



EXTREME WEATHER (HURRICANE) PREPAREDNESS AND PLAN

July 11, 2024

INTRODUCTION

Since Hurricane Juan of 2003 when the Dartmouth Yacht Club (DYC) was decimated by the winds and surge associated with that storm, there has been an overwhelming need to treat hurricane warnings with the respect that they deserve. This plan attempts to make DYC as ready to withstand the force posed by hurricane winds and surge as possible. In addition to hurricane warnings, the plan or parts thereof may be instituted if an anticipated weather event may negatively impact DYC infrastructure

HURRICANE ACTION COMMITTEE

A hurricane action committee will be established by the General Manager as needed with an impending storm. The General Manager will chair a Hurricane Committee and be in charge of the plan and in its execution. During an activation of the Plan the General Manager is the one who will oversee activities and communications.

The Committee will be made up of the General Manager, Commodore, Yard Foreman, Dockmaster, Management Committee members responsible for the marina and safety, and member(s) at large at the invitation of Management.

This committee will review the plan, expectations and role of members, ensuring tools necessary are in place, listing boats for movement off the marina, etc.

DEFINITIONS

Hurricanes are classified by the wind velocity associated with them, and hence the damage they could cause. Here are the characteristics of the five hurricane categories:

- **Category Five -- Winds greater than 136 knot** (251 km/hr, 156 mph)
- **Category Four -- Winds 113-136 knots** (209-251 km/hr, 130-156 mph)
- **Category Three -- Winds 96-112 knots** (178-208 km/hr, 111-129 mph)
- **Category Two -- Winds 83-95 knots** (154-177 km/hr, 96-100 mph)
- **Category One -- Winds 64-82 knots** (119-153 km/hr, 74-95 mph)

If the winds are less than hurricane force (64 Kts), the following categories apply:

Tropical Storm: A tropical storm has winds from 34-63 knots (63-118 km/hr, 39-73 mph). Of course, the more severe the winds, the higher chance of damage. Tropical storms receive names. They tend to cause less damage however there have been tropical storms that have dumped five to six inches of rain in a day. Winds at the higher end can also have a significant impact on boats in the marina, depending on strength and direction.

Tropical Depression: Winds with these storms are usually less than 34 knots (63 km/hr, 39 mph). They do not receive a name. Once they are onshore, the winds die down quickly and they merely bring rain, but that can be heavy. There is a small chance of mild tornadoes being spun off of the storm.

CRITERIA FOR DYC ACTION

The DYC Hurricane Plan will be activated by the General Manager when there is a forecast for sustained winds of 60 Kts or more in the DYC area. During hurricane passage the wind direction will change as the winds blow counter-clockwise, so only wind velocity will be taken into account when deciding whether to act or not. An important tenet of the plan is to act at the correct time: i.e. as late as possible to prevent a lot of work for nothing, but early enough to give sufficient time to get all the required work done to a high standard.

PRIORITY ACTION

All actions taken have the overriding objective of protecting the DYC marina and infra- structure. The prioritized actions also provide some protection to member's boats. However, mandatory moving of boats is predicated on what is best for the marina, not for the individual members or their boats. Getting as much windage and weight off the marina as possible protects the marina, the boats taken off the marina, and those boats remaining on the marina.

Cradles/trailers and jackstands for boats which have been identified as being of priority for removal from the marina and which may or may not be able to relocate to a mooring ball, will be kept together in the yard, in a location(s) that is quickly accessible by the yard staff.

Boats selected for mandatory relocation off the marina will be given priority for haul out in the days ahead of an anticipated storm. Priority for voluntary haul outs will be given to those boats located on the south side of F dock. Other boats which are on the marina will be given priority for voluntary haul out, followed by those in the mooring field (unless hauling of a boat in the mooring field provides a spot for a boat which is under mandatory move off the marina).

ACTION TIMELINE

The day the Hurricane is forecast to reach Dartmouth is H-day, and the following is the broad outline of the plan timeline:

H minus 5 days (H-5): Commence communication of the hurricane warnings and individual measures to be taken. Commence mandatory and voluntary boat haul-outs. Yard and marina staff prepare for the following days' measures (e.g. staging cradles, marking chains, checking tool bags (Annex B) for chain gangs, etc). Set up a Hurricane Warning Board in the clubhouse for anyone who does not have email. Call for volunteers for the chain gangs and duty watch teams.

H minus 4: Continue communication and voluntary boat haul-outs. Confirm availability of hurricane response teams. Plan duty watches for H-Day. Commence meetings of the Hurricane Action Committee (HAC) as necessary.

H minus 3: Continue voluntary boat haul-outs and communications on hurricane progress. Complete Watch Plan and confirm all volunteers available. HAC meeting.

H minus 2: Haul out boats that are mandatory moves off the marina, or boats proceed to assigned moorings (see Mandatory Move List). Continue communication updates. HAC Meets.

