

**"TIDE WATERS AND NAVIGABLE WATERS - DETERMINATION,  
BOUNDARIES, AND EFFECTS UPON TITLE"**

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INTRODUCTION

Alabama and Mississippi are blessed with abundant waterways of various sorts ranging from coastal areas, to navigable rivers to small ponds and sloughs. The river watersheds contain tens of thousands of acres of hardwood bottomlands. Some of these bottomlands contain lakes, swamps, creeks, and sloughs that are swollen during flood season and become passable by boat from the rivers. These factors, along with the generation of oil and gas royalty revenues and the public's desire to hunt and fish everywhere, have caused the States of Alabama and Mississippi to assert title to vast tracts of "land" and to certain "private" water bodies by claiming same are, in fact, "tidal" or "navigable" waters owned by the state. In many instances, private landowners have held record title to these properties for over one-hundred years and have paid property taxes throughout that time.

Whether a water body is "tidal" or "navigable" has a number of ramifications: (a) in determining ownership of the "submerged bottomlands"; (b) in determining if

“navigable servitude” is imposed upon the property; and (c) in establishing the limits of regulatory jurisdiction of the Corps of Engineers and other federal governmental agencies.

## I. THE EQUAL FOOTING DOCTRINE

States own title to the beds of “tidal” rivers, tributaries, lakes, streams and deltas under the *Equal Footing Doctrine*. Inherited from the English common law, the *Equal Footing Doctrine* provides that newly admitted states, such as Alabama or Mississippi, upon their admission into the Union, acquired title to lands underlying “navigable waters” within their boundaries.<sup>1</sup>

Alabama and Mississippi case law has long recognized the *Equal Footing Doctrine* as granting the State title to lands underlying tidal waters<sup>2</sup>, and non-tidal navigable waters.<sup>3</sup> Mississippi’s Supreme Court has recently held that tidal waters are held in “public trust” for the benefit of all of its citizens such that the state could not sell that title to private citizens.<sup>4</sup> While the principle of the *Equal Footing Doctrine* is well established, application of the principle to a given fact situation can be difficult and the stakes can be enormous.

## II. "TIDE" AND ITS AFFECTS ON TITLE<sup>5</sup>

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<sup>1</sup> Pollard v. Hagan, 44 U.S. (3 How.) 212, (1845). Also see: Submerged Lands Act, 43 U.S.C. §1301, et seq. (1953).

<sup>2</sup> City of Mobile v. Eslava, 9 Port. 577, 33 Am. Dec. 325 (1839), affirmed 16 Pet. 234, 10 L. Ed 948 (1842); Treuting v. Bridge & Park Commission of the City of Biloxi, 199 So. 2d 627 (Miss. 1967).

<sup>3</sup> Hood v. Murphy, 231 Ala. 408, 165 So. 219 (1936); Culley v. Pearl River Industries Commission, 234 Miss. 788, 108 So. 2d 390 (1959).

<sup>4</sup> Cinque Bambini Partnership v. Mississippi, 491 So. 2d 508 (Miss. 1986), aff’d Phillips Petroleum Co. v. Mississippi, 484 U.S. 469 (1988).

<sup>5</sup> See also Dawson, “Tideland Ownership – Time for Reform”, 36 Cinn. L. Rev. 121 (1967); Porro &

"Tide" is defined as:

"The rising and falling of the water of the sea that is produced by the attraction of the sun and moon, uninfluenced by special winds, seasons or other circumstances...Meteorological influences may be inextricably involved with the rise and fall of true astronomical tide, but we should distinguish them as meteorological tides. Other influences may be described as atmospheric or meteorological tides, but such tides are undoubtedly very minute, in comparison with the astronomical tide, over a period of 18.6 years."<sup>6</sup>

The National Oceanic & Atmospheric Administration, NOAA, is the agency of the United States government charged with mapping the tidal waters of the United States. NOAA defines "tide" as "the periodic rise and fall of the water resulting from the gravitational interactions between the sun, moon and earth"<sup>7</sup>, i.e., astronomical tide, as distinguished from atmosphere or meteorological tides. Any determination of tidal influence and the lateral boundaries thereof should begin with a computation of a tidal datum<sup>8</sup> or an extrapolation from a known tidal datum to the water body in question.

The primary case interpreting the *Equal Footing Doctrine* as it relates to "tidelands" is Borax Consolidated Ltd. v. City of Los Angeles.<sup>9</sup> In Borax, the City of Los Angeles brought suit to quiet title to certain alleged tidelands of Mormon Island situated in Los Angeles Harbor. In Borax, the United States Supreme Court said:

"The soils under tide water's within the original states were reserved to them respectively, and the states since admitted to the Union have the same sovereignty and jurisdiction in relation to such lands within their

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Teleky, Marsh Land Title Dilemma: A Tidal Phenomenon", 3 Seton Hall L. Rev. 323 (1972).

<sup>6</sup> Humble Oil & Refining Co. v. Sun Oil Co., 190 F. 2 d 191, 194-5 (5<sup>th</sup> Cir. 1951).

