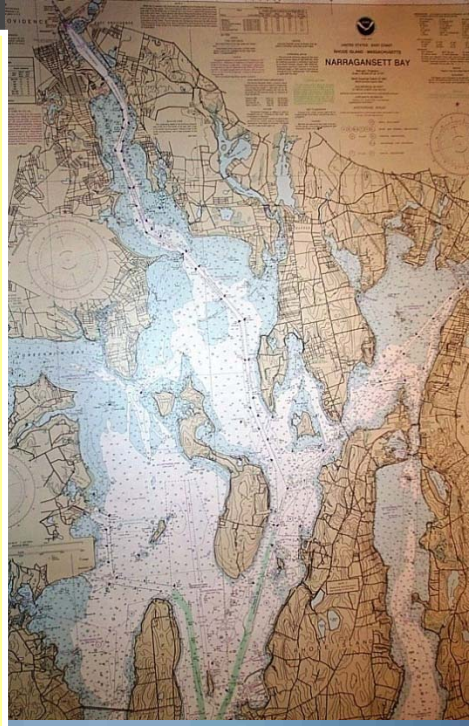


Prevention (Marine Safety) Department Navigation System Division

PATON DISCREPANCY REVIEW

PRESENTATION OBJECTIVES

- To acquire a general knowledge of the responsibilities of the Auxiliary for checking aids for discrepancies.
- To understand the three categories of aid to navigation discrepancies.
- To help the member to recognize a discrepancy on an aid to navigation.

PATON CATEGORIES

Class I

Class II

Class III

Definition of Class I

CLASS I

An aid to navigation on a marine structure or other works which the owner(s) is legally obligated to establish, maintain and operate by the Coast Guard.

Definition of Class II

CLASS II

An aid to navigation, exclusive of Class I, which is located in waters used by general navigation – lateral aids.

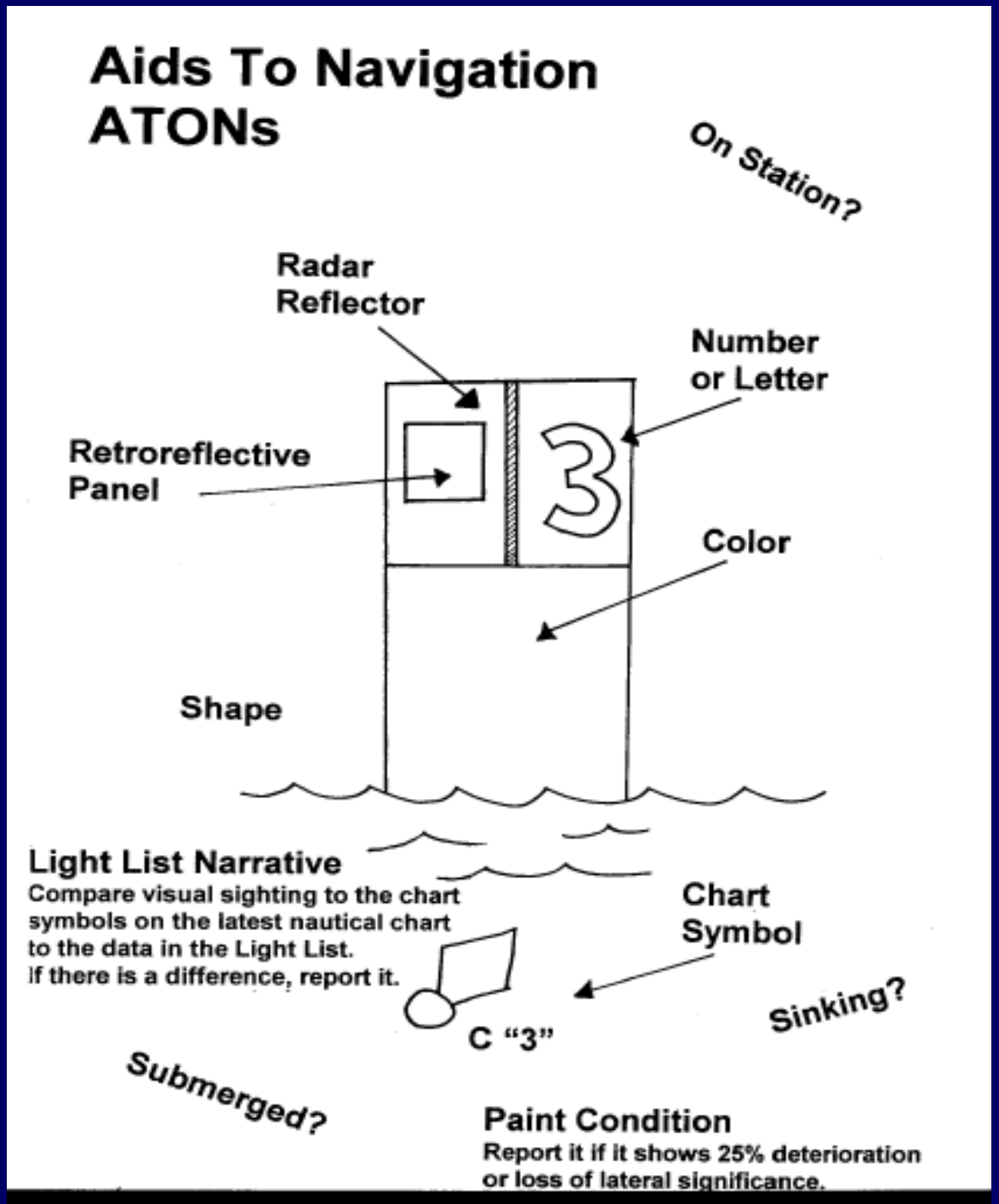
Definition of Class III

CLASS III

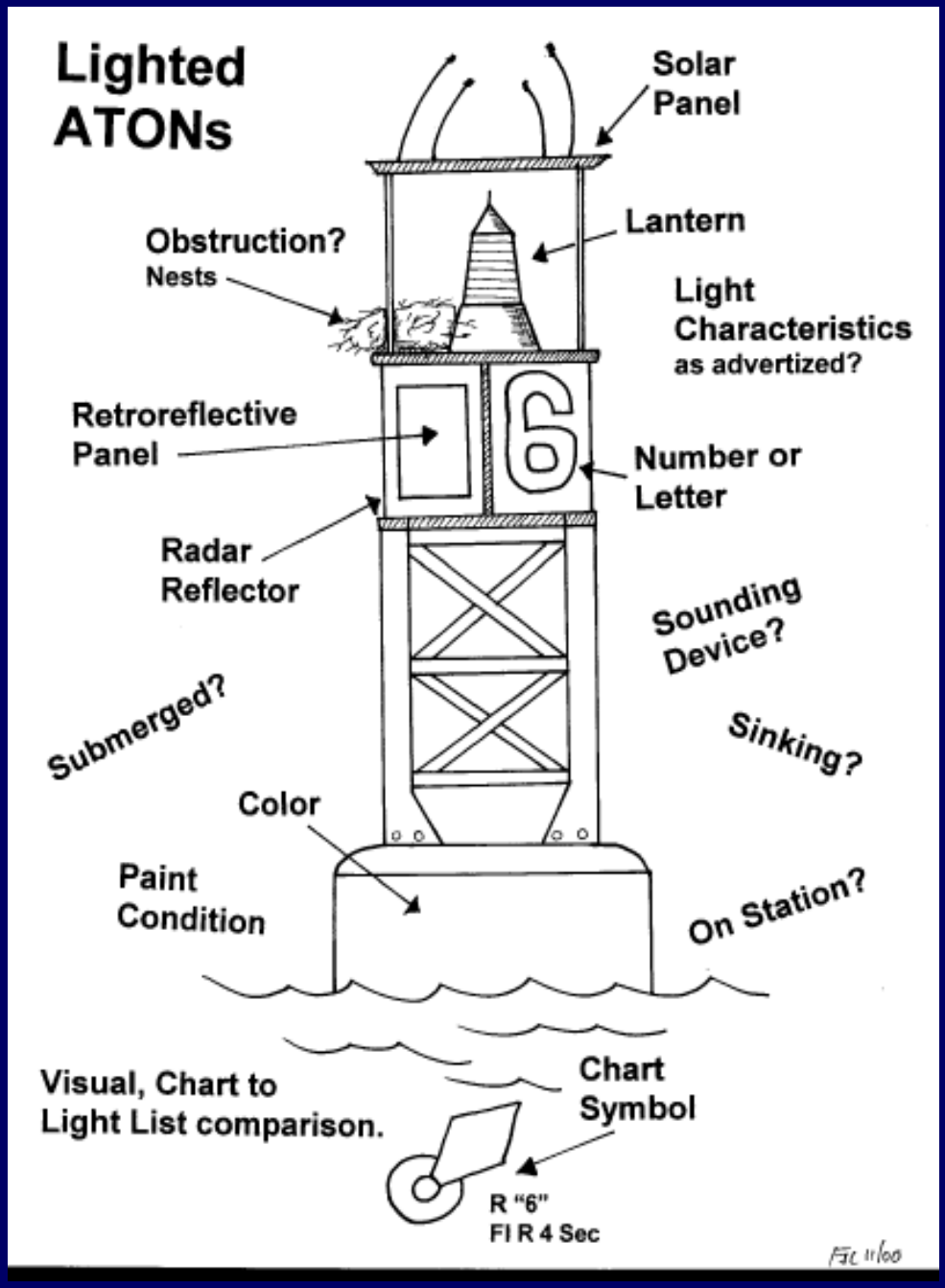
Aids to Navigation exclusive of Class I, which are located in waters not ordinarily used by general navigation – regulatory buoys.

