The Use of Tidal Datums in the Law

by John Briscoe

"*There is measure in all things.*"

—Horace*

The tides certainly will not avail to disprove Horace. They have been measured in more ways than a new customer of a Saville Row tailor. The most frequently used products of tidal measurements, which this paper concerns, are "tidal datums," and by one count there may be as many as 31 of them.[1]

It has been reported that science finds an occasional use for tidal datums, though it may appear they are produced solely for the purposes of lawyers. The law has found a use, it sometimes seems, for nearly every tidal datum which science has devised; in California, it may even have found a use for one which science has not.

Tidal datums are not arbitrary measures, in the sense that a meter and the National Geodetic Vertical Datum (NGVD) are. They are more like expressions of the length of a day, the speed of light, or the ratio of a circle's circumference to its diameter. In what sense this is meant is treated best by such writers as Marmer.[2] It is enough to observe, as an example, that while the value of mean high water is not necessarily the same at different places, nor even at the same place at different times, it is a measure of some immanent relationship among the tides, whose ranges of height differ from place to place and from time to time. One cannot say whether this or any other characteristic of tidal datums accounts for their prevalent employment in the law other than that science has devised them. For certainly the law would fain avoid the belated embarrassment of the Ecclesiastical courts which branded Galileo a heretic.[3]

This paper is essentially a list of the corners of the law in which tidal datums are used. They are, in the main, found in two areas: the boundaries of land ownership and the regulation of the use of lands adjacent to and beneath tidal waters.

I.

The boundaries of land ownership along a coast are defined largely by reference to tidal datums. Ignoring the effects of shoreline changes caused by accretion, erosion, subsidence, etc.—and whether such changes occur naturally or artificially—these statements may be made:

1. In general a state acquired title to the tide and submerged lands within its boundaries upon is its admission to statehood. Generally, such lands are those below the "ordinary high-water mark" of the water body, a term apparently coined by Lord Hale, a renowned British jurist, in the 17th century.[4] In 1935 the U.S. Supreme Court took that hoary expression and said, in effect, that what it had always meant, in the context of tidally influenced waters, was the line of the tidal datum of mean high water.[5] (Science itself had only seriously begun to employ such datums in the latter part of the 19th century.[6])

Now it is of no little import in what instances the Supreme Court has the authority to establish a rule of property, as it did in the *Borax* case, and in what cases a state may formulate rules of its own. Let it suffice to say

*"*Est modus in rebus*," *Satires*, Book I, Satire i, line 106 (35 B.C.).

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that the U.S. Supreme Court has addressed this subject in full opinions on four occasions in the last decade. For their part, a number of states have adopted the *Borax* rule. Curiously, the only decision of the California Supreme Court to have addressed the question (in 1861) seems to have held that the "ordinary high-water mark" is not to be taken by using the average of all high tides (which is by definition the datum of mean high water), but only of the *neap* high tides. This decision (though not cited) was followed by a California Court of Appeal in 1966, in the only other California case to have been presented the question.[7]

In response to the *Teschemacher* decision, it has been cogently observed that there is at present no datum of "mean neap high water," since the very expression suggests a hydra-headed ambiguity. There are two high waters daily on the Pacific Coast, usually of unequal height. Neap tides occur twice monthly when the moon is in quadrature, and thus a mean of neap high tides could be derived from the lower neap highs, the higher neap highs, or from both. Other ambiguities and difficulties in deriving such a datum are considered by Shalowitz in *Shore and Sea Boundaries*, U.S. Coast and Geodetic Survey (USC&GS), 1(1962), 93, and Marmer, *Tidal Datum Planes, supra*, p. 6.