<sup>7</sup> "Tide & Current Glossary in the 1983, U.S. Department of Commerce, National Oceanic & Atmospheric Administration".

<sup>8</sup> A tidal datum is determined by averaging all high tides over an 18.6 year period resulting in a "mean high tide".

<sup>9</sup> 296 US 10 (1935).

borders as original states possessed...This doctrine applies to tide lands in California...Upon the acquisition of the territory from Mexico, the United States acquired the title to tide lands equally within the title to upland, but held the former only in trust for the future...It follows that, if the land in question was tide land, the title passes to California at the time of her admission into the Union in 1850. Thus, the patent later issued by the Federal General Land Office was ineffective and title to all lands below mean high water (defined as 'a mean of all the high tides') was held by the City of Los Angeles."<sup>10</sup>

Following Borax was O'Neal v. State Highway Dept.<sup>11</sup> There the Supreme Court of New Jersey held that the State of New Jersey owned the lands bordering the Hackensack River in East Rutherford that are flowed by the tide up to the mean high tide line.<sup>12</sup> The lands involved are known as The Meadowlands and are now home to a sports arena which was built in "navigable waters", i.e. state owned bottomlands. In O'Neal, the court explained how the boundaries of tidal waters could be determined as follows:

“The tidal boundary may be established by elevations taken on land. In that event, evidence that land above that elevation is periodically covered by high tide will not suffice to prove it is tide land. This is not to say that all land below that elevation is tide land; the land must in fact be tide flowed, and hence interior land which is below that elevation and which the mean high tide does not reach naturally, is no tide land.”<sup>13</sup>

O'Neal makes clear that the land must be below the elevation (NGVD-elevation above sea level) of “mean high tide” and the area must actually and naturally be covered by the “mean high tide” (average highs over 18.6 years). Artificial alterations should not cause the private owner to lose his title to the State.

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<sup>10</sup> Borax, 296 US 10, 26 (1935). (Citations omitted)

<sup>11</sup> 235 A. 2d 1 (NJ 1967).

<sup>12</sup> O'Neal, 235 A. 2d 1, 9 (NJ 1967).

<sup>13</sup> Id.

A recent case involving title to the saltwater marshlands near Bay St. Louis, Mississippi, is the case of Cinque Bambini Partnership v. State of Mississippi.<sup>14</sup> In Cinque Bambini, private landowners contended that the lateral boundaries of the Jordan River and its tributaries did not extend into the tidal marshlands, fingers and tributaries of the Jordan River which were not “navigable in fact”. It should be understood that the waters at issue were undisputedly influenced by the tide, i.e., the water level fluctuated daily in a periodic, predictable fashion consistent with the astronomical forces exerted by the sun and the moon. In determining the lateral boundaries of these tidal waters, the Mississippi Supreme Court employed the “toothpick” test saying as follows:

“The boundary of each waterway navigable in fact is that point where mean high water mark (variously determined) strikes land. Within that surveyable, territorial boundary, (and outside the navigable channel/area) will always be some non-navigable areas. Yet so long as by unbroken water course - when the level of the water is at mean high water mark - one may hoist a sail upon a toothpick and without interruption navigate from the navigable channel/area to land, always afloat, the waters transversed and the lands beneath them are within the inland boundaries we consider the United States set for the properties granted the State in trust.”<sup>15</sup>

On appeal, the United States Supreme Court held:

“We reaffirm our longstanding precedents which hold that the State, upon entry into the Union, received ownership of all lands under waters subject to the ebb and flow of the tide. Under the well established principle of our cases, the decision of the Mississippi Supreme Court is clearly correct: the lands at issue here are ‘under tide waters’ and therefore passed to the State of Mississippi upon its entrance into the Union.”<sup>16</sup>

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<sup>14</sup> 491 So. 2d 508 (Miss. 1986).

<sup>15</sup> Cinque Bambini Partnership v. State of Mississippi, 491 So.2d 508, 515 (Miss. 1986).

<sup>16</sup> Phillips Petroleum Co. v. Mississippi, 484 US 469, 477 (1988).

The Cinque Bambini<sup>17</sup> case lays the issue of ownership to lands flowed by the ebb and flow of the tide to rest: If a body of water is tidal in its natural and ordinary condition, the state holds title to all of the lands there-under up to the mean high tide whether all of the water body is navigable-in-fact or not. The case does not address the circumstances that render one “body” of water separate and distinct from a connecting “body” of water, nor does it discuss how to determine if a body of water is “tidal”. The Mississippi Court did make clear that any tidal influence is sufficient to make a water-body “tidal”:

“In summary, effective upon statehood...we understand federal law to provide that the United States granted to the State of Mississippi in trust all lands, to which the United States then held title, including their mineral and other subsurface resources, subject to the ebb and flow of the tide below the then *mean* high water level -- regardless of whether the water courses were commercially navigable at the time of Mississippi’s admission into the Union, regardless of how insignificant the tidal influence, or how shallow the water, regardless of how far inland and remote from the sea. Similarly granted were the beds and streams of all non-tidal waters which were navigable in fact [upon statehood].”<sup>18</sup>

A government seeking to divest its citizens of their property might argue that its title extends up each tributary and creek so far as a toothpick can be floated at high tide. However, such a result should only lie if the State can show (as was the case in Cinque Bambini) that the creek or tributary is itself tidally influenced. The State of Alabama recently attempted such a broad-brush claim in the case of Hill v. Mobile et al, (Mobile County Circuit Court CV-90-4482). It involved title to the Chippewa Lakes located in

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<sup>17</sup> Id.