A I D

D E F E C T S


Aids To Navigation
ATONs
On Station?
Radar
Reflector
Number
or Letter
Retroreflective
Panel
3
Color
Shape
Light List Narrative
Compare visual sighting to the chart
symbols on the latest nautical chart
to the data in the Light List.
If there is a difference, report it.
Chart
Symbol
C "3"
Sinking?
Submerged?
Paint Condition
Report it if it shows 25% deterioration
or loss of lateral significance.

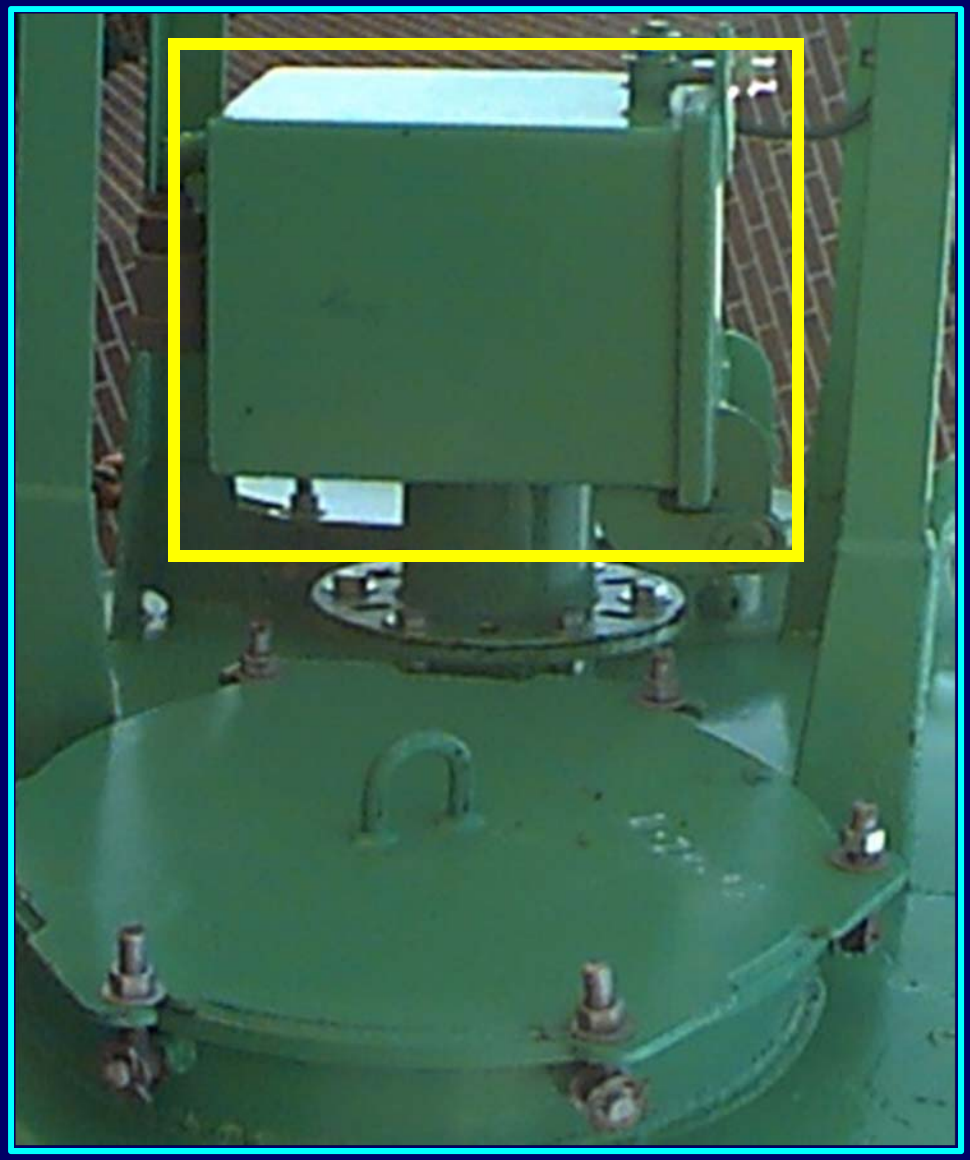
MORE ISSUES


Lighted ATONs
Solar Panel
Lantern
Obstruction?
Nests
Light Characteristics
as advertized?
Retroreflective Panel
6
Number or Letter
Radar Reflector
Sounding Device?
Submerged?
Sinking?
Color
Paint Condition
On Station?
Visual, Chart to Light List comparison.
Chart Symbol
R "6"
Fl R 4 Sec
FJL 11/00


3

Battery Box

- There are single and double battery boxes.
- A vent valve must be installed.
- Box may be painted the color of the buoy.



Sound Systems

There are three main types of wave actuated sound signals:

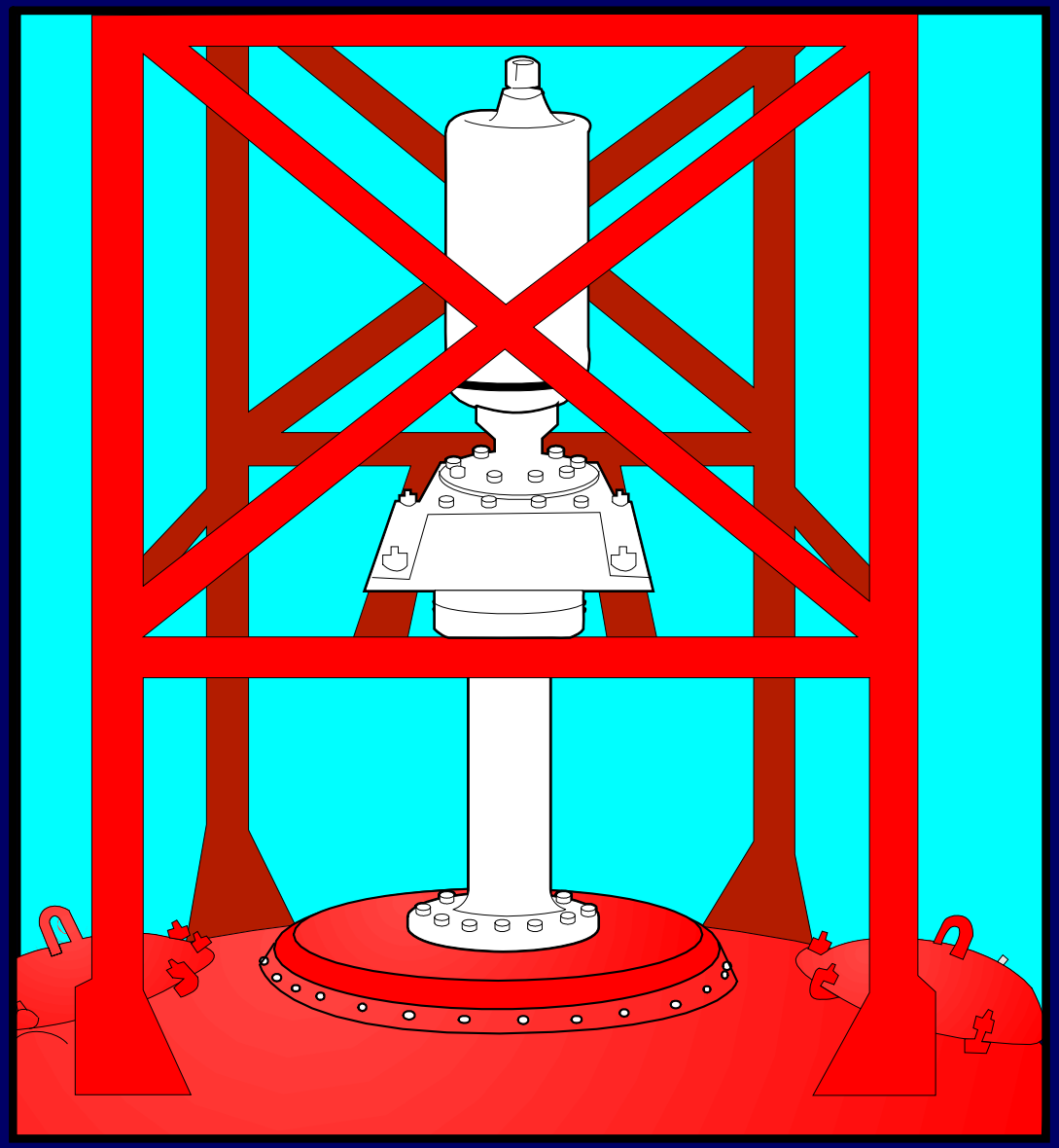
Whistle

Bell

Gong

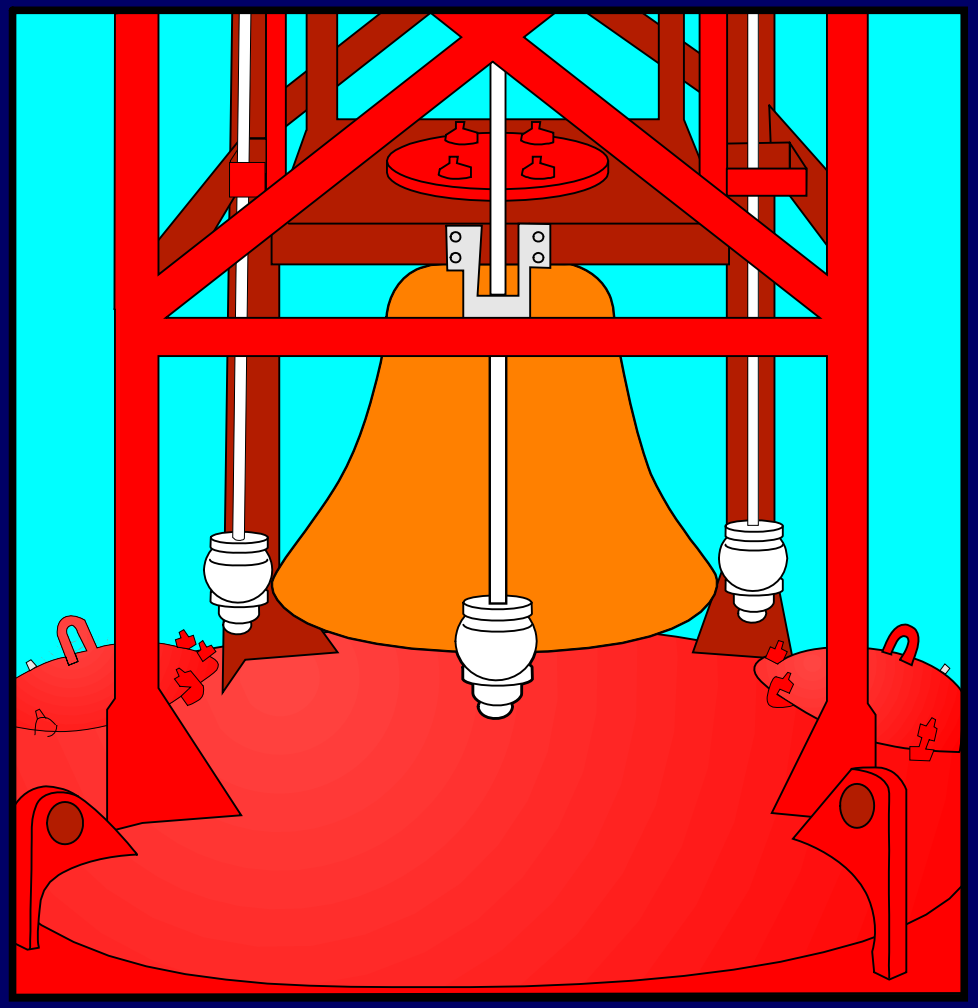
Whistle

- Whistle is made of cast bronze and is mounted inside the cage.
- As air is forced through the whistle, the familiar drone sound is made.



BELLS

- Bells used on lighted and unlighted buoys and are made of a copper-silicon alloy.
- External tappers impact the fixed bell when wave motion causes the buoy to roll.



LED LANTERN

(Light Emitting Diode)

Model 601

- Not approved for use by USCG.
- 2 NM range.
- Self-contained.
- May be used on private aids.
- Small, lightweight, easy to install, inexpensive.

Programming the light characteristic:

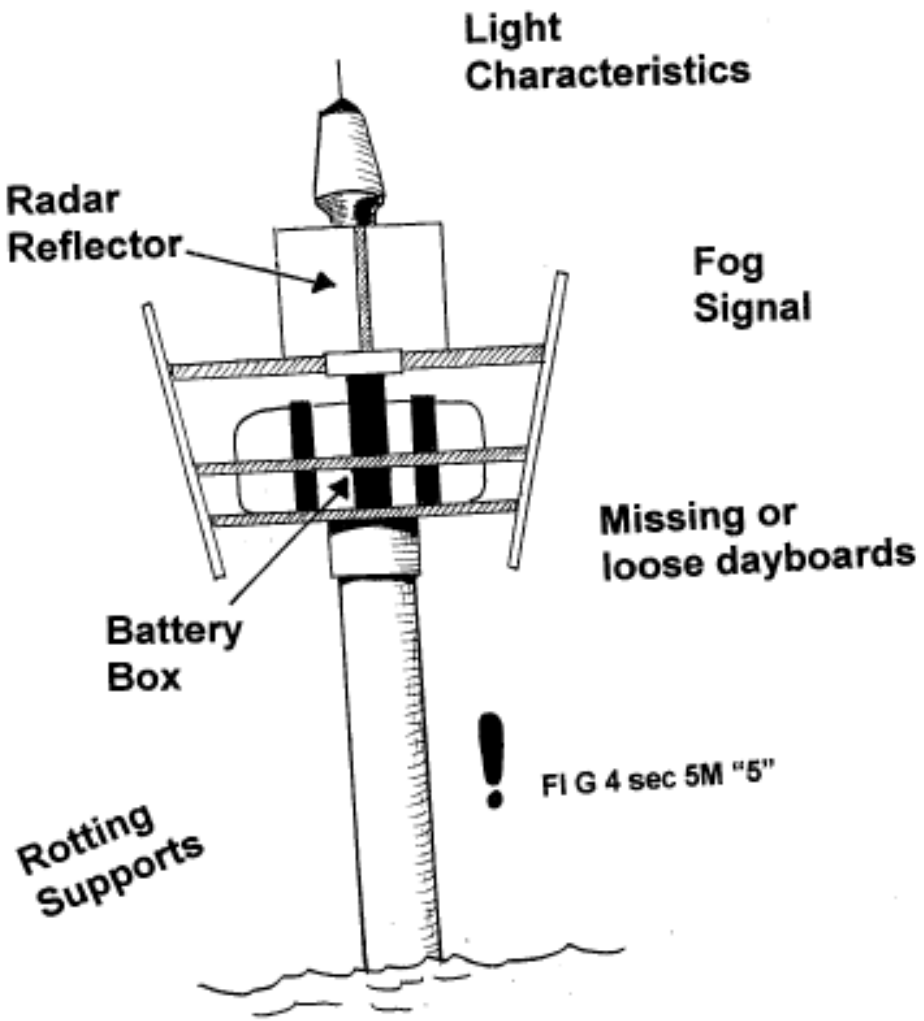
- Lantern color determined by colored dot near serial number.
- Any flash characteristic can be programmed using a Universal TV remote control.
- Security code must be entered to prevent accidentally changing characteristic.
- Follow instructions supplied with lantern.

Service Life of Lantern

- LED lanterns do not burn out.
- Light output degrades over time.
- Replace lanterns according to Duty Cycle.
- 10-29% duty cycle replace every 12 yrs.
- 30-100% replace every 8 years.
- Replace battery every 4 years.

Small Lights and Daymarks

SMALL LIGHTS

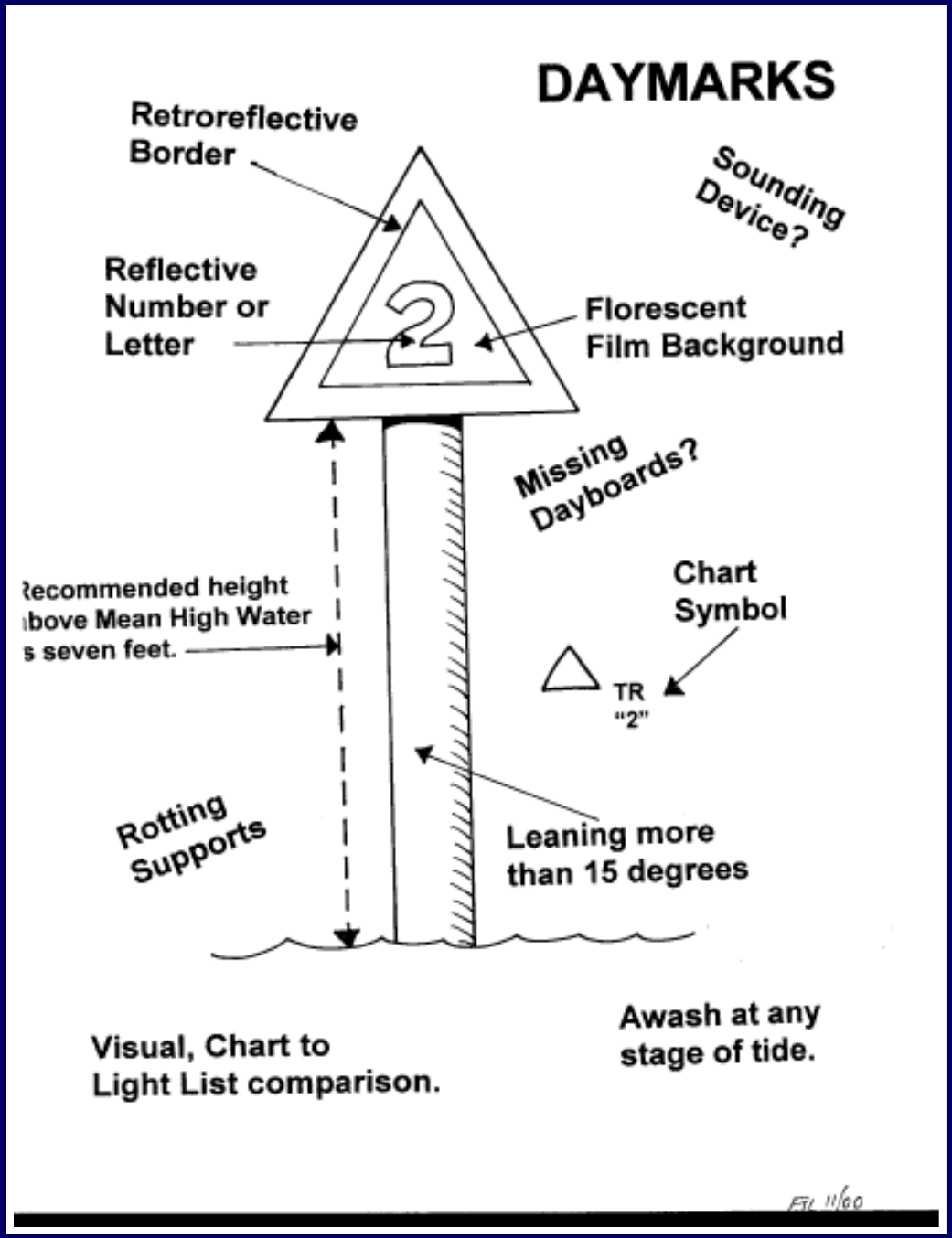


Don't get too close to this ATON!

Stay in the channel.

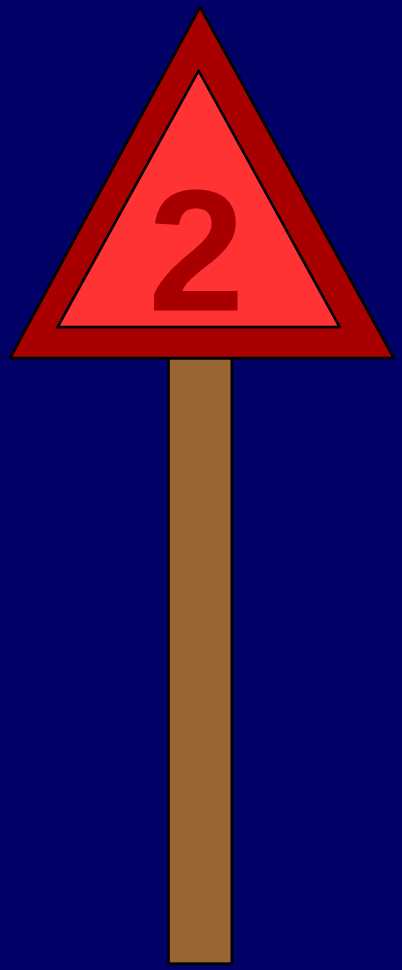
Check after storms.

Panels are designed to break away so that high winds or waves will not destroy the supporting pile or structure.



Single Pile Structure

- **Used in protected or semi-exposed locations where *fixity* can be attained.**



Multiple Pile Structures

- Used when *fixity* can not be achieved with single pile.
- Two categories:

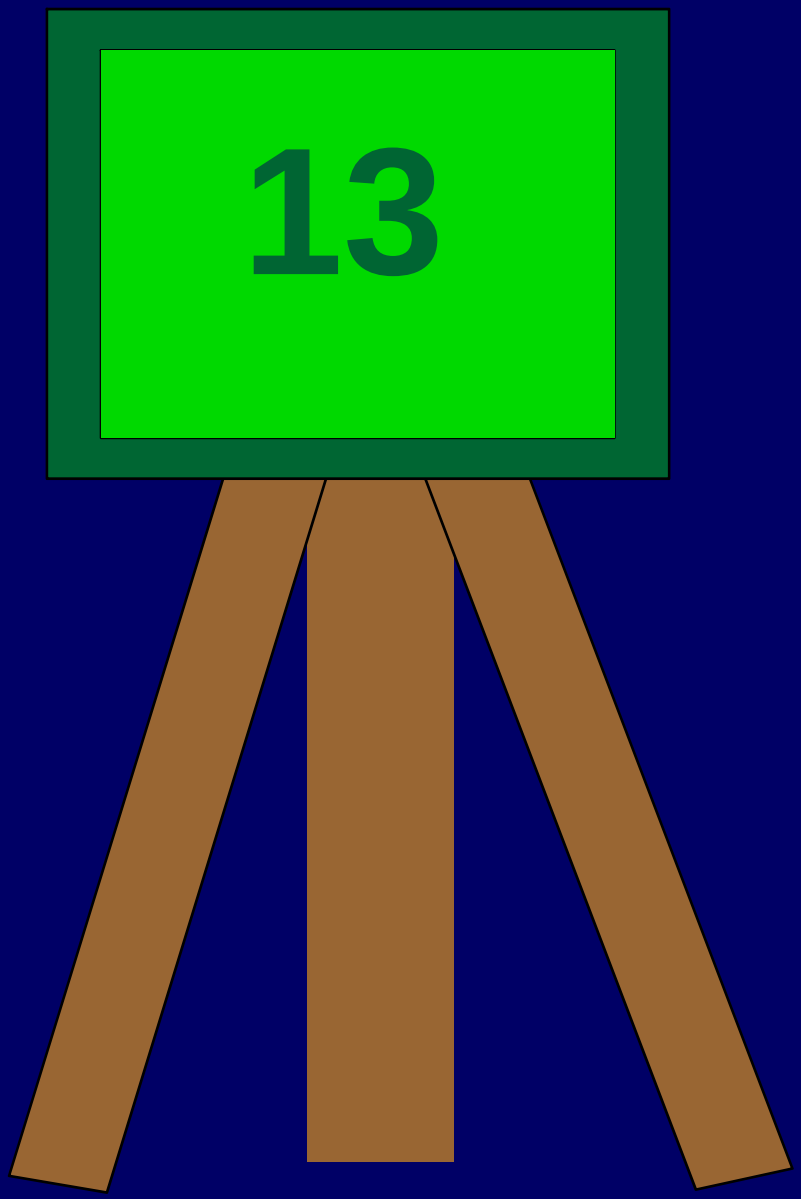
Dolphin

Platform Structure

Dolphin

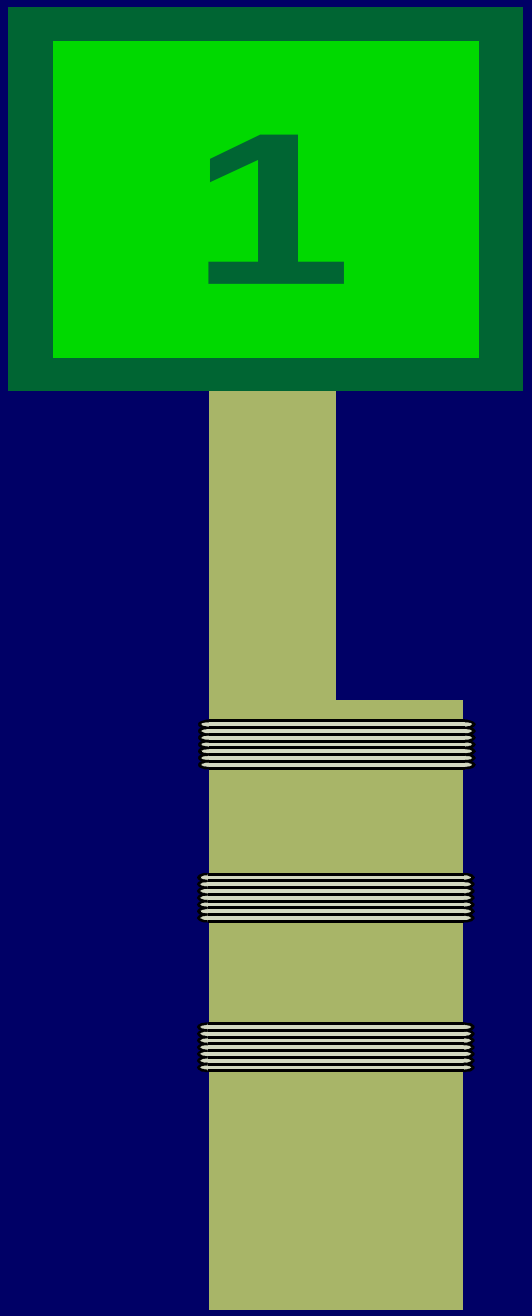
- **Battered pile**

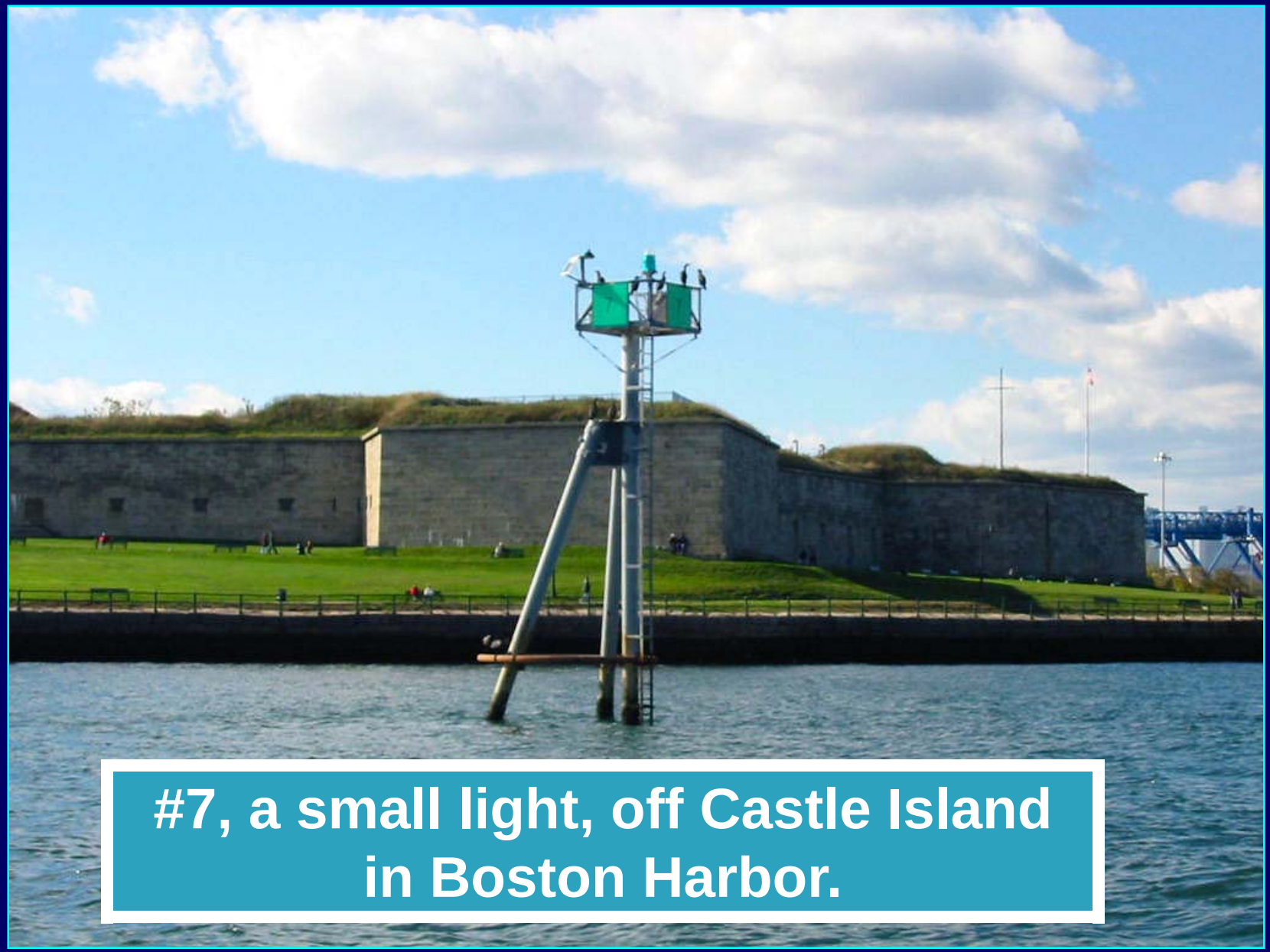
  Three to seven piles driven *at an angle* with the bottoms spread and the tops secured with *wire rope* or bolts and shear connectors.



Dolphin

- **Cluster pile**
  - Three or more piles driven *vertically* with their surfaces in contact with each other and wrapped tightly at various heights.





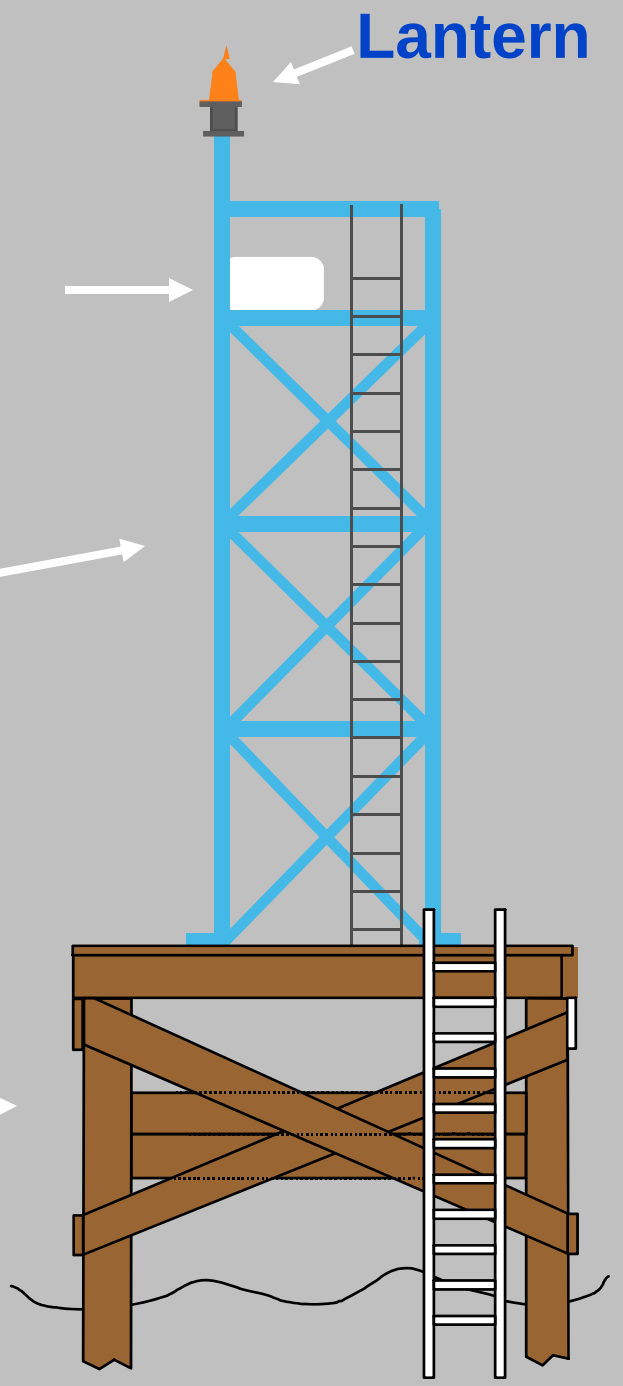
#7, a small light, off Castle Island in Boston Harbor.

Platform Structure

Things to check on this aid.

more separate
en *vertically*,
d at the top by a
hat spreads the
all the piles.

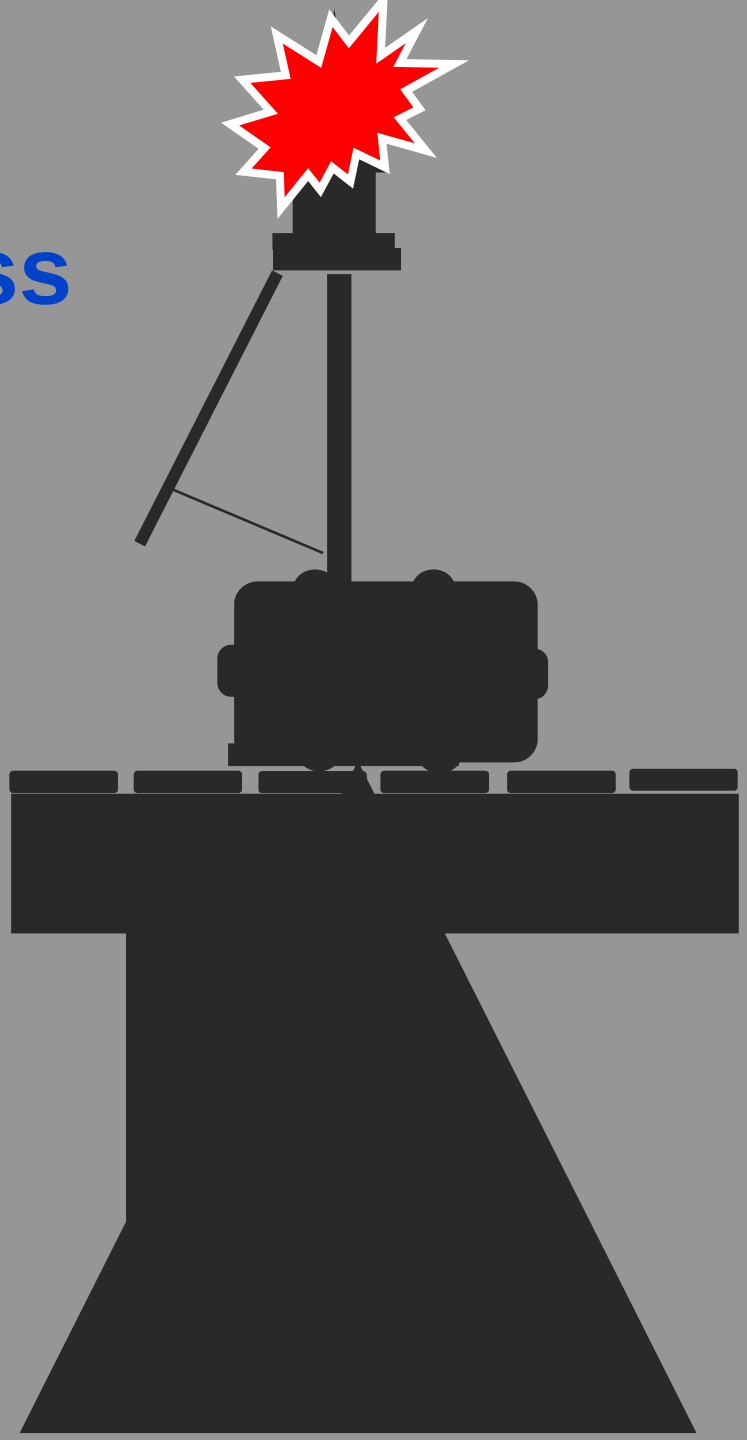
Usually ation
for skel



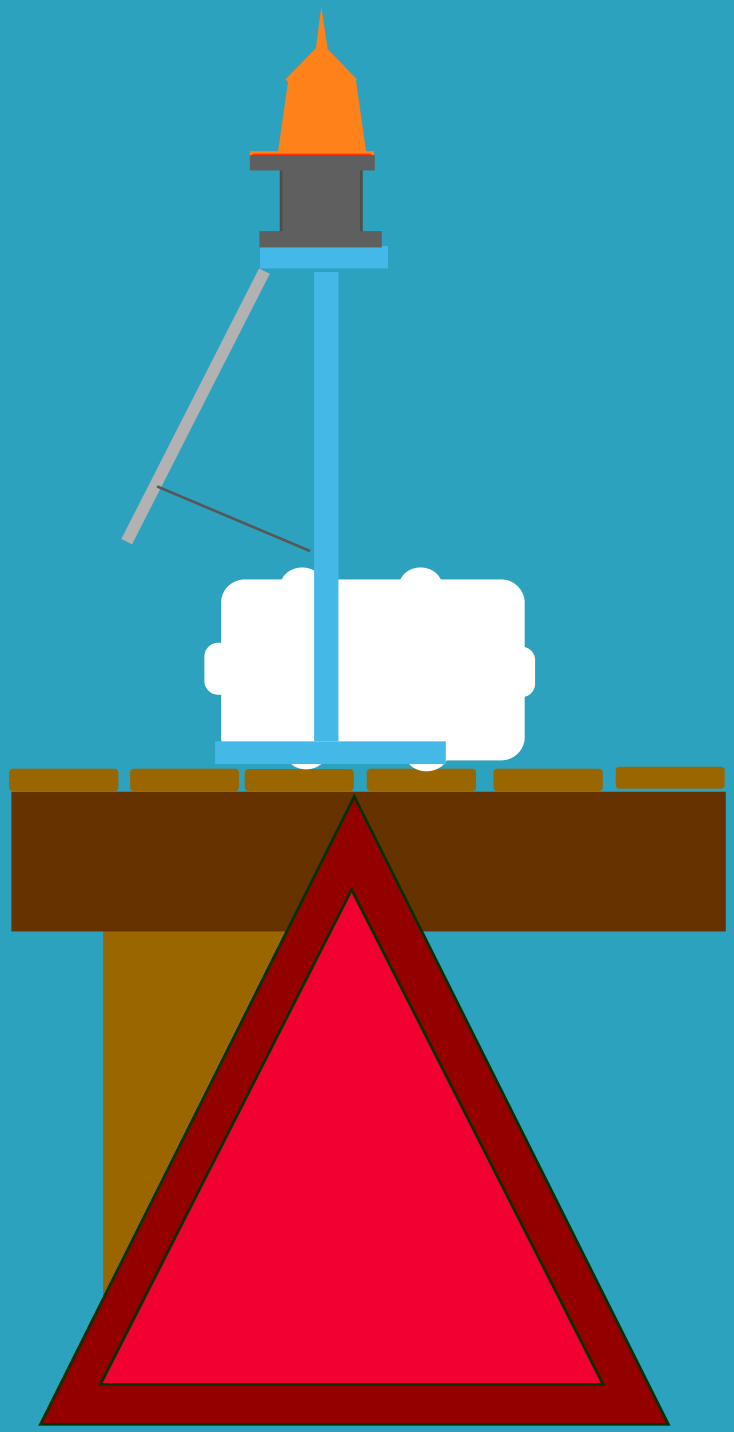
Dayboards

- A dayboard shall always be installed for maximum utility.
- The dayboard should be the dominant component of the silhouette with the battery box hidden behind it.

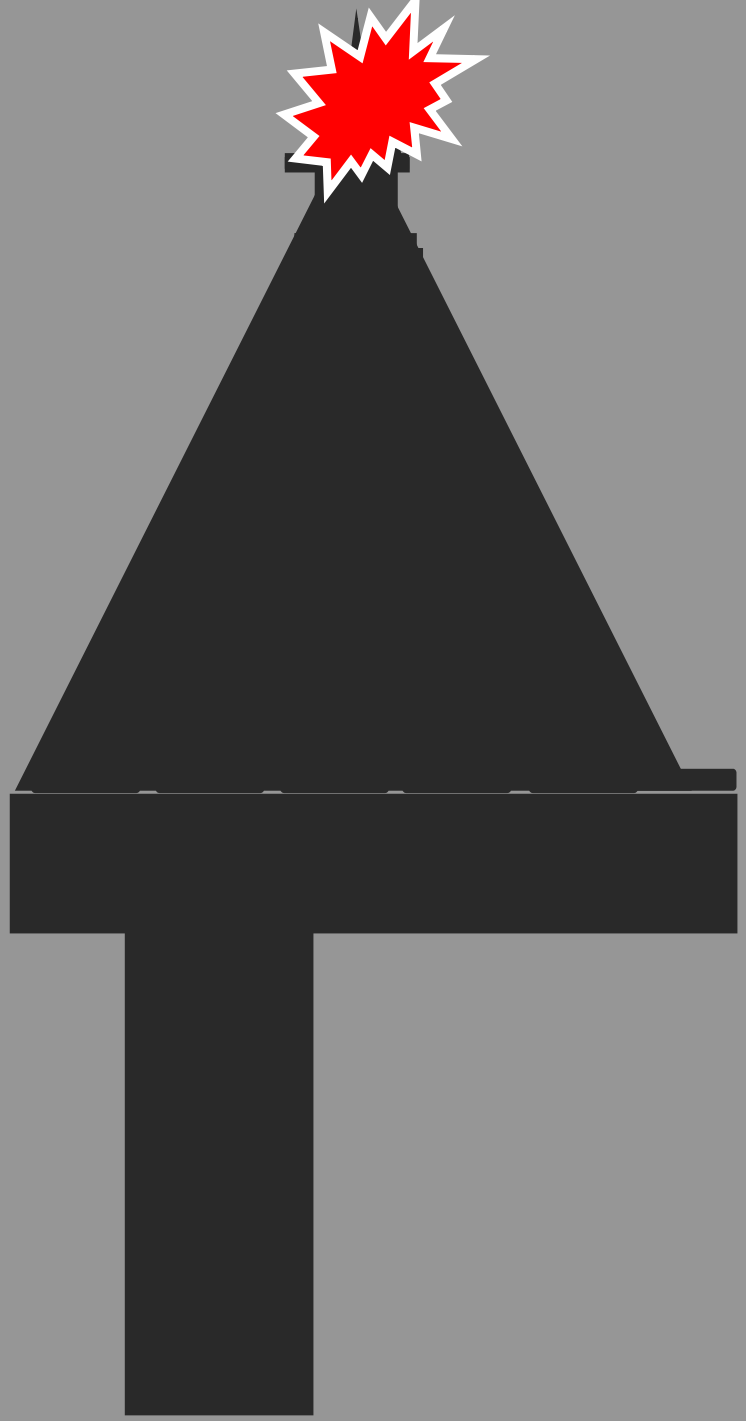
On what side should you pass this mark?



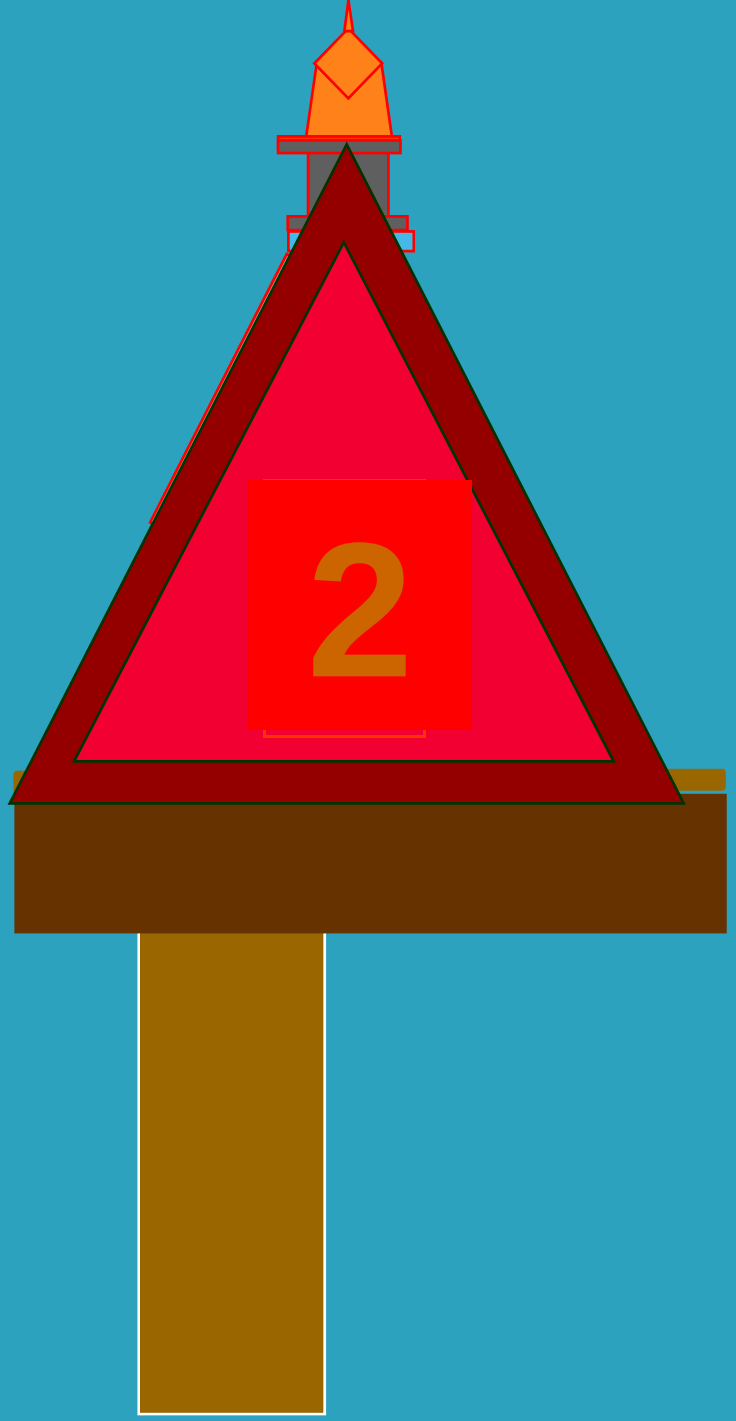
It is a little easier to make the decision in the daylight!



Raising the dayboard makes it more obvious.

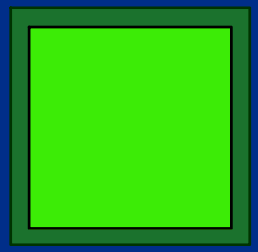


What's wrong with this daymark?

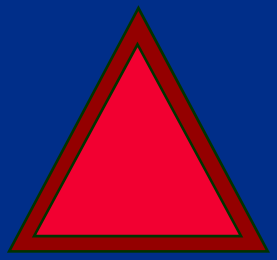


Dayboards

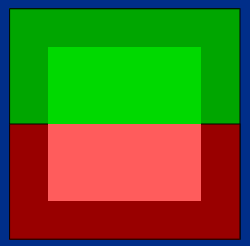
- **The letter refers to the shape or purpose of the dayboard.**



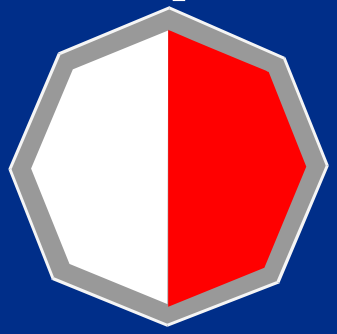
S-Square



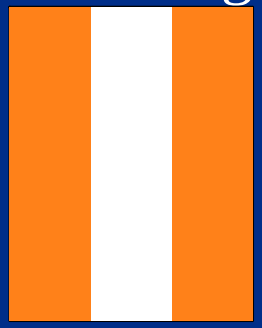
T-Triangle



J-Junction



M-Mid-Channel



K-Range

N-No Lateral Significance

Dayboards

- **The letter represents the key or background color.**

R- Red

G- Green

W- White

B- Black

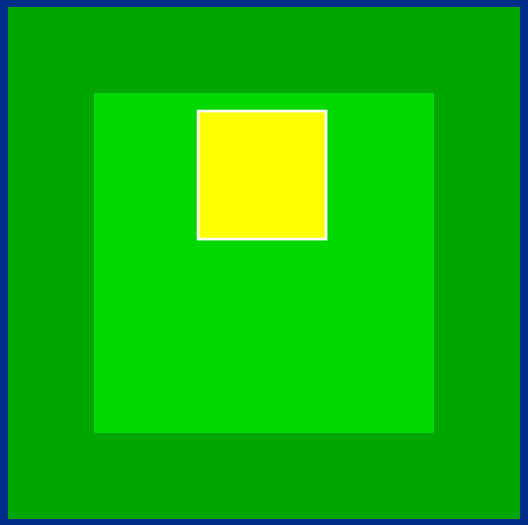
Dayboards

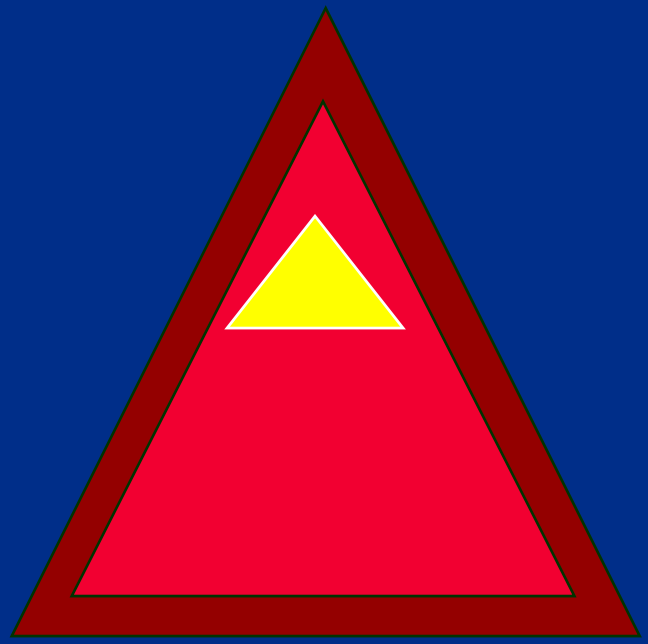
Additional information is shown by letters placed after a dash (-)

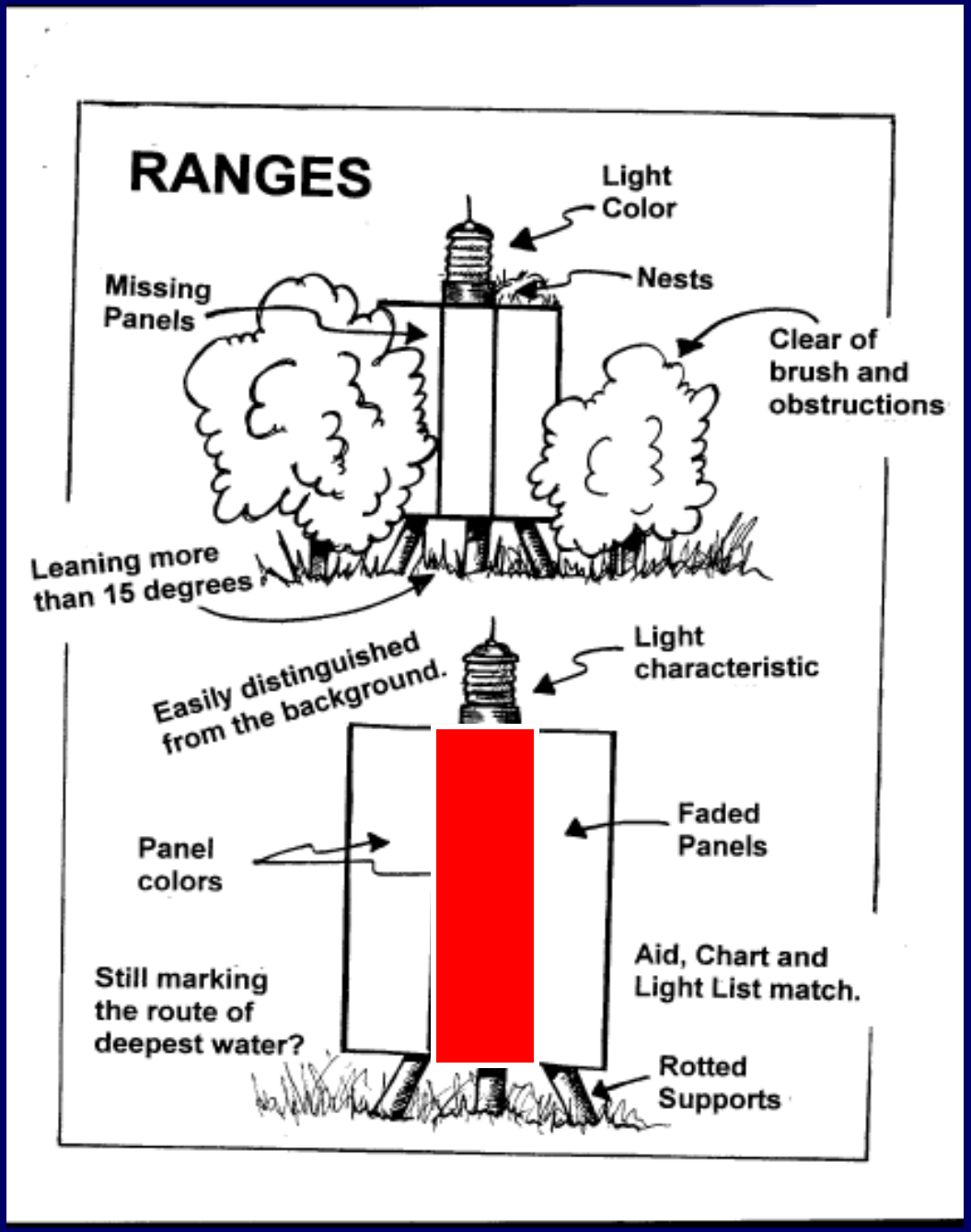
I - Intracoastal

SY - yellow square

TY - yellow triangle







Front Panel Symbol

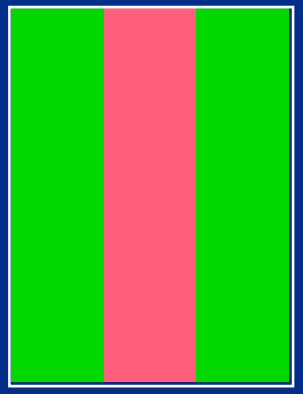
KWR

Main panel is **white**.

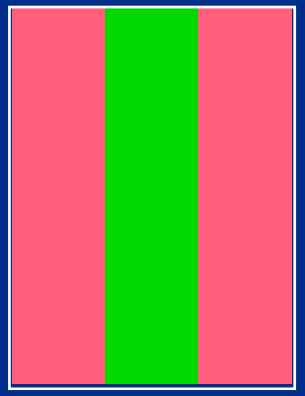
Center stripe is **red**.

Dayboards

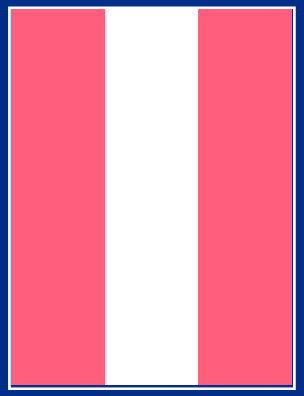
- The letter indicates the color of stripe
- (range dayboards only).



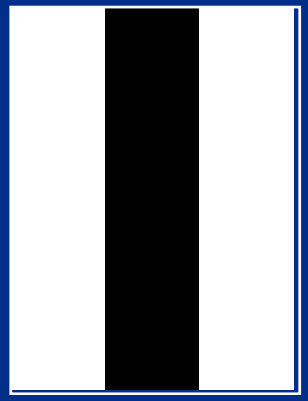
R- Fluorescent red



G- Fluorescent green



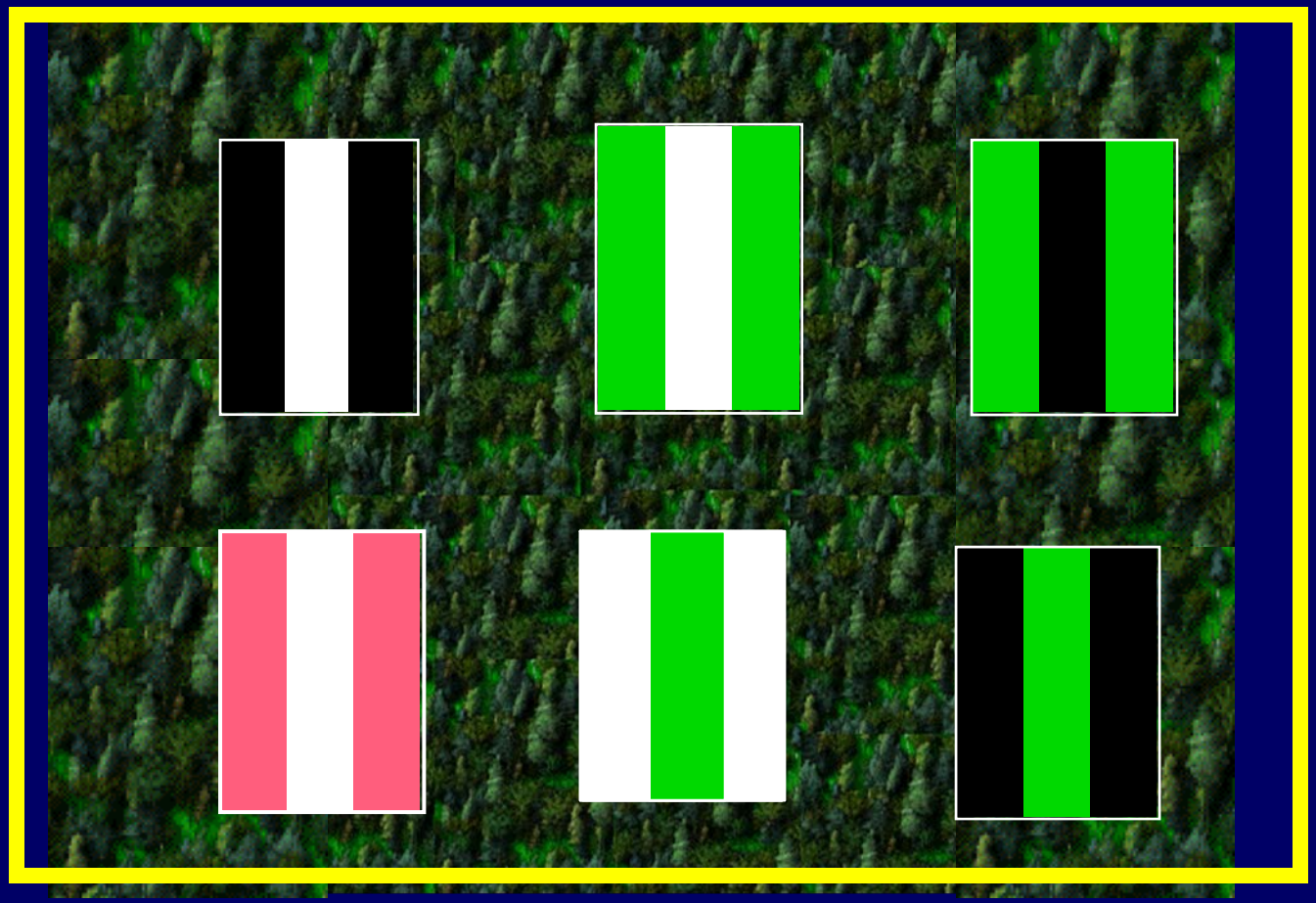
W- White



B- Black

Operational Requirements

- Contrast
  - Vegetation
  - Background
  - lights



Backing Material

- ***Delamination*** **should not have progressed over more than 25 percent of the backing material.**
- **Material should not be sufficiently *warped* to visibly detract from the signal.**
- ***Mounting points*** **should not be *softened* or deteriorated to the degree that the board may come loose during a storm.**
- **Great photo opportunities.**

Films, Numbers, Letters, and Borders.

- ***Delamination*** **of the film should not progress over *10%* of the surface area.**
- **Material should *not* be *cracked*, *checked* or *abraded* so as to provide a dull or roughened top surface.**
- **Attached material should *not* have *peeled* more than *10%* of the surface area.**
- **Good Photo opportunities**

Fading. . .

- There is no practical way to measure fading.
- Replacement is based on the judgment of servicing personnel.
- Aid must be able to display the intended signal until its next scheduled service date.

. . . more FADING

NEW

FADED

REPLACE

All light houses are now unmanned, except for Boston Light—the oldest, continuous operating lighthouse in America.

- Check each lighthouse for proper operation.
- Refer to your chart and Light List for the proper characteristics.

HOW to make discrepancy reports to the CG ANT

(Coast Guard Aid to Navigation Team)

Private Aid Verification Report

(From I-ATONIS)

“7054 PATON Discrepancy Report”

(A copy is being handed out)

Web-Based System 7054 AV PATON Report

Locally Generated District Format.

7054 PATON Discrepancy Report

Has eight sections:

Observer's Identification Data.

Coast Guard Notification**.**

Aid Owner and Identification.

Horizontal and Vertical Locations.

Aid to Navigation Characteristics.

Discrepancies Observed.

Non-Permitted Aids to Navigation Data.

Comments.

DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD
ANSC 7054 (6-08)

U.S.COAST GUARD AUXILIARY

PATON DISCREPANCY REPORT

Che
X

SECTION 1 - MEMBER INFORMATION

MEMBER NUMBER		LAST NAME, FIRST NAME AND INITIAL	
DATE OBSERVED	OPCON	TELEPHONE NUMBER	E-MAIL ADDRESS

SECTION 2 - COAST GUARD NOTIFICATION

USE ONLY WHEN YOU REPORT DIRECTLY BY PHONE, RADIO OR E-MAIL

COAST GUARD UNIT NOTIFIED	TIME REPORTED	DATE REPORTED	COMMUNICATION METHOD USED FOR REPO

SECTION 3 - AID IDENTIFICATION

AID OWNERSHIP - check one: ☐ COAST GUARD ☐ STATE ☐ PRIVATE ☐ USACE ☐

LLNR	OFFICIAL NAME OF AID BEING REPORTED (Reference the Light List fo	PATON NUMBER	MILE MARKER	C

SECTION 4 - HORIZONTAL AND VERTICAL LOCATIONS

FOLLOW THE GUIDELINES IN THE FEDERAL SHORT RANGE AID TO NAVIG

LATITUDE [DD-MM-SS.SS N]	LONGITUDE [DDD-MM-SS.SS W]	GPS DATUM	METHOD USED TO TAKE FIX	QC CHECK	Q

OFFICIAL NAME OF LOCATION	GPS MANUFACTURER AND MODEL NUMBER	GPS OPERATION

METHOD USED FOR DEPTH	MANUFACTURER AND MODEL NUMBER	OBSERVED DEPTH	CORR. FOR TRANSDUCEI	HEIGHT OF TIDE
		0.0 FT	0.0 FT	0 FT

SECTION 5 - AID TO NAVIGATION CHARACTERISTICS

CHECK OFF EACH CHARACTERISTIC THAT DESCRIBES THE AID.

TYPE OF AID	☐ Floating Buoy	☐ Fixed Structure	☐ Lighted	☐ Sound capability	☐ Electronic devices
TYPE OF BUOY	☐ Wood	☐ Metal	☐ Foam	☐ Plastic	☐ Other, explain in C
STRUCTURE MAKEUP	☐ Wood	☐ Metal	☐ Single Pile	☐ Dolphin	☐ Tower
COLOR OF LIGHT	☐ Red	☐ Green	☐ White	☐ Yellow	☐ Other, explain in C
SOUNDING DEVICE	☐ Bell	☐ Gong	☐ Horn	☐ Whistle	☐ Other, see Comm
ELECTRONIC DEVICE	☐ RACON	☐ Fog Detector	☐ Wind Generator	☐ Electrical Transformer Sta.	☐ Meteorological Sta

SECTION 6 - DISCREPANCIES OBSERVED ON AID TO NAVIGATