structures and operations of extraordinary character extending outshore of New Jersey’s domain into territory over which Delaware is sovereign.
The monuments that Delaware shares with its neighbors have great practical and historical value and are protected by law. Many may be conveniently visited and are themselves important attractions. For additional information contact the Delaware State Boundary Commission through the Delaware Geological Survey.
From the northern tip of Artificial Island out to the shipping channel, the boundary follows the extended circular boundary. From there the Delaware Bay Line is defined by five specific turning points and distances southward to the vicinity of the Brandywine Shoal Light.
The Storey of New Jersey’s Civil Boundaries 1606 - 1968

II. Laws & Court Orders

1. County Boundaries

(Pages 29 – 48)
The Storey of New Jersey’s Civil Boundaries 1606 – 1968

Counties: 1710 and 1714-1775
The Storey of New Jersey ‘s Civil Boundaries 1606 – 1968

Counties: 1845 - 1965
New York v. New Jersey

“Is Lady Liberty A Jersey Girl?”
On January 18, 2012 New Jersey Governor Chris Christie opened the “Today” show on NBC by reigniting a longstanding border war between New Jersey and New York over the NFL’s Giants. When Matt Lauer asked where the parade should be held if the Giants won the Super Bowl, Governor Christie responded “They play in New Jersey, they train in New Jersey, the parade should be held in New Jersey.”

Well, the same could be said for Ellis and Liberty Islands in New York Harbor. That border war has been festering for over three centuries. In 1998 the United States Supreme Court ruled that almost 90 percent of Ellis Island that was previously under New York, after three centuries, is now under New Jersey sovereignty. Like all property and boundary line disputes, it began with a poorly written description of the lands to be conveyed. In June of 1664, James the Duke of York granted the land between the Hudson River and the Delaware River to his friends John Lord Berkeley and Sir George Carteret. As they would say in the vernacular of the day, the eastern boundary was described thusly:

“......all that tract of land adjacent to New England, and lying and being to the westward of Long Island and Mankites Island and bounded on the east part by the main sea, and part by Hudson’s river, and hath upon the east Delaware bay or river, and extendeth westward to the main ocean as far as Cape at the mouth of the Delaware bay...”
DEFINITIONS

- **DATUM**
  - A system of values that serves as a reference or base for measurements of position.
  - A horizontal datum (example: North American Datum of 1983, or NAD 83) is a reference for x,y measurements.
  - A vertical datum (example: North American Vertical Datum 1988, or NAVD 88) is a level surface of reference for measurements of elevation. “Mean sea level” is not specific enough for survey measurements.

- **METADATA**
  - Information about the content of a data set, for example the methods used for creating the data, when it was created, by whom, accuracy, etc.
  - Documentation.
THE DEVIL IS IN THE DATUMS
Datums and Boundaries

- High Seas
- Exclusive Economic Zone
  - Legal Continental Shelf
  - Territorial Sea
    - Contiguous Zone
  - Baseline
    - Mean Lower low water line
    - Mean low water line
    - Mean high water line
    - Mean higher high water line
  - Chart Datum
    - Soundings
      - Mean Lower low water
      - Mean low water
      - Mean high water
      - Mean higher high water
    - Trough
    - Inshore bar
    - Longshore bar
  - State Submerged Lands
    - 3 n. mi.
  - State Owned Tidelands
    - Mean low water line
    - Mean high water line
  - Shoreline
  - Crest of berm
  - Ordinary (Summer) berm
  - Storm (Winter) berm
  - Privately Owned Uplands
    - AL, AK, CA, CT, FL, MD, MS, NJ, NY, NC, OR, RI, SC, WA

*Natural Resources Boundary.
3 Marine Leagues (9 n. mi.) for the States of Texas and Florida in the Gulf of Mexico and for the Commonwealth of Puerto Rico.
National Tidal Datum Epoch
The specific 19-year period adopted by the National Ocean Service as the official time segment over which tide observations are taken and reduced to obtain mean values (e.g., mean lower low water, etc.) for tidal datums. It is necessary for standardization because of periodic and apparent secular trends in sea level. The present NTDE is 1983 through 2001 and is actively considered for revision every 20-25 years. Tidal datums in certain regions with anomolous sea level changes (Alaska, Gulf of Mexico) are calculated on a Modified 5-Year Epoch.
DATUMS-VERTICAL

- SEA LEVEL DATUM (NGVD-29)
  - (a/k/a NATIONAL GEODETIC VERTICAL DATUM, ADJUSTMENT OF 1929)


- “Mean sea level was held fixed at the sites of 26 tide gauges, 21 in the U.S.A. and 5 in Canada. The datum is defined by the observed heights of mean sea level at the 26 tide gauges and by the set of elevations of all bench marks resulting from the adjustment. A total of 106,724 km of leveling was involved, constituting 246 closed circuits and 25 circuits at sea level.”