<sup>18</sup> 491 So. 2d 508, 516-17 (MS. 1986).

the Mobile Delta. Record title to the lakes had been in the landowner's family for generations. The two fresh water lakes are located approximately 35 miles up river from Mobile Bay, both are over one mile inland from the Mobile River and Middle River and both are bordered by hardwood bottomlands on each side. The lakes were shown to be "connected" to the tidal rivers during flood season via various sloughs and ditches. The State of Alabama claimed title to the lakes on the theory that they were "tidal" and/or "navigable" water bodies. If either of the State's theories had been accepted, the lakes would have become state property. The jury determined the lakes were neither tidal nor navigable despite the State's arguments that (a) a "toothpick" could be continuously floated from the tidally influenced rivers to the lakes via the connecting sloughs and ditches; (b) the sloughs and ditches transmitted "tidal influence" into the lakes; and (c) the sloughs and ditches, and the lakes themselves, were navigable-in-fact. The jury determined that the lakes were separate and distinct water bodies from the tidally influenced rivers and that no astronomical tide existed in the lakes. Since the lakes were usable in commerce only during flood season, they were found to be non-navigable.

Expert testimony from surveyors, hydrologists, and "tide" experts was presented by both sides in the Chippewa case. Hydrographs of water elevation readings were critical because a positive correlation between the predicted tides (determined from NOAA tide tables and established tidal datum's) and the water level readings taken from the lakes would arguably establish tidal influence. However, it is rarely that simple. Water levels are affected by a number of factors besides the tide. Flooding changes the

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water's elevation; rainfall changes the water's elevation; runoff changes the water's elevation; evaporation changes the water's elevation. None of these are "tidal influences" and such meteorological factors must be eliminated from the tidal determination. Parties in litigation of this sort may attempt to mix and match the various factors in an effort to show (or not show) tidal influence. The hydrographs attached hereto were exhibits presented by the State and the landowners to compare water elevations in the lakes with those in the tidally influenced rivers. They cover the same time period and were derived from the same data (water elevation) base. Clearly, the old saying about "statistics" applies to hydrographs.

Lastly, the issue of "tidal influence" turns upon the condition of the water body at the time of statehood. Such is difficult of proof and such gives increased importance to the original field surveys and notes (to be discussed hereafter) compiled in the early 1800's.

### III. NAVIGABILITY

In evaluating whether or not a particular water body is navigable, the purpose for the evaluation must be considered. "Cases interpreting navigability cannot be 'lumped into one basket' ... and 'reliance on judicial precedent must be predicated upon careful appraisal of the purposes for which the concept of "navigability" was invoked in a particular case."<sup>19</sup>

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<sup>19</sup> Boone v. U.S., 944 F. 2d 1489 (9<sup>th</sup> Cir. 1991) citing Kaiser-Aetna v. U.S., 444 US 164, 170, 100 S. Ct. 383, 387-89, 62 L. Ed. 2d, 332 (1979) and Oregon v. Riverfront Protection Assn., 672 F. 2d 792, 795 (9<sup>th</sup> Cir. 1982).

Title cases involving the *Equal Footing Doctrine* and “takings” cases involving the navigable servitude follow the navigability test outlined by the United States Supreme Court in The Daniel Ball.<sup>20</sup> It holds that a water body is navigable when it is 1) used, or is susceptible of being used, 2) in its natural and ordinary condition, 3) as public highways for useful commerce, 4) in the customary modes of trade and travel on the water.<sup>21</sup> Important in this test of navigability is a requirement that the “navigability” be assessed with the water body in its natural and ordinary condition. That element has been emphasized by the United States Supreme Court<sup>22</sup> and relied upon in holding “the mere fact that logs, poles, and rafts are floated down a stream occasionally and in times of high water does not make it a navigable river”.<sup>23</sup> The requirement that the use be in the customary modes of travel and trade over water has also been emphasized by the Supreme Court in holding that the mere capacity to pass a boat of any size, however small, from one stream or rivulet to another is not sufficient to constitute a navigable water of the United States.<sup>24</sup> Navigability is usually a question of fact to be determined from the particular circumstances of each case.<sup>25</sup> If a water body is navigable in fact, it is navigable in law and,<sup>26</sup> as such, the *Equal Footing Doctrine* may apply.

By comparison, the navigability test for regulatory jurisdiction pursuant to the Commerce Clause is much broader than the navigability test contained in The Daniel

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<sup>20</sup> 77 US (10 Wall) 557, 19 L. Ed 999 (1871).

