HURRICANE AND STORM PREPARATION

Hurricane and Storm Preparation

Dartmouth has been spared the direct hit of a major (category 4 or 5) hurricane for the life of most median-aged residents. The early season Hurricane Bob in August of 1991 devastated Padanaram Harbor with a direct hit, but fortuitously struck at a low tide. The impact upon the relatively sheltered harbor was significant and decimated the vessels left at anchor or on moorings. The Padanaram Bridge and causeway were inoperable and impassible for up to one week following the storm. Broken boats, some with moorings still attached, were strewn across the causeway. In excess of one hundred vessels of all types and sizes foundered along the town shoreline, roadways, and causeway. To this day, some vessels lost during Hurricane Bob still remain unaccounted for. Low-lying areas, including roadways, parking lots and businesses were flooded with a storm surge that was minimal in comparison to similar storms. Most private and business docks were either destroyed severely impacted by waves, loose boats, and flotsam. Hurricane season usually lasts from late August through October. Therefore, hurricane preparation is not a joke.

The Saffir-Simpson scale classifies hurricanes into five categories according to their intensity, allowing comparisons of past hurricanes and communication of the strength of an approaching storm to the public.

**Category 1: Minimal Damage**
Winds of 74-95 mph and storm surges of 4-5 ft. No significant wind damage to well constructed buildings. Some damage is done to poorly constructed signs. Wind damage primarily occurs to mobile homes, shrubbery, trees, and foliage. Low lying roads are inundated by storm surge. Minor pier damage occurs. Example: Danny, 1997

**Category 2: Moderate Damage**
Winds of 96-110 mph and storm surges of 6-8 ft. Some roofing material, doors, windows of homes and businesses are damaged by winds. Considerable wind damage done to mobile homes and vegetation. Low lying roads are inundated by storm surge. Considerable damage done by storm surge and wave action to piers. Small craft in unprotected anchorages break their moorings. Example: Flossy, 1956
**Category 3: Extensive Damage**
Winds of 111-130 mph and storm surges of 9-12 ft. Winds cause structural damage to homes and utility buildings with a minor amount of curtainwall failure. Mobile homes are destroyed. Storm surge flooding destroys many smaller buildings while large buildings are damaged by floating debris. Terrain continuously lower than 10 feet above mean sea level is flooded. Example: Andrew, 1992

**Category 4: Extreme Damage**
Winds of 131-155 mph and storm surges of 13-18 ft. More extensive curtainwall failures with some complete roof failure on homes. Major damage to lower floors of homes and businesses from storm surge flooding. Terrain continuously lower than 15 feet above mean sea level is flooded. Example: Audrey, 1957

**Category 5: Catastrophic Damage**
Winds greater than 155 mph and storm surges greater than 18 ft. Complete roof failure of many homes and businesses. Complete structural failure of many small buildings. Major storm surge flooding to areas lower than 20 feet above mean sea level. Example: Camille, 1969

Source: National Oceanic and Atmospheric Administration

High tide during a hurricane in Dartmouth can rise 4-6+ feet above the normal high tide caused by lowered atmospheric pressure. Wind-caused surge can form an addition and unpredicted wedge of water on top of this tide. Boats moored in high-energy areas such as the outer harbor will lose the protection of the breakwater which will be deeply submerged at high tide. These boats must be moved to safer harbor before the storm hits. Mooring scope at this time may become too short and cause anchors to pull.

Boat ramps will be jammed at the time close to the storm. Therefore, if you have reached the end of your useful boating season, consider an early haul out.

**THINGS YOU SHOULD DO- SHORT OF HAULING OUT**

**MOORED BOATS:**

1. Inspect your mooring tackle and renew all parts that show signs of serious wear. This should include quality of chain, splices, and condition of thimbles and shackles. Especially important is the quality and sufficiency of chafing gear. (See #3 below).

2. All moorings during these months should be equipped with secondary storm painter (mooring line) to attach to the opposite bow cleat.

3. Equip all mooring lines passing through bow chocks with chafing equipment which can include a short piece of rubber hose or vinyl tubing protecting the lines.
from wearing through. Wear and tear of mooring pennants at deck level has been the most common reason in Dartmouth for mooring failure.

4. Inspect the security of bow cleats and eyes. Sailing vessels extend mooring lines back to the base of the mast, remove and stow all sails. The less windage you present to the storm, the less impact the storm-force winds will have upon your vessel, its mooring, and related deck hardware.

5. Batteries driving automatic bilge pumps should be fully charged and float switches tested for good working order. Bilges should be cleaned of oil and contaminants.

6. All through hull fittings equipped with valves as heads, holding tank valves, and exhaust overflows should be placed in closed position.

7. Where practical add to the mooring scope by lengthening the painter. Be sure you maintain clearance with boats around you. Position all extra fenders to fend off blows.

8. Do not attempt to “ride-out” a storm on your vessel. It may sound valiant and adventurous, but I have not yet heard of a single positive memory generated from such foolhardiness. The nature of the chaos found in a harbor during a hurricane prohibits even the saltiest mariner from being able to make any effective corrective maneuvers while dodging loose boats and flotsam.

**DOCKSIDE BOATS**

1. Secure extra fender between boats and docks. Make use of a fender board where vessel is tied up between pilings.

2. Double up all dock lines. Be sure spring lines are secured in both directions and make certain cleats are well secured.

3. In areas of floating docks, tie only to near top of the pilings, otherwise the rising tide will "jack" the pile or otherwise pull the boat under.

4. Owners with vessels tied alongside a fixed pier should make certain that the gunwales will not get caught under the dock as the tide rises. The boat may be warped away from the pier using an anchor as an outhaul.

5. Disconnect all shore power lines going to the vessel before the storm hits.

6. Attempt to dock sailboats so that masts will not be "caught" on one another when boats rock.

7. Wherever possible, get off of a dock or float unless in a very protected harbor.
BOATS HAULED OUT

1. All day sailors and light weight boats which can make use of trailers should be taken out of the water as soon as possible.

2. Sailboats dinghy type should be flooded with freshwater on their trailers as a means to hold them down.

3. At home, park boats close to buildings, if possible, to shelter it from the effects of direct wind gusts.

4. Boats stored using jack stands on soft ground, mud, sand, or gravel should use plywood under each stand as a precaution to prevent each stand from settlement. Make certain each jack is snug firmly against the boat hull and use safety chains to "cross-lock" jacks.