- The datum was not mean sea level, the geoid, or any other equipotential surface. Therefore is was renamed, in 1973, the National Geodetic Vertical Datum of 1929.”
The North American Vertical Datum of 1988 (NAVD 88) is the vertical control datum established in 1991 by the minimum-constraint adjustment of the Canadian-Mexican-U.S. leveling observations. It held fixed the height of the primary tidal bench mark, referenced to the new International Great Lakes Datum of 1985 local mean sea level height value, at Father Point/Rimouski, Quebec, Canada. Additional tidal bench mark elevations were not used due to the demonstrated variations in sea surface topography, i.e., the fact that mean sea level is not the same equipotential surface at all tidal bench marks.
DATUMS-VERTICAL

- TIDAL
  - MEAN SEA LEVEL
    - The arithmetic mean of hourly heights observed over the National Tidal Datum Epoch.
TIDAL

- MEAN HIGHER HIGH WATER
  - The average of the higher high water height of each tidal day observed over the National Tidal Datum Epoch.
DATUMS-VERTICAL

- TIDAL
  - MEAN HIGH WATER
    - The average of all the high water heights observed over the National Tidal Datum Epoch (19 years). For stations with shorter series, comparison of simultaneous observations with a control tide station is made in order to derive the equivalent datum of the National Tidal Datum Epoch.
DATUMS-VERTICAL

- TIDAL
  - MEAN TIDE LEVEL
    - The arithmetic mean of mean high water and mean low water.
DATUMS-VERTICAL

- TIDAL
  - MEAN LOW WATER
    - The average of all the low water heights observed over the National Tidal Datum Epoch.
DATUMS - VERTICAL

- TIDAL
  - MEAN LOWER LOW WATER LEVEL
    - The average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch.
TIDAL DATUMS

Tidal datums at THE BATTERY, NEW YORK HARBOR based on:

LENGTH OF SERIES: 19 YEARS
TIME PERIOD: January 1983 - December 2001
TIDAL EPOCH: 1983-2001
CONTROL TIDE STATION:

Elevations of tidal datums referred to Mean Lower Low Water (MLLW), in METERS:

HIGHEST OBSERVED WATER LEVEL (09/12/1960) = 3.052
MEAN HIGHER HIGH WATER (MHHW) = 1.541
MEAN HIGH WATER (MHW) = 1.443
NORTH AMERICAN VERTICAL DATUM-1988 (NAVD) = 0.847
MEAN SEA LEVEL (MSL) = 0.783
MEAN TIDE LEVEL (MTL) = 0.753
MEAN LOW WATER (MLW) = 0.063
MEAN LOWER LOW WATER (MLLW) = 0.000
LOWEST OBSERVED WATER LEVEL (02/02/1976) = -1.307

Bench Mark Elevation Information

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<th>MHW</th>
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</table>
DATUMS-VERTICAL

- TIDAL
  - MEAN SEA LEVEL
  - MEAN HIGH WATER LEVEL
  - MEAN TIDE LEVEL
  - MEAN LOW WATER LEVEL
  - MEAN LOWER LOW WATER LEVEL
  - SPRING HIGH TIDE LINE
  - HIGH TIDE LINE
The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.
The earliest tidal monitoring stations were small and self-contained, but they required frequent visits for maintenance and adjustment. Today, stations are still self-contained but are very accurate, require little maintenance, and are part of a larger nationwide network. Today, data are transmitted to NOAA headquarters via satellite shortly after they are collected. After rapid computer analysis, the data are immediately posted to one of several Web sites where they can be universally accessed. With these systems in place, scientists can run diagnostic checks on the equipment without needing to travel into the field. This saves both time and money.