<sup>21</sup> Id. at (10 Wall) 563.

<sup>22</sup> United States v. Holt Bank, 270 US 489 (1926).

<sup>23</sup> United States v. Rio Grande Dam & Irrigation Co., 174 US 690, 698 (1899).

<sup>24</sup> Levoy v. United States, 177 US 621 (1900).

<sup>25</sup> Utah v. United States, 403 US 9 (1971).

<sup>26</sup> 77 US (10 Wall) 557 (1871).

Ball.<sup>27</sup> For regulatory jurisdiction, such as that exercised by the Army Corps of Engineers under §10 of the *Rivers and Harbors Act*,<sup>28</sup> "navigability" has been defined to extend not only to waters which are navigable in fact, but also to non-navigable tributaries, waters which were once navigable in fact but are no longer so, and waters neither formerly nor presently navigable but which may be made navigable by reasonable improvements.<sup>29</sup>

A recent Eleventh Circuit case on navigability for purposes of the navigable servitude, which would allow for public passage, fishing, etc., is U.S. v. Harrell.<sup>30</sup> It involved Lewis Creek, a narrow tributary of the Tombigbee River approximately 45 miles north of the mouth of the Mobile River. Lewis Creek was ordinarily not passable by boat except during flood season. The Government presented evidence that a lumber company, through use of manmade ditches, utilized Lewis Creek to float timber to adjoining tributaries. The landowners argued such floatage was only possible at flood stage. The Eleventh Circuit Court of Appeals affirmed the District Court's finding that Lewis Creek was non-navigable, finding it to be:

“A ‘small, narrow, shallow, potentially dry creek that is incapable of any type of water-borne commerce’. The creek....only becomes capable of use for such commerce ‘when the flood waters of the Tombigbee break out of their banks and the main course of the river backs up across the intervening lands of others into the non-navigable bed of Lewis Creek.’”<sup>31</sup>

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<sup>27</sup> 77 US (10 Wall) 557 (1871).

<sup>28</sup> 33 USC §401 et. Seq.

<sup>29</sup> U.S. v. Appalachian Electric Power Co., 311 US 377 (1940); See also Economy Light & Power Co. v. U.S., 256 US 113 (1921); and Boone v. U.S., 944 F. 2d 1489 (9<sup>th</sup> Cir. 1991).

<sup>30</sup> 926 F. 2d 1036 (11<sup>th</sup> Cir.).

<sup>31</sup> Id. at 1039.

The Eleventh Circuit also reaffirmed that “the mere fact that logs, poles and rafts are floated down a stream occasionally and at times of high water does not make it a navigable river”.<sup>32</sup>

A. Ordinary High Water Mark

In Harrell, the Corps of Engineers argued that Lewis Creek was within the “lateral extent” (i.e., boundaries) of the Tombigbee River such that it was, in fact, part of the navigable river and not a separate water body. Such an argument was premised upon the Corps’ calculation of the “ordinary high water mark”<sup>33</sup> which included levels recorded during seasonal flooding. If the Corps’ calculation of “ordinary high water mark” had been accepted tens of thousands of acres lying in the Tombigbee-Alabama River watershed would have been subjected to the “navigable servitude” and, potentially, to State claims of ownership to those “submerged lands”. Attached is a quadrangle map that depicts the amount of land near Lewis Creek, which had an elevation below the Corps’ “ordinary high water mark” elevation.

A similar situation was addressed by the United States Supreme Court in the case of Levoy v. United States.<sup>34</sup> In that case a pass, which was outside of any established survey lines or maps identifying navigable waters, had occasionally been used by small boats for fishing though it had clearly not been used for substantial interstate commerce. In reversing a jury verdict which found the pass to be navigable, the Court said as

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<sup>32</sup> Harrell, at 1040, citing United States v. Rio Grande Dam & Irrigation Co., 174 US 690 (1899).

<sup>33</sup> “Ordinary high water mark” (OHWM) is the term used in determining the lateral extent of a non-tidal, navigable water body; as distinguished from the term “mean high tide” used with tidal water bodies.

<sup>34</sup> 177 U.S. 621 (1900).

follows:

“Were the mere fact that a steam boat or flat boat had been a short distance up a stream or bayou in high water a sufficient ground for declaring it a navigable stream, every slight depression of the soil on the banks of the Mississippi would then become a navigable stream, and should be open for the benefit of rafts and boats, and the convenience of a few persons, to the total destruction of the planting interest on the bank of the River.”

In U.S. v. Claridge,<sup>35</sup> the Arizona District Court held “ordinary high water mark is placed there...from the ‘ordinary’ flow of the river and does not extend to include the peak flow or flood stage so as to overflow on the flood plain nor is it confined to the lowest stages of the river flow.”