It is significant that the case against the use of a datum of neap high waters has been made most forcefully by officials of the National Ocean Survey (NOS), for the U.S. Supreme Court itself has recognized that agency's preeminent expertise in the field. *See, Borax, Ltd.* v. *Los Angeles*, 296 U.S. 10 26-27 (1935); *see also, United States* v. Romaine, 255 Fed. 253 (9th Cir. 1919). (The National Ocean Survey was formerly the U.S. Coast and Geodetic Survey , and, earlier, simply the "Coast Survey.") NOS, for the reasons referred to above, does not publish such a datum. Curiously, however, the predecessors of today's NOS officials saw fit to publish a datum of "neap high water above standard sea level" at the Golden Gate. Disney and Overshiner, *Tides and Currents in San Francisco Bay*, USC&GS Special Publication 115 (1925), 34.[8]

2. Recent California Supreme Court decisions have stated in dicta, (i.e., remarks which are not essential to the court's decision and hence not precedent) that the mean high-water line is the appropriate boundary. *City of Long Beach* v. *Mansell*, 3 Cal.3d 462, 478 fn. 13 (1970); *Marks* v. *Whitney*, 6 Cal.3d 251, 257-258 (1971). What this boundary is in California then—the mean high-water line or some line generated by a treatment of neap tides—yet awaits the question being put squarely before the State Supreme Court. That court has recently wrought radical changes in the rules respecting waterfront property, and hence it is not at all clear that its answer will be confined to one of those lines. *See, City of Berkeley* v. *Superior Court*, 26 Cal.3d 515 (1980); *State of California* v. *Superior Court (Lyon)*, 29 Cal.3d 210 (1981); and *State of California* v. *Superior Court (Fogerty)*, 29 Cal.3d 240 (1981).

3. One court has held that the boundary between state-owned tidelands and privately owned uplands, where the upland title deraigned from a Mexican Grant, is not the line of mean high water but rather the line of mean higher-high water, *Luttes* v. *Texas*, 159 Tex. 500, 324 S.W.2d 167, 177-191 (1958).

4. California laws in the 19th century authorized the sale to private purchasers of "tidelands"—i.e., lands subject to the ebb and flood of the tides, "above low tide." No California case has definitively addressed how the expression "low tide" is to be defined, but two have suggested in dicta (again, remarks which are not binding) that it is to be taken as the tidal datum of mean low water. *Marks* v. *Whitney*, 6 Cal.3d 251, 257-258, (1971); *City of Long Beach* v. *Mansell*, 3 Cal.3d 461, 478 fn. 13 (1970).

5. Though it was unquestioned that *tidelands* along a coast (i.e., lands between the ordinary high- and low-water marks) belonged to the coastal states, in the late 1940's a dispute arose between the federal government and those states concerning the ownership of lands seaward of the tidelands within the 3-mi. marginal sea. This case was decided in favor of the federal government in *United States* v. *California*, 331 U.S. 139 (1947), a decision which was then nullified by passage of the Submerged Lands Act in 1953, 67 Stat. 29. That Act quitclaimed to the coastal states the submerged lands within 3 mi. of the "coast line," which in general was defined as the "line of ordinary low water." When it was questioned whether this expression meant

the line of mean low water or of mean lower-low water, the Supreme Court held that the latter tidal datum was to be employed. *United States* v. *California*, 381 U.S. 139, 175-176 (1965).

II.

Many laws regulating the use of land or water define the geographic areas in which they apply by reference to tidal datums.

1. The U.S. Army Corps of Engineers has authority to regulate certain activities in the "navigable waters of the United States," and in the "waters of the United States." The Corps has two statutory bases for its authority. Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. Section 403, prohibits the building of any "dam," dike," "obstruction," or "other structures" within the "navigable waters of the United States" without the approval of the Corps. Similarly, Section 404 of the Federal Water Pollution Control Act as amended in 1972 (since 1977, the "Clean Water Act," 33 U.S.C. Section 1251 *et seq.*) charges the Corps with regulating the discharge of dredged or fill material into "waters of the United States." In defining the "waters" over which it has jurisdiction under the Clean Water Act, the Corps formerly used the line of mean higher high-water as one determinant of its jurisdiction on the Pacific Coast. *See* 33 C.F.R. Section 323.2(b) (superseded July 22, 1982). A similar regulation also purported to define the limit, in tidal areas, of the Corps' jurisdiction under the older Rivers and Harbors Act as the line of mean higher-high water. 33 C.F.R. §321.2 (now superseded; it presently refers solely to "the mean high water mark"). The Ninth Circuit Court of Appeals in *Leslie Salt Co.* v. *Froelhke*, 578 F.2d 742, 753, 756 (1978), held that for purposes of the Rivers and Harbors Act, the Corps' jurisdiction ends at the line of mean high water "in its unobstructed, natural state." *Id.*, at 753.

As a practical matter, the use of the MHHWL (mean higher-high water line) for purposes of determining Clean Water Act jurisdiction is of little consequence, since another test of this jurisdiction is the "high tide line," (formerly 33 C.F.R. §323.2(a)(5)), which is defined in Section 323.2(g) as follows:

> [A] line or mark left upon tide flats, beaches, or along shore objects that indicates the intersection of the land with the water's surface at the maximum height reached by a rising tide. The mark may be determined 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 characteristic vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The term includes high spring 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.

As a matter of administrative practice, the Corps treats as the "high tide line" the "estimated highest water level," which may be, it seems, either the NOS-published highest recorded tide, or its annual highest predicted tide.

New amendments to the Corps' Section 404 regulations continue the use and definition of the "high tide line" but omit all reference to the MHHWL. 33 C.F.R. §323.2 (g), first published in 45 *Fed. Reg.* pp. 62731-62777 (Sept. 19, 1980); final regulations published in 47 *Fed. Reg.* pp. 31794-31834 (July 22, 1982).

2. As with the Corps, two California state agencies charged with regulating coastal development have their jurisdictions defined by reference to tidal datums. The older of the two, the San Francisco Bay Conservation and Development Commission (BCDC), is charged with planning and regulating development as well as conservation of San Francisco Bay. The Commission's jurisdiction includes:

> San Francisco Bay, being all areas that are subject to tidal action from the south end of the Bay to the Golden Gate (Point Bonita-Point Lobos) and to the Sacramento River Line (a line between Stake Point and Simmons Point, extended northeasterly to the mouth of Marshall Cut), including all sloughs, and specifically, the marshlands lying between mean high-tide and five feet above mean sea level; tidelands (lands lying between mean high tide and mean low tide); and submerged lands (land lying below mean low tide).

California Government Code Section 66610 (a).[9]

By regulation the Commission has defin-

ed "subject to tidal action" as meaning "touched by tidal waters at any stage of the tide at any time on or subsequent to September 17, 1965 [the date the agency was created]."[10] In practice, the Commission's staff uses for this purpose the highest tide recorded at the Presidio tide station since 1965, 8.4 ft. above MLLW (mean lower-low water). This figure is 2.7 ft. above MHHW (mean higher-high water) (which in turn is 5.7 ft. above MLLW) at the Presidio, and the staff adds this 2.7 ft. increment to local MHHW to obtain an estimated elevation of lands "touched by tidal water" since 1965.

The California Coastal Commission is charged with planning for and regulating development of areas of the California coast other than San Francisco Bay. The act creating the Coastal Commission similarly defines the geographic jurisdiction of the Commission by reference to the mean high-water line. See California Public Resources Section 30103.

3. "Mean sea level," another tidal datum, is employed in several contexts by the Federal Emergency Management Agency (FEMA). For one, Section 60.4(e)(2) of FEMA's regulations provides that the local agency is to record "the elevation (in relation to mean sea level) of the lowest habitable floor (including basement) of all new or substantially improved structures . . . ." In addition, FEMA establishes "base flood elevations" for coastal areas by reference to "mean sea level."

"Mean sea level" in its true scientific meaning is the average elevation of the sea at a given place; its elevation varies from place to place and from time to time, and for this reason it is singularly unuseful for engineering purposes. Recognizing the need for a fixed vertical datum which would have the same value everywhere in the United States, the federal government in the 1920's undertook a project to establish such a datum, and by the laborious process of high-precision leveling transferred the selected elevation to key points across the United States. The product of this endeavor was the establishment of "Sea Level Datum of 1929." This is the datum commonly used by engineers and surveyors for expressing elevations, for the reason that it has the same value at all places, and thus vertical relationships are easily computed. But because of the similarity in nomenclature between "mean sea level" and "Sea Level Datum of 1929," the later expression was officially changed to "National Geodetic Vertical Datum" in 1973. *See*, National Oceanic and Atmospheric Administration (U.S. Department of Commerce), "National Vertical Control Net," 38 *Fed. Reg.*, p. 12840 (May 16, 1973). The following explanation is excerpted from "Variability of tidal Datums and Accuracy in Determining Datums from Short Series of Observations," National Oceanic and Atmospheric Administration Technical Report NOS 64, October 1974:

> **III.**
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> Relationship of Tidal Datums to the National Geodetic Vertical Datum of 1929
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> Tidal boundaries are defined by local tidal datums. The datum of mean sea level should not be confused with the National Geodetic Vertical Datum of 1929 [formerly, Sea Level Datum of 1929 ("mean sea level" on U.S. Geological Survey quadrangle maps)] or any other similarly derived datums. The name "National Geodetic Vertical Datum of 1929" was officially adopted in 1973 because the name "Sea Level Datum of 1929" frequently was confused with the tidal datum of mean sea level (National Oceanic and Atmospheric Administration 1973).
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> The National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum used as a plane of reference for the National Vertical Control Network. The datum was derived from a general adjustment of the first order level nets of both the United States and Canada. In the adjustment, sea levels from 21 tide stations in the United States and five in Canada were held as fixed. The year indicates the time of the last general adjustment (Shalowitz 1964).
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> The NGVD is fixed and does not take into account the ever changing stands of sea level. Because of the many variables affecting sea level, the relationship between NGVD and local mean sea level is not consistent from one location to another in either time or space. Mean sea level is the average height of the water surface over a 19-year period of observation. This determination generally is made by averaging hourly heights of the tide over the length of that period. Mean tide level, MTL, a plane midway between high and low water, is computed by averaging the high and low waters over the 19-year period of record. These two planes approximte each other on the open coast. Since MTL is calculated more easily, it is generally used instead of mean sea level.

Id., at 4.

As the quoted passage makes clear,

mean tide level and mean sea level vary but negligibly in most parts of the United States. And since mean tide level is more easily calculated (mean sea level is derived by averaging hourly water elevations over a substantial period of time, whereas mean tide level is obtained merely by striking a mean between mean high water and mean low water), scientists frequently use the datum of mean tide level in lieu of mean sea level. In the document cited above, a table is set forth which illustrates the difference between NGVD and mean tide level (mean sea level) for various parts of the country. For example, Alameda, California, for the tidal epoch 1951-1969, is shown having a mean tide level .47 ft. higher than NGVD. (Interestingly, with the exception of Port Isabel, Texas, mean tide level was reported higher than NGVD in every case. This fact is explainable in part because the original value of SLD 1929 was derived from mean sea levels from 26 tide stations; since 1929, sea level has been generally rising around the world.)

A reader may thus understand how the expression "mean sea level" is so frequently used when NGVD is intended. Even the U.S. Geological Survey on its quadrangle topographic sheets mistakenly refers to "mean sea level."

4. Through Supreme Court decisions, such as *Borax Ltd.* vs. *Los Angeles*, 296 U.S. 10 (1935) and *United States* v. *California*, 381 U.S. 139 (1965), the boundaries of offshore zones such as the territorial sea, the contiguous zone, and the exclusive fisheries zone are largely defined by reference to tidal datums, particularly mean lower-low water. In turn, many domestic laws regulating activities such as oil production, fishing, and dumping at sea, define their geographic areas of operation by reference to these zones. A discussion of this legislation is beyond the scope of this paper, but some of the major acts are these:

a. The Federal Coastal Zone Management Act of 1971, P.L. 92-582; 16 U.S.C. Sections 1451-54, as amended by P.L. 94-370 (1976). This Act creates a "coastal zone" for planning and federal grant purposes, which is defined as extending seaward to the outer limit of the U.S. territorial sea. 16 U.S.C. 1453(1).

b. The Federal Water Pollution Control Act, 33 U.S.C. Section 1251 *et seq.*, as amended by P.L. 92-500, 86 Stat. 816 (1972); P.L. 95-217, 91 Stat. 1567, 1575 (1977). This act regulates the discharge of oil or hazardous substances into navigable waters of the United States adjoining shorelines, or into the waters of the contiguous zone.

c. The Marine Protection, Research, and Sanctuaries Act of 1972, 33 U.S.C. Section 1420, as amended. This act regulates ocean dumping of material into "ocean waters," which are defined as being those waters of the open seas lying seaward of the baseline from which the territorial sea is measured as provided in the Convention on the Territorial Sea and the Contiguous Zone. 15 U.S.T. 1606, TIAS 5639. (That baseline was held in *United States* v. *California*, 381 U.S. 139 (1965), as mentioned above, to consist principally of the line of mean lower-low water.)

