

## **2016 DARTMOUTH YACHT CLUB (DYC)** **HURRICANE REACTION PLAN**

INTRODUCTION: Since Hurricane Juan of 2003 where the Dartmouth Yacht Club (DYC) was decimated by the winds and surge associated with that storm, there is an overwhelming need to treat hurricane warnings with the respect that they deserve. This plan attempts to make DYC as ready as possible to withstand the force posed by hurricane winds and surge.

DEFINITIONS: The Saffir-Simpson Hurricane Wind Scale classifies hurricanes into 5 categories according to wind velocity as follows:

- Category One -- Winds 64-82 knots (119 – 153 km/hr)(74-95 mph)
- Category Two -- Winds 83-95 knots (154-177 km/hr)(96-110 mph)
- Category Three -- Winds 96-112 knots (178 – 208 km/hr)(111-129 mph)
- Category Four -- Winds 113-136 knots (209 - 251 km/hr)(130-156 mph)
- Category Five -- Winds greater than 136 knots (> 251 km/hr or >156mph)

If the winds do not reach hurricane force, the following categories come into play:

**Tropical Disturbance:** When a moving area of thunderstorms in the tropics maintains its identity for 24 hrs, the US National Hurricane centre classifies it as a Tropical Disturbance.

**Tropical Depression:** Winds with this storm are 20-34 knots. These storms never receive a name, but are numbered. Once they are onshore, they merely bring rain, but it can be heavy at times. The winds die down quickly once they are ashore. There is a small chance of tornadoes being spun off of the storm, but only mild.

**Tropical Storm:** A tropical storm has winds from 35 to 63 knots. Of course, the more severe the winds, the higher chance of damage. This is the first time the storm receives a name. There is typically little to no damage with these storms. However, there have been tropical storms in North Florida that have dumped five to six inches of rain in a day.

CRITERIA FOR DYC ACTION: The DYC Hurricane Action Plan will not be activated unless there is a forecast for sustained winds of 60 knots or more. During the passage of a hurricane the wind direction will change as the cyclone twists counter-clockwise, so only wind velocity will be taken into account when deciding whether to react or not. An important tenet of the plan is to react at the correct time: in other words, as late as possible so as to prevent a lot of work for nothing, but early enough to give sufficient time to get all the work done safely and to a high standard.

PRIORITY ACTION: All action taken has the over-riding priority of protecting the Dartmouth Yacht Club Marina and Infrastructure. In doing so, we also offer protection to the member's boats. Mandatory moving of boats however is predicated on what is best for the marina, not for the individual members involved. Getting as much windage

/weight off the marina as possible protects the marina, the boats taken off the marina and those boats remaining on the marina.

**REACTION TIMELINE:** If we call the day the Hurricane is to hit H-day, the following is the Broad Outline of the plan timeline:

**H-minus 5:** Commence communication of the hurricane warning and personal measures to be taken. Commence hauling voluntary boats. Yard staff prepare for following days measures (staging cradles, painting chains to mark them, assembling tools for chain gang etc...) Set up Hurricane Warning Board in Clubhouse for those who do not have e-mail.

**H-minus 4:** Continue communication and hauling voluntary boats. Confirm availability of Hurricane response teams. Plan watches for H-Day. Confirm volunteers for Chain Gang (if required- surge protection on chains may pre-empt this requirement). Commence daily meetings of selected members of Management Committee MC (Commodore, Rear Commodore, Marina chair, Yard Chair & Safety O).

**H-minus 3:** Continue hauling voluntary boats and communications on hurricane progress. Complete Watch Plan and confirm all volunteers available. MC meeting.

**H-minus 2:** Haul boats that are mandatory moves off the marina or boats proceed to assigned moorings (see Mandatory Move List). Continue communications updates. MC Meeting. Meeting of volunteer teams for briefing on chain adjustment.

**H-minus 1:** Complete hauling boats that are mandatory moves off the marina, slacken marina anchor chains using volunteer teams (AT LOW TIDE), do final securing of all yard equipment. Continue communications updates. MC Meeting. Move boats on F-Dock to more protected slips.

**H-Day:** Watch system in place to deal with emergencies. Cut power and water to marina as required.

**H + 1 and beyond:** Return DYC to pre-hurricane status. Use of the Chain Adjustment Teams will be required. Re-launch boats with Mandatory boats having priority.

**MANDATORY BOAT HAULING/MOVES TO MOORING FIELD:** Annex A is a list of boats/owners who are assessed to have the greatest windage and present the greatest load and therefore are the greatest threat to the marina system. These boats are subject to mandatory moves off the marina in order to get as much weight off the marina as possible. Some will have a choice of going to a mooring ball or hauling out, but others will have to go to the mooring ball because of the complexity of hauling them quickly. These boats will not be charged one of their 4 free lifts because these moves, out and back in again, are mandatory. This list is to be updated regularly with new members joining all the time.

**VOLUNTARY HAUL-OUTS:** Boats not on the Mandatory List, but of significant size, will be taken out on a first come, first served basis during H-5 to H-3. Again, the idea is to get as much weight off the marina as possible. These voluntary lifts count against your 4 free lifts included with the boating fee. If members have used all free lifts, they will be required to pay for this lift, both out and back in at the members' rate of \$10 per foot.

**VOLUNTEER TEAMS:** Two types of Volunteer Teams may be required:

**Chain Adjustment Teams (Chain Gang):** This team may not be required now that we have built surge protection into the anchor chains. If required, seven teams of 3 volunteers will be needed to slacken chains on the marina, one for each dock (A, B, C, D, E1, E2, and F). The estimated time to complete this work is 4 hours. If we do not have sufficient volunteers for 7 teams, it will take longer. Annex B lists the volunteers we have so far. New volunteers can call the office or send an e-mail to get on the list. Chains will have to be adjusted at low tide to ensure no strain on the chains.

**Watch-standing Teams:** Three watch teams of 5 volunteers will cover a 12 hour period in 4 hour watches. These watch teams can go another cycle if needed to actually cover a 24 hour period. The purpose of these teams is to conduct rounds of the facility and respond to requirements. They can also alert others if more manpower is required. These teams will have access to all members phone numbers, emergency phone numbers, and as much safety equipment as possible.

**LIST OF MEMBER PREPARATIONS:** Annex C is a list of individual member considerations for preparing your boat to face a hurricane.

**PROTECTION AGAINST SURGE:** The following is a list of actions that will reduce the risk of surge damage:

- New surge protection loops were built into many chains in 2014
- Loosening the marina anchor chains is a major activity
- Keep boats on land as far back as possible from the waterfront.
- Keep loose boats, zodiacs, ladders, wood, etc back from water's edge
- Keep cars parked back from Waterfront
- Turn off marina power
- Secure the Junior Sailing Building contents, keeping equipment off the floor, and moving the boats and dollies back beyond surge height
- Secure the Gas Dock Building, keeping equipment off the floor.
- Move wheelbarrows to the garage.

**PROTECTION AGAINST WIND DAMAGE:** The following will reduce wind damage:

- secure wheelbarrows in the garage
- move all dinghy boats to high ground and secure them
- remove umbrellas from picnic tables and secure in garage
- 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 A: MANDATORY BOAT LIST

NAME	BOAT NAME & LOA	TEL	PRESENT BERTH	PLAN
BRIAN JAMES	SENIORITA 56	471-4775	E1-18	MOORING BALL
CRAIG GOSSE	WIND LORE 54	452-8357	F-45	MOORING BALL
GEORGE ARMOYAN	ASPIRE 52.5	358-6177	AWAY	MOORING BALL
ERIC CORKUM	NO NAME 50	830-0086	AWAY	MOORING BALL (if here)
BOB STEWART	CHRISTINA SOFIA 47.5	456-4281	E1-01	HAUL OUT
KEN KING	REALIFE SHOW 47	229-0602	E1-09	HAUL-OUT
TERRY TAYLOR	MAIN MACHINE 47	497-1415	E1-09	HAUL OUT (if here)
GRAHAM WINTERBOURNE	HAPPY OURS TOO 47	212-0464	AWAY	MOORING BALL (if here)
STEINER ENGESET	Lady Eagle 45.6	468-7100	E1-13	HAUL OUT
JACK CONRAD	GOOD VIBS 41.5	471-2529	E2-09	HAUL OUT
KEITH SAWLOR	QUALITY CONTROL 41.5	880 7738	E2-16	HAUL OUT
PHIL OTTO	BAREFOOT 41	452-6559	E2-05	HAUL OUT (if here)
JIM THOMAS	COLD COMFORT 40	456-1848	E1-12	HAUL OUT
GINO TREMBLAY	OCEAN LADY 40	221-6667	F-18	HAUL-OUT
PAUL MACKLEY	GAMMON 40	471-9620	E2-01	HAUL OUT
KURT JACOBS	NIJINSKI 40	497-4718	AWAY	MOORING BALL (if here)
NORM DUBE	MAINSHIP 40	209-1894	E1-05	HAUL-OUT
ROBERT BARNSTEAD	DOROTHY LOUISE 38	435-3497	D-40	HAUL OUT
MARK DINAN	SOU' WEST SEA	38	E1-04	HAUL OUT
JIM BROWN	MY OPTION II 38	483-6678	E1-10	HAUL-OUT
MIKE KLEYKENS	THE BEGINNING 38	237-1571	E1-11	HAUL OUT
DON CHERRY	FREEDOM 35	719-1739	D-23	HAUL OUT

## ANNEX B: VOLUNTEER TEAMS

### CHAIN ADJUST MENT TEAMS:

TEAM 1: Andrew Deveau, Dennis Hanuska, Rob Paul

TEAM 2: Steve Spencer, Gerry Lockett, Stephen Whitefield

TEAM 3: Alan Schnare, Greg Rutledge, Gordon Hart

TEAM 4: Gary Rowe, Brad Boudreau, Henry Hintze, Randall Nelson

TEAM 5: Noel Ryan, Roger Lintaman, Chris Sackiw

TEAM 6: Bob Chisholm, John Dalziel, JC Gouthro

TEAM 7: Steve Waller, Edgar Pottie, John Henderson

EXTRAS:

### WATCHSTANDING TEAMS:

TEAM ALPHA: **Grant Gordon**, Don Robinson, Manny Lauffer, Roger Lintaman, Ian Porter, Robert Cirtwell

TEAM BRAVO: **Jim Thomas**, Bob Stewart, Jim Reddy, Gilles Lebrun, Derrick MacKenzie, Morley Knight

TEAM CHARLIE: **Jim MacDonald**, Brad Boudreau, Steve Waller, Rob Swetnam, Leo Melchior

## ANNEX C: INDIVIDUAL MEMBER PREPARATIONS

1. Ensure your Insurance is up to date
2. Triple up all lines.
3. Remove self-furling sails
4. Run a line from your outboard side (side not along the finger) to the main trunk.
5. Remove all canopies or fix a net over your entire canopy so as to prevent the wind from catching a loose corner.
6. Put anything that will blow in the wind below decks
7. Fix as much fendering as possible to protect your boat
8. Check your bridles and add lines if at a mooring.
9. Consider lengthening your bridle by 5 ft if a large surge is expected.
10. Do NOT plan to stay with your boat either alongside your slip or on the mooring.
11. Clean out your refrigerators and freezers in case power is cut off or shut off.
12. 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.
13. On H-1, if there are open marina's with greater protection (ie off outside of F-Dock), consider requesting a more protected slip.
14. If your boat is on land, ensure that cradles, jackstands, ladders and any material that belongs to you on land is checked and properly secured. Point 6 applies to you as well. If your boat is tarped, tie it down with a net or lots of rope. Don't tie anything to Jackstands.
15. Consider the use of Line Snubbers to absorb the shock of wind load on lines and cleats, especially if you are on F dock.