Owen v. United States<sup>36</sup> also contains discussion of the boundary applicable under the “lateral extent doctrine”. In that case the Corps of Engineers took the position that it was perfectly within its rights as owner of the dominant navigational servitude to intentionally redirect the course of the Tombigbee River so as to undercut an adjoining landowner’s property resulting, predictably, in the landowner's farm and home falling into the river due to lack of lateral support. The Court of Appeals held that the navigable servitude did not extend under existing fast lands. The Court said:

“There must also be horizontal limits to the ‘bed’ of a river; otherwise, the navigational servitude would extend indefinitely in all directions and swallow up any claim for ‘just compensation’ under the Fifth Amendment for damages occurring anywhere below the elevation of the high-water mark. Cf. Kaiser-Aetna, 444 U.S. at 177.”<sup>37</sup>

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<sup>35</sup> 279 F. Supp. 87 (D. Ariz. 1966), aff’d., 416 F. 2d 933 (7<sup>th</sup> Cir. 1969), cert. denied, 397 U.S. 961 (1969).

<sup>36</sup> 851 F. 2d 1404 (Fed. Cir. 1988)

<sup>37</sup> 851 F. 2d at 1410.

In Goose Creek Hunting Club, Inc. v. United States,<sup>38</sup> the Corps of Engineers sought to “take” without compensation certain property located along Goose Creek. The property was normally covered with grasses and trees and was used for hunting and the grazing of cattle. As a result, the Court found that such land constituted “fast lands” rather than part of the bed of Goose Creek. The Court rejected the government’s argument that the properties lay within the “beds” of larger downstream rivers “since such land is situated beyond the beds of those rivers.”<sup>39</sup>

The test historically employed by courts in making an “ordinary high water mark” decision is the vegetation test. Vegetation is altered by continuous and relatively permanent conditions and the bed of navigable water is denoted by the absence of terrestrial vegetation.<sup>40</sup> Marks as referred to in earlier cases, and in the Corps regulations themselves, refer merely to marks on the “bank” or “shore” below which terrestrial vegetation will not grow and not to marks left on trees by flood waters.<sup>41</sup>

The Corps of Engineers has persistently attempted to use mathematical calculations to determine “ordinary high water mark”. Such an attempt was made in Harrell to no avail and similar calculations have been ignored by the courts in other

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<sup>38</sup> 518 F. 2d 579 (U.S. Ct. of Cl. 1975).

<sup>39</sup> 518 F. 2d at 583

<sup>40</sup> Howard v. Ingersoll, 54 U.S. (13 How.) 381 (1851); Harrison v. Fite, 148 F. 781 (8<sup>th</sup> Cir. 1906); Borough of Ford City v. United States, 345 F. 2<sup>nd</sup> 645 (3<sup>rd</sup> Cir. 1965), cert. denied, 382 U.S. 902 (1965); Kelley’s Creek and Northwestern R.R.Co. v. United States, 100 Ct. Cl. 396 (1943); Simon Zunamon v. United States, 227 Ct. Cl. 605 (1981).

<sup>41</sup> 33 C.F.R. §329.11 (a)(1)

cases. In United States v. Cameron,<sup>42</sup> the court admitted a flow duration curve into evidence over strenuous objection as to reliability given that the Corps included flood level readings in the computation. The Court did not accept the Corps' results in its ultimate decision noting that the data obtained was "questionable" and "highly dubious".<sup>43</sup> In Cameron, the Corps instituted an action seeking removal of a dike and fence built by a riparian owner of property adjoining a navigable lake in central Florida. The Court said the term "ordinary high water line", as used to define "navigable waters under the River and Harbors Act", was not readily susceptible of a uniform definition. It noted that various tests and/or factors have been used by the Courts in varying situations in order to determine what constitutes the "ordinary high water line" including the following:

1. "Land upon which the action of the water has been so constant as to destroy vegetation."<sup>44</sup>
2. "A natural physical characteristic placed upon the lands by action of the river."<sup>45</sup>
3. "The soil is so usually covered by water that is wrested from vegetation and its value for agricultural purposes destroyed."<sup>46</sup>
4. "The line below which the waters have so busily asserted their dominion that terrestrial plant life ceases to grow and, therefore, the value for agricultural purposes are destroyed."<sup>47</sup>

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<sup>42</sup> 466 F. Supp. 1099 (M.D. Fla. 1978)

<sup>43</sup> 466 F. Supp. at 1114

<sup>44</sup> United States v. Chicago B.N.O.R. Company, 90 F. 2d 161, 170 (7<sup>th</sup> Cir. 1937); Goose Creek Hunting Club, Inc. v. United States, 518 F. 2d 579, 583, 207 Ct. Cl. 323 (1975) and Kelley's Creek and Northwestern Railroad v. United States, 100 Ct. Cl. 396, 406 (1943).

<sup>45</sup> U.S. v. Claridge, 279 F. Supp. 87 (D. Ariz. 1966), aff'd, 416 F. 2d 933, cert. denied, 397 U.S. 961 (1969).

<sup>46</sup> Harrison v. Fite, 148 F. 781 (8<sup>th</sup> Cir. 1906).

<sup>47</sup> Borough of Ford City v. United States, 345 F. 2d 645, 648 (3<sup>rd</sup> Cir. 1965), cert denied, 382 U.S. 902.

