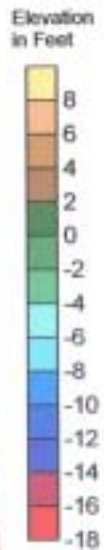
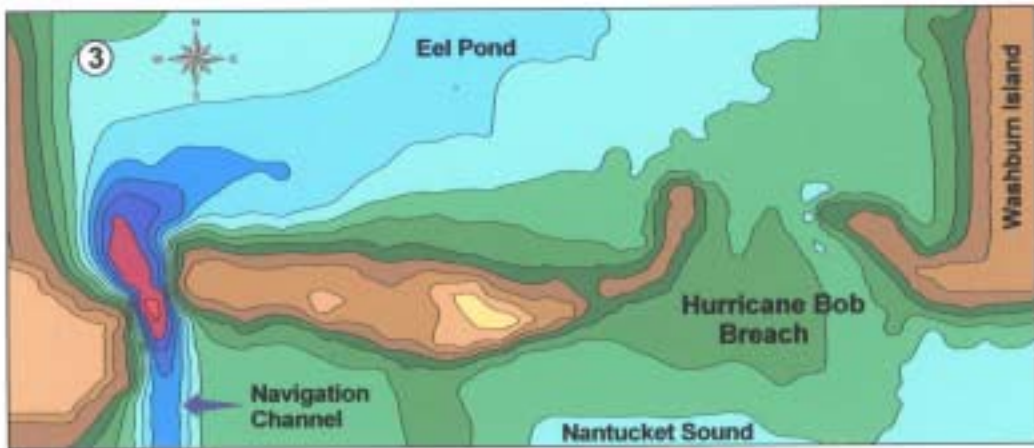


Swift Currents Keep Eel Pond's Navigation Channel Open



Prior to Hurricane Bob in August 1992 there was one opening connecting Eel Pond to Nantucket Sound (#1). It was a narrow, deep channel (#3), kept that way by periodic dredging. Actually, the need for dredging was much reduced by maintaining its deep, narrow shape. Tidal flows through the cut were swift enough to scour away sand that might get deposited there by wave action. However, as tidal flows leave the breach area, they are no longer constrained by its confines. They fan out across the flats, slowing markedly. Sand that was carried by the tidal flows through the cut drops from the slowing water to the bottom, making the flats even more shallow. It is there that frequent dredging is required to maintain navigation access to Eel Pond.

In contrast, the breach opened by Hurricane Bob was wide and shallow (#2, #3). Never dredged, its tidal flows were slow, insufficient to keep it clear. Sand was deposited in the opening, causing it to change shape as it migrated slowly to the west (#3). By 2000, 8 years after the storm, the breach was nearly gone (#4). In the summer of 2003, only the deep, narrow navigation channel remained.



Conditions at Eel Pond Breachway in 1994

