The Crab Meadow Watershed (CMW) on the North Shore of Long Island is located in the Township of Huntington, it comprises over 3 miles of waterfront on the Long Island Sound and covers 3560 square acres.

The CMW was formed from the advancement of glaciers and the ultimate retreat of those glaciers. The north shore of Long Island is terminal moraine leaving the deposition of rock and stone. Lateral moraines were also created leaving valleys in between them. Within the Crab Meadow Watershed area three prominent tunnel valleys were carved by the melting of the glacier. Waterside Road and Vernon Valley Road run through the western tunnel; Makamah Road represents the mid-tunnel valley; and the Townline Road and Fresh Pond Road represent the eastern tunnel valley. The western and middle valleys load into the Crab Meadow Watershed.

The Makamah Nature Preserve which was acquired by Suffolk County in 1973 is on the south eastern aspect of the Jerome Ambro Memorial Wet land Preserve. It encompasses 160 acres consisting of wood lands, and a stream flowing northward into a pond that empties into the Jerome Ambro Wetland Preserve. This preserve creates habitats for 12 mammal species and 94 species of birds. Any deleterious effect to this wetland would immediately effect the Jerome Ambro Memorial Wetland Preserve and ultimately the Long Island Sound.

The salt marsh of the Crab Meadow Watershed known as the Jerome Ambro Memorial Wetland Preserve consists of 406 acres. This great salt marsh acts as a filter for the contaminants from storm water as well as human waste and is the home for thousands of animals. The salt marsh acts to bind and trap sediment to stabilize the coastline. The topography of the drainage basin effects how the water and pollutants run through the watershed. The flow rate is therefore dependent upon the steepness of the basin and the permeability of the surrounding ground. Heavy compaction of the ground, as well as increased development of surrounding properties causes reduced surface permeability and the water penetration, thus greater run off.

In the 1930's Suffolk County cut grid ditches into the salt marsh to promote better drainage for mosquito control. Today that grid is eroding and the maintenance program is no longer active. The scientific community is studying the effects of the grid ditching on the longevity of the preserve. Groups such as the Crab Meadow Watershed Advisory Committee (CMWAC), CUNY, Huntington Town Department of Planning and Environment, SUNY at Stonybrook and the University of North Carolina are studying the salt marsh for various reasons. Some reasons such as the infiltration of invasive species are of great concern to the survival of the salt marsh habitats and the wildlife that depend on its natural resources for food, water and shelter.

The U.S. Fish & Wildlife Services has provided the first 130 year assessment of tidal wetland change for the Long Island Sound area. The results indicate a 31% overall loss of Long Island Sounds's tidal wetlands from the 1880's to 2000's, with a 27% loss in Connecticut and 48% loss in New York. New York alone experienced a 19% loss of wetlands between the 1970's and the 2000's (USFWS). The amount of permanent open water on marshes at low tide is a growing concern both locally and globally (Rozsa 1995, USFWS 2011). The most recent report from USFWS on the status of our nation's wetland loss between 2004 and 2009 was due to salt water intrusion and conversion to open water (USFWS 2011). In 2007 Muschacke suspected sea level rise to be the main cause of wetland loss. He noted that areas such as Crab Meadow in Northport, NY exhibited regime shift where high marsh had shifted to low marsh. He surmised that the conversion was the result of higher tides and greater flooding inundation. It was found that on average the salt marshes studied had well over 20% open water, which is more water than is conducive to a functioning healthy salt marsh in New England.

So, what does this all mean to our environment and economy? Values from Nellman 2009, Craft 2009, Kocian 2014, give the following statistics .

1) Using dollar per acre value range for LIS salt marshes, $11,699 to $77,260 per acre/ per year (Kocian 2014) the present day economic impact of Long Island Sound's wetland loss is $91 to 640 million per year.

2) Degrading wetlands release, rather than retain carbon. Using the mean organic carbon burial rate for salt marshes,3.73 tons Carbon per acre/per year (Nellmann 2009), the present day carbon impact of wetland loss in the Long Island Sound area is a lost sequestration ability of an estimated 29,146 tons of carbon annually.

3) As wetland decline, ecosystem services provided by their ability to retain and remove nitrogen are reduced (Craft 2009) using mean nitrogen sequestration rate, 2.39 tons Nitrogen per acre/per year, nitrogen sequestration in the soil is reduced by 18,675 tons per year.

Fresh Pond is located on the northeast corner of the Crab Meadow Watershed. It does not flow into the Crab Meadow wetland, but does collect drainage from Indian Hills Country Club, as well as residential properties that border it on its east and west boundaries. The pond discharges to the Long Island Sound through a narrow tidal inlet/outlet on its northern aspect. This opening provides passage for Alewife and other finfish species to run upstream into Fresh Pond to spawn. There is proven flooding along the Fresh Pond Road which delivers sediment loads from the west across the road and into Fresh Pond. Surface water samples taken from the pond show total fecal coliform levels to be very elevated. These samples were taken from Fresh Pond, Fresh Creek and its tributaries. Also, water samples taken from Indian Hills Country Clubs most eastern pond in the chain of ponds that span across the golf course from west to east show the following statistics. These statistics were taken from the Voluntary Draft Environment Impact Study (VDEIS) prepared by Nelson, Pope and Voorhis for Northwinds Groups's submission to the Town of Huntington.

1) Total Nitrogen May 1.73 mg/liter
August 6.03 mg/liter
EPA Ambient water quality criteria recommends .32 mg/liter

2) Total Phosphorus May - none detected
August 1.75 mg/liter
EPA Ambient water quality criteria recommends .32 mg/liter

Given the sensitivity of these environmentally fragile bodies of water (Makamah Preserve, Jerome Ambro Memorial Wetland Preserve, Fresh Pond, Long Island Sound) all of which are located in the Primary Watershed, it is of utmost importance to not further degrade these natural resources.

Any development of the Indian Hills Country Club property must therefore consider the present environmental statistics we have on that site, plus the increased load that any new building would contribute.

The golf course property itself presently produces 5.3 mg/liter of nitrate, which is in excess of the 2-4 mg/liter that R-40 development of the same property would produce. In addition to the levels of phosphorus mentioned previously any pesticides, fungicides or other chemicals used in golf course maintenance further add to the toxic out put of this property. All 3 bodies of water previously mentioned receive direct and indirect leaching from the Indian Hills Country Club property. A full SEQRA must be initiated to determine the impact of such a large project on this most environmentally sensitive property.

The Town of Huntington received a grant of $58,000 from National Fish and Wildlife Foundation's Long Island Sound Future's Fund to support a Crab Meadow Watershed Hydrology Study and Stewardship Plan. The Town of Huntington hired GEI Consultants,Inc. P.C. to do the data collection and formulate a report. This report was completed by GEI in July of 2015. Since the report's submission by GEI the Town of Huntington has been preparing its Stewardship Plan. Once the Town of Huntington completes the plan it will then be reviewed by the Crab Meadow Watershed Advisory Committee (CMWAC). The plan is then submitted to the Town Board and a public meeting is held. If approved, the plan is then adopted as the Town of Huntington Stewardship Plan for the Crab Meadow Watershed.