5. “The meander line of the original federal survey.”<sup>48</sup>

Buttrey v. United States<sup>49</sup> also addressed the various factors that should be considered in determining ordinary high water mark. The Corps contended a pond off the West Pearl River was “navigable” because its elevation was below the Corps’ calculation of “ordinary high water”. The Court noted that the only measurements documented by the Corps “were the elevations at which the bark on the trees and the slough became stained.”<sup>50</sup> In addressing flood duration curve results the Court observed that the Corps included water levels at the flood stage and that this gave a “ludicrous” picture as to what “ordinary” water levels were. “The questionable validity of this procedure is apparent because it results in an OHWM which is higher than any measured water level at the site (except flood measurement) and [it] extends into manicured lawns in the subdivision...over four miles of forested swamp. The result is arbitrary and unreasonable...”.<sup>51</sup>

B. Alabama Cases on Navigability

Alabama cases are generally in accord with the Federal law concerning navigability. First, there is Bullock v. Wilson,<sup>52</sup> where the Alabama Supreme Court stated that a watercourse is navigable if it is suited for the ordinary purposes of navigation whether or not the watercourse is subject to the ebb and flow of the tide.

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<sup>48</sup> U.S. v. Otley, 127 F. 2d 988 (9<sup>th</sup> cir. 1942).

<sup>49</sup> 573 F. Supp. 283 (E.D. La. 1983).

<sup>50</sup> 573 F. Supp. at 299.

<sup>51</sup> 573 F. Supp. at 300.

<sup>52</sup> 2 Porter 436 (Ala. 1835).

Then in Rhodes v. Otis,<sup>53</sup> the Alabama Supreme Court employed a more complete test of navigability which included the following factors:

“In determining the character of a stream, inquiries should be made as to the following points:

- whether it is fitted for valuable floatage;
- whether the public, or only a few individuals, are interested in transportation;
- whether any great public interests are involved in the use of it for transportation;
- whether the periods of its capacity for floatage are sufficiently long to make it susceptible of use beneficially to the public;
- whether it has been previously used by the people generally, and how long it has been so used;
- whether it was meandered by the government surveyors, or included in the surveys;
- whether, if declared public, it will probably in the future be of public use for carriage.

In application of these inquiries to the facts of a case, it is to be remembered that the onus *pro bandi* is upon the part claiming that the stream above tide water is public.”<sup>54</sup>

In Rhodes, the evidence that Bashi Creek (a tributary of the Tombigbee River in Clarke County, Alabama) could be used for the floatage of timber for approximately three months out of the year during period of high water and the fact that the creek was not shown to have been excepted from the government surveys was sufficient for the Alabama Supreme Court to find that Bashi Creek was not navigable and thereby reverse

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<sup>53</sup> 33 Ala. 578 (1859).

<sup>54</sup> Rhodes v. Otis, 33 Ala. 578 (1859).

the lower court.<sup>55</sup>

Finally, in Hood v. Murphy,<sup>56</sup> the Supreme Court of Alabama held that the State owns land under, or beds of, navigable waters within the State, whether such waters are tidal or not. Thus, if a water course is deemed to be navigable then the State owns title to lands under those navigable waters below mean low water in the case of non-tidal waters.<sup>57</sup> For lands underlying water bodies deemed tidal, the State is entitled to the soil below the mean high water mark.<sup>58</sup>

C. Army Corps of Engineers Regulations

The Army Corps of Engineers has established regulations to be considered when determining whether or not a water body is "navigable" and the lateral extent of navigable waterways.<sup>59</sup> These regulations are not controlling and may conflict with judicial precedent. They should nonetheless be considered in a given case.

IV. MANMADE/ARTIFICIAL CHANGES AND THEIR EFFECTS ON NAVIGABILITY OR TIDAL NATURE OF A WATER BODY

In many instances, and throughout the deltas in Alabama and Mississippi, access to lakes, ponds, and streams is provided by canals and tributaries which have been dredged, widened, or otherwise artificially enhanced at some point in the past. In many delta areas in the early 1900's, loggers created and otherwise enhanced accessibility to

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<sup>55</sup> Rhodes, 33 Ala. 578 (1859).

<sup>56</sup> 231 Ala. 408, 165 So. 219 (1936).

<sup>57</sup> Demopolis v. Webb, 87 Ala. 659, 6 So. 408 (1889); Webb v. Demopolis, 95 Ala. 116, 13 So. 289 (1892).

<sup>58</sup> Mobile Transportation Co. v. City of Mobile, 187 US 479, 485 (1902); accord, Phillips Petroleum Co. v. Mississippi, 484 US 469 (1988).

<sup>59</sup> 33 CFR §329.1, er. seq.

these water bodies to assist them in their efforts at harvesting hardwoods. These artificial improvements may not be considered in deciding whether a water body is navigable or tidal for the purposes of quieting title or in “takings” cases.