d. The Marine Mammal Protection Act of 1972, 16 U.S.C. Sections 1361-1407, as amended. This act again defines its operation in terms of the territorial sea and the former fisheries zone (a 12-mi. zone) of the United States.

e. The Ocean Dumping Act of 1972, 33 U.S.C. Sections 1401-44, as amended. This act regulates all matter dumped into ocean water seaward of the baseline (again, the low-water line) from which the territorial sea is measured.

f. The Deep Water Ports Act of 1974, 33 U.S.C. Sections 1501-1524, as amended. This act establishes a mechanism to regulate the location, construction, and operation of deep water ports in waters beyond the territorial limits of the United States.

g. The Port and Tanker Safety Act of 1978, 33 U.S.C. Sections 1221-1232, which creates procedures for regulating the operation, docking, and anchorage of vessels operating under the jurisdiction of the United States in "navigable waters of the United States," among others.

h. The National Ocean Pollution and Planning Act of 1978, 33 U.S.C. Sections 1701-1709, as amended. This act establishes a comprehensive pollution research, development, and monitoring program. It applies to the coastal zone as defined in the Coastal Zone Management Act, the seabed and waters of the territorial sea, the waters of

America's exclusive fisheries zone, the waters of the high seas, and the seabed beyond.

5. Reference has been made to the 1958 Convention on the Territorial Sea and the Contiguous Zone, which defines the sovereignty of a coastal nation in the waters off its coasts within those two zones, and prescribes the methods for determining the boundaries of the zones (the process of "delimitation"). It is the only international convention in force today which addresses these boundary matters. The new convention on the Law of the Sea, which is expected to go into force in 1984 (and which the United States has so far declined to sign) incorporates with little changes the provisions of the 1958 Convention dealing with the matter of delimiting the offshore boundaries. (The new convention does alter the *breadths* of the two zones, however, as opposed to the manner in which they are to be measured from the land. The 1958 Convention specified a breadth of 12 mi. for the contiguous zone, but was silent on the breadth of the territorial sea. The new convention provides for a 12-mi. territorial sea and a 24-mi. contiguous zone.)

The 1958 Convention provides in Article 3 that the "normal baseline" from which the seaward boundaries of such offshore zones are to be measured is the "*low water line* as shown on large-scale charts officially recognized by the coastal state [nation]." The U.S. Supreme Court has held that for American purposes the "low water line" is, on the Pacific Coast, the line of mean lower-low water, and elsewhere the line of mean low water. *United States* v. *California*, 381 U.S. 139 (1965); *United States* v. *Louisiana*, 394 U.S. 11 (1969). Article 10 of the Convention provides that an "island" has a territorial sea of its own, and defines an island as a "naturally-formed area of land, surrounded by water, which is above water *at high tide*." No American case has definitively addressed the meaning of "high tide." It may perhaps be assumed to mean, when there are present no circumstances making its employment inappropriate, the line of mean high water.

Conclusion

One wonders how the lawyers of Lord Hale's day contrived to earn a living when his "ordinary high-water mark" was employed, so far as history tell us, only for title purposes. Not only are tidal datums today used for many other legal purposes, but lawyers are raising questions such as whether the effects of seiche[11] must be "filtered" from the datum, and how one is to compute datums where tide water is seasonally inundated with freshwater flows, as in the Sacramento-San Joaquin Delta. For the sake of simplicity and stability in the law, one might suggest that science withhold from the bar and bench its next several advances in the study of the tides.

REFERENCES

1. The former expression for tidal datum was "tidal datum plane," which like "tidal wave" was in time thought to be an inapropos description. (The first official change in terminology appears in the National Ocean Survey's 1975 revision of its *Tide and Current Glossary*, p. 5.) They are not, according to present thought, true planes, since their elevation varies from place to place; moreover, even were they of uniform elevation, the curvature of the earth would disqualify them as planes. But following such discoveries as that the shortest distance between two points is a curve (L. Burnett, *The Universe and Dr. Einstein*, (1957), 96-97; G. Gamow, *One Two Three . . . Infinity*, (1953), 108-111), who is to say that Euclid was not misinformed about planes as well. ("Tsunami," incidentally, which was substituted in scientific argot for "tidal wave," also fell into a certain disrepute when it came to light that it meant literally "tidal wave" in Japanese. S. Bascom, *Waves and Beaches*, (1964), 102.) Marmer, *Tidal Datum Planes*, USC&GS, rev. ed., (1951), defines a tidal datum plane as "a plane of reference for elevations, determined from the rise and fall of the tides. Various tidal datum planes may be derived . . . ." *Id.*, p. 1. From these remarks presumably the 31 "height relations" listed by Disney and Overshiner for the San Francisco Presidio tide station are tidal datums. *Tides and Currents in San Francisco Bay*, USC&GS, special publication No. 115, (1925), 34. They include pedestrian datums such as mean high water, but also exotic species such as "Tropic higher high water above standard sea level," "Perigean high water," "Apogean low water," and, well, one gets the long shore drift. Marmer treats the six standard datums in detail and includes a chapter on others, pp. 127-130.

2. *Supra.*

3. "The Pope has called for a fresh inquiry 'with full objectivity' into the case of Galileo, the great astronomer and mathematician imprisoned by the Catholic church in the 17th century for being 'vehemently suspected of heresy [for having agreed with Copernicus that the earth revolves about the sun],'" from "Vatican is to reexamine Galileo's heresy," *The Times*, London, (Oct. 23, 1980), 6 (col. 5).

4. Sir Matthew Hale, "De Jure Maris", *A Collection of Tracts Relative to the Law of England*, F. Hargrove, ed., (1787), reprinted in: S. Moore, *A History of the Foreshore*, (1888), 378-394.

5. *Borax, Ltd.* v. *City of Los Angeles*, 296 U.S. 10, 22 (1935).

6. "The [true] law hath not been dead, though it hath slept." Shakespeare, *Measure for Measure*, Act II, Sc. 2. The use of what we now refer to as "tidal datums" seems to have been given its chief impetus by Rollin A. Harris in his *Manual of Tides*, published in installments as appendices to the Annual Report of the Superintendent of the United States Coast and Geodetic Survey between 1894 and 1907.

Interestingly, the scientific community before the *Borax* decision had engaged in a vigorous debate concerning the precise meaning that ought to be attached to the expression "ordinary high water mark," or its semantic variants. See, e.g., O. von Geldern, "The Plane of Ordinary High Tide," *Pacific Municipalities* 29:243 (1915); D. E. Hughes, "More about the Plane of Ordinary High Tide," *Pacific Municipalities* 29:340 (1915); O. von Geldern, "Remarks," *Pacific Municipalities*, 29:34 (1915).

7. *People* v. *William Kent Estate Co.*, 242 Cal.App.2d 156 (1966); *Teschemacher* v. *Thompson*, 18 Cal. 11 (1861). The California courts' pretentions to knowledge of the tides have been restrainedly mocked. See, e.g., Maloney and Ausness, "The Use and Legal Significance of the Mean High-Water Line in Coastal Boundary Mapping", *N.Car. Law Review*, 53 (1974), 185, 204.

8. Disney and Overshiner, having discussed the most frequently used datums, also wrote, "The tidal planes described above are the principal ones and the ones most generally used. Other planes, however, are sometimes used. Where a very low plane is desired, the plane of mean spring low water is sometimes used, its name indicating that it is determined as the mean of the low waters occurring at spring tides." *Id.*, p. 114. Spring tides are those which occur when the moon is new or full, and neap tides are those which occur when it is in quadrature.

The same difficulties of deriving a neap tide datum would, it would seem, inhere in deriving a spring tide datum. See, Shalowitz, *Shore and Sea Boundaries*, 1 (1962),. 86-87, 93-95.

9. The legislature may have confused the tidal datum of mean sea level with the National Geodetic Vertical Datum (formerly known as "Sea Level Datum 1929"), which is not a tidal datum. *See*, Shalowitz, *Shore and Sea Boundaries*, 2 (1964) 48-49, 62.

10. 14 Cal.Adm.Code §10132.

11. *See*, e.g., *City of Los Angeles* v. *Borax Consolidated*, 102 F.2d 52, 57-58 (9th Cir. 1939); Calif. Pub. Res. Code §6332(a)(3).

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