THE PROBLEM

ABSTRACT:
The Rhode Island Supreme Court in ***State v. Ibbison*** , 448 A.2d 728 (1982), determined that the boundary between private and public lands is the mean high tide line defined as "the line formed by the intersection of the tidal plane of mean high tide with the shore." *Id.* at 730. Mean High Tide is the "arithmetic average of high water heights observed over an 18.6 year Metonic cycle." *Id.* This measure was considered synonymous to the "land over which the daily tides ebb and flow" referred to in *Borax Consolidated Ltd. v. City of Los Angeles*, 296 U.S. 10, 22-23, 56 S. Ct. 23, 29 (citing *Attorney General v. Chambers*, citations omitted). However, on ocean facing shorelines mean high tide will always be seaward of the wetted beach, regardless of the tidal phase. Waves can affect the ebb and flow of the sea on the beach as much as or more than astronomical influences, depending on the slope of the beach and the height of the waves. In the past, wave energy has been included in shoreline mapping using aerial photography or on-site surveys that measured the physical water line on the beach. In the future, LIDAR surveys of the coastlines will facilitate the change from a horizontal to a vertical datum for determining mean high water. If the "mean high water" states do not establish easements over the land between mean high water and the area that is actually covered with water at an average high tide, then vast amounts of public land will be transferred to private ownership. Beach profiles taken over the last twenty-five years by the University of Rhode Island Department of Geosciences are used to highlight this phenomena by showing the relationship between mean high water and the last high tide swash on ocean fronting Rhode Island beaches.

1997 Digital Orthophoto with approximate MHW line (0.5 meters NAVD88) derived from Fall 2000 LIDAR data. Note the swash and wetted beach are several meters landward of the MHW line. LIDAR data was collected in partnership with NOAA CSC, NASA Wallops Flight Facility, USGS Center for Coastal and Marine Geology, and NOAA Aircraft Operations Center.

Mean high tide: The mean average of all the high tides (high high tides and low high tides) occurring over a certain period of time, usually 18.6 years (one lunar epoch).
Mean low tide: The mean average of all the low tides (high low tides and low low tides) occurring over a certain period of time, usually 18.6 years (one lunar epoch).
Ordinary high water mark: The line to which high water normally reaches under natural conditions, but not including floods, storms, or severe meteorological conditions.
Ordinary low water mark: The line to which low water normally reaches under natural conditions, but not including droughts or severe meteorological conditions.

Rhode Island Constitution, Article I, Section 17. The people shall continue to enjoy and freely exercise all the rights of fishery, and the privileges of the shore, to which they have been heretofore entitled under the charter and usages of this state, including but not limited to fishing from the shore, the gathering of seaweed, leaving the shore to swim in the sea and passage along the shore.