Kaiser-Aetna v. U.S.<sup>60</sup> is authoritative on this point. Kaiser-Aetna involved a 523-acre pond on Oahu, Hawaii, contiguous to the Pacific Ocean, but separated from the ocean by a beach barrier reinforced by a stone wall built by Hawaiians in the early 1900's. Kuapa Pond was used by islanders to catch fish with daily tidal movements. Lessees of the pond dredged channels, filled in parts of the pond, built bridges, and converted Kuapa Pond into a marina-styled community utilized by many vessels. Alleging that the Lessees had so substantially changed the character of the pond, the Corps of Engineers asserted navigable servitude on behalf of the public and requested an injunction preventing Lessees from excluding others from the indisputably tidally influenced pond. The District Court held in favor of the Lessees denying the Corps' request for an injunction and the Ninth Circuit Court of Appeals reversed that finding. The United States Supreme Court reversed the Ninth Circuit stating:

“It is clear that prior to its improvements, Kuapa Pond was incapable of being used as a continuous highway for the purpose of navigation and interstate commerce. Its maximum depth at high tide was a mere two feet, it was separated from the adjacent bay and ocean by a natural barrier beach, and its principal commercial value was limited to fishing. It consequently was not the sort of ‘great navigable stream’ that this Court has previously recognized as being ‘incapable of private ownership’”.<sup>61</sup>

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<sup>60</sup> 444 US 164 (1979).

<sup>61</sup> Kaiser-Aetna, 444 US 164, 178-9 (1979).

Another Ninth Circuit case, Boone v. U.S.<sup>62</sup> involved the question of whether a navigable servitude could be maintained by the Corps of Engineers without just compensation to the adjoining landowner. In Boone, a manmade fishpond, Puko's fishpond (25 acres, and subject to the ebb and flow of the tide), was created by constructing a stone wall across an inlet to the sea. Several witnesses testified that they had, on numerous occasions, navigated into the fishpond in flat bottom boats to take fish. Relying on Kaiser-Aetna,<sup>63</sup> the Ninth Circuit affirmed the lower court's finding that such evidence was insufficient to prove that, in its natural and ordinary condition, Puko's fish pond was "a great navigable stream" or highway of commerce.<sup>64</sup> The Boone Court then held that, while the Corps of Engineers may regulate the pond,<sup>65</sup> its attempt to require public access goes too far without the payment of just compensation under the *Fifth Amendment*.

State courts have also adopted the rule that manmade, artificial improvements may not be considered when deciding whether a water body is navigable for the purposes of quieting title. In O'Neill v. State Highway Dept.,<sup>66</sup> the New Jersey Supreme Court, interpreting New Jersey law, stated the following:

"The state cannot acquire interior land by artificial works such as ditching which enables the tide to ebb and flow on lands otherwise beyond it. And so, too, the riparian owner cannot, today, enlarge his holdings by

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<sup>62</sup> 944 F. 2d 1489 (9<sup>th</sup> Cir. 1991).

<sup>63</sup> Supra.

<sup>64</sup> Boone, 944 F. 2d at 1501-1502.

<sup>65</sup> Referencing the broader test of "navigability" for regulatory jurisdiction identified in United States v. Appalachian Electric Power Company, 311 US 377 (1940).

<sup>66</sup> 235 A. 2d 1 (NJ 1967).

excluding the tide.”<sup>67</sup>

And, in Cinque Bambini Partnership v. State of Mississippi,<sup>68</sup> where a tidally influenced lake was created by the excavation of dirt used in the construction of I-10 was tidally influenced, the Mississippi Supreme Court held that:

“Fee simple title to all lands naturally subject to tidal influence, inland to today’s mean high water mark, is held by the State of Mississippi in trust. On the other hand, lands brought within the ebb and flow of the tide by evulsions or by artificial or non-natural means are owned by their private record title holders.”<sup>69</sup>

In any case, the attorney should understand the chain of title and history concerning the property in question paying particular attention to the uses of the property in an attempt to determine if the water body was dredged, widened or otherwise artificially enhanced and if so, the extent thereof.

## V. BURDEN OF PROOF

In general, the burden of proof rests with the party not in peaceable possession of the property.<sup>70</sup> In many cases, this party will be the State or Corps of Engineers which has only recently decided to assert its interest in the property. The original field notes of the official government surveys conducted on the subject property must also be considered. If the original government surveyor meandered<sup>71</sup> the banks of the water

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<sup>67</sup> Id., 235 A. 2d at 9-10.

<sup>68</sup> 491 So. 2d 508 (Miss. 1986).

<sup>69</sup> Id. at 511.

<sup>70</sup> Newark v. Natural Resources Council, 514 A. 2d 1304 (1980).

<sup>71</sup> Meander is a term used in some jurisdictions with the meaning of surveying and mapping a stream according to its meanderings, or windings and turnings. Meander lines consist of a series of metes and bounds which make up the boundaries of a navigable waterway. Black’s Law Dictionary (1979), 5<sup>th</sup> Ed. 884.

body in question, a rebuttable presumption that the water body was navigable is created and the burden of proving that the water body is non-navigable shifts to the second title holder.<sup>72</sup>

The converse is also true. If a water body was not meandered in the original government surveys, the water body is *prima facie* non-navigable and the burden of proving navigability is on the State or Corps of Engineers.<sup>73</sup>

## VI. EVIDENCE

The evidence to be developed and considered in making “tide” and “navigability” determinations is somewhat complex and needs to be developed in consultation with expert witnesses. In general, however, the following evidence should be developed:

### A. Site Inspections, plats, maps and aerial photos

If you are convinced as to the correctness of your position, a site inspection by the fact finder should be considered. Visual aids such as plats, maps, and aerial photos give the fact finder a good orientation of the location of the property and its proximity to and connection with (or lack thereof) water bodies known to be tidal or navigable. Official government quadrangle maps, plats, and aerial photos are probative but they are, by no means, conclusive.

### B. Tidal Datum<sup>74</sup>

The United States Coast and Geodetic Survey has established tidal datum’s for

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<sup>72</sup> Knight v. United Land Assn., 142 US 161 (1891).

<sup>73</sup> Blackburn v. Mauldein, 51 So. 23 (Ala. 1909); Olive v. State, 5 So. 653 (Ala. 1889).

<sup>74</sup> A tidal datum is determined by taking all high tides over an 18.6 year period resulting in an ordinary high water mark.

most coastal locations and they are a matter of public record. Tide experts will use tidal datum as a beginning point for their extrapolations in calculating the amount of tide and lag time from the known tidal datum to a given location.

C. Water Level Measurements

Water level measurements are critical in establishing whether a water body is tidal or not. They are a measurement of changes in water elevation (but not necessarily “tide”). Historically, water level measurements were taken with a staff placed vertically in the bottom of the water body with measurements taken by periodic visual inspection. More recently, computerized equipment for measuring changes in the water level are available.

D. Rainfall and Upstream Discharge Data

The amount of rainfall and runoff in the area in question will affect the water level and readings. Upstream discharges from locks and dams may have an effect on the downstream water levels. This data must be compiled to distinguish these changes in the water levels from changes as a result of tidal influences.

E. Hydrographs

From the water level measurements, rainfall and upstream discharge data generated in a given case, hydrographs may be created. A hydrograph is a bar graph showing the level of the water over time. Ideally, in the case of diurnal tidal water bodies, a hydrograph will depict a sine curve with a high and a low occurring every 12.6 hours. Particular attention should be given to the hydrographs developed in a given case. The vertical and horizontal scale used on a hydrograph need to be large enough for the

fact finder to differentiate changes in the water level as a result of rain, runoff, evaporation or drainage from changes in the water level as a result of the tide. A hydrograph to proper scale showing consecutive and periodic highs and lows may be the most important evidence presented in a given case. See attached hydrographs from the Chippewa Lakes case for appreciation as to how same data can be depicted on such graphs to create totally different impressions.

F. Surveys

Surveyors may be employed by any party to establish the actual boundaries of the water body in question. If tidal boundaries are involved surveyors should have particular expertise in that field. Surveyors may also be used to establish the contours of the land surrounding and underlying the water body in question.

G. Original Government Survey and Field Notes

The original government surveys of the property in question and field notes from those surveys should be obtained. The manner in which same were prepared in the early 1800's can create a prima facie claim in favor of one party.

H. Deeds and Tax Records

The history of the water body in question, its prior uses and any dredging or alterations made thereto may be relevant in determining whether the body is “tidal” or “navigable”. Deeds affecting ownership of land may be probative of its history and prior uses. Tax records showing that private owners were assessed and paid property taxes on the acreage underlying the water body may also be relevant for certain purposes.

I. Photographs and Videos

Photographs and videos of the subject waters and properties over an extended time and under a variety of conditions are usually essential. Photographs and video footage of your expert's site inspection and measuring techniques may also be helpful.

J. Testimony

Testimony from individuals with detailed first-hand knowledge of the area in question is critical. The circumstances under which the first-hand knowledge of a witness was obtained must be explored to determine if the water body in question was in its natural and ordinary condition at the time it was observed by the witness.

K. Federal/State Agency Determinations

The Army Corps of Engineers and certain state agencies maintain a list of water bodies which have been deemed navigable (or non-navigable) by that agency. The list is not controlling, however, and the ultimate determination of "navigability" will be made by the Court. Whether the water body in question is on the list of navigable waters may be used by counsel especially in a case where the Corps of Engineers or state agency claims that the water body is navigable but that water body is not on the list of navigable waters maintained by that agency.

VIII. CONCLUSION

All factors suggest further and increasing attempts by both state and federal agencies to claim ownership to areas heretofore considered private lands. Oil and gas revenues are often at stake and the public is clamoring for greater access to recreational areas. Environmental concerns may also prompt claims to state ownership or

navigability in an effort at curbing objectionable uses of the land. Landowners, and landowners' counsel, should not underestimate these pressures upon governmental agencies and certainly they should not underestimate the pressures and expense these governmental agencies can exert upon landowners in their efforts to obtain "private" lands.