H minus 1: Complete hauling boats that are mandatory moves off the marina. Do final securing of all yard equipment. Continue communications updates. HAC Meets. Move boats on F- Dock to more appropriate slips.

H Day: Cut power and water to the marina as required. During a major storm, the gate at the marina head will be locked and access will only be permitted when it is safe to do so.

H plus 1 and beyond: Return NYC to pre-hurricane status. Re-launch boats with mandatory boats having priority. Check mooring block integrity.

MANDATORY BOAT HAULING/ MOVES TO MOORING FIELD

Annex A is a list of boats that are assessed to have the greatest windage and present the greatest load and the greatest threat to the marina system. These boats are subject to mandatory moves in order to get as much weight and windage off the marina as possible. They will have the choice of going to a mooring ball, if available, or hauling out of the water. These boats will not be charged one of their four free lifts per year because these moves, out and back in again, are mandatory.

Members whose boat is on the mandatory list should provide an alternate contact in the event that a move is required and the owner cannot be reached. Similarly, those boats which are not on the mandatory haul out but which are identified as needing to be moved in the event of a major storm, i.e.: south side of F dock in particular, should also provide an alternate contact who is authorized by the owner to move the boat as required.

This list is to be updated yearly, by the Dockmaster and General Manager, and again whenever necessary.

VOLUNTARY HAUL-OUTS

Boats on the marina and not on the Mandatory List, but of significant size, will be taken out of the water on a first come, first served basis during H-5 to H-3 to get as much weight off the marina as possible. These voluntary lifts count against a member's four free lifts included with the boating fee. If members have used all their free lifts, they will be required to pay for this lift, both hauling out and going back into the water.

Boats which are more exposed to a storm, such as the outside of F dock, may be requested to move to a more sheltered location, or given priority for voluntary haul-out, at no additional charge, to reduce potential impact on the marina.

VOLUNTEER TEAMS:

Volunteers will be required to assist with preparing the club assets for the impending storm. Outdoor furniture, garbages, sail training assets, coach boats, tender, work boat and RC boat will all need to be made storm ready.

MEMBER PREPARATIONS

Annex C is a list of individual member preparations for boats to face a hurricane.

PROTECTION AGAINST SURGE

The following is a list of actions that will reduce the risk of storm surge damage:

- Keep boats on land as far back as possible from the waterfront.
- Keep loose boats, zodiacs, ladders, wood, etc. back from the water's edge.
- Keep cars parked back from the waterfront.
- Turn off marina power.
- Secure the Junior Sail building contents. Keep equipment off the floor.
- Move Junior Sail boats and dollies away from expected surge height and secure them
- Secure the Fuel Shed, keeping equipment off the floor.
- Move wheelbarrows to the garage.

PROTECTION AGAINST WIND DAMAGE

The following is a partial list of actions that will reduce wind damage:

- Secure wheelbarrows in the garage.
- Move all dinghies to high ground and secure them.
- Remove umbrellas from picnic tables and secure them in the clubhouse.
- Secure all picnic tables and chairs.
- Lash down masts on the mast rack.
- Pick up any loose debris that might become a missile in high winds.

**ANNEX B
EXTREME WEATHER (HURRICANE) PREPAREDNESS AND PLAN**

VOLUNTEER TEAMS

ANNEX C EXTREME WEATHER (HURRICANE) PREPAREDNESS AND PLAN

INDIVIDUAL MEMBER PREPARATIONS

- Ensure your Insurance is up to date.
- Remove all canopies or fix a net over your entire canopy to prevent the wind from catching a loose corner.
- Remove self-furling sails.
- Tie down/wrap main sails on the boom, remove totally if possible to reduce windage.
- Put anything that will blow in or catch the wind below decks.
- Set as many fenders as possible to protect the boat and the dock.
- If at a mooring, check your bridles, add lines. Make sure the bridles are attached to the chain, not the ring on top of the mooring ball, for Mooring balls #1-5. The ring may be used on other Mooring balls.
- If a large surge is expected, consider lengthening bridles by at least 2M (5-6 Ft).
- Do NOT plan to stay with your boat, either in your slip or on a mooring.
- Clean out your fridge and freezer in case power is cut off or shut off.
- On H-1, if there are open slips with greater protection than your assigned slip (e.g. F Dock), consider requesting a more protected slip. Priority will be given to those boats in more exposed slips.
- Triple up all dock/mooring lines.
- Run a line from your outboard side (side not along the finger) to the main trunk or next finger.
- Double check all lines to ensure that they are in good shape and that at any point where chafing may occur (such as at chocks, cleats, or other wear points) that protection of the lines is in place.
- Work with your neighbour to secure your boats – you may be able to work out an arrangement to cross lines over each other's boats thereby keeping your boat from crashing into the finger.
- Consider the use of Line Snubbers to absorb the shock of wind load and wave action on lines and cleats, especially if you are on F dock.
- If your boat is on land, ensure that cradles, jack stands, ladders and any material that belongs to you is checked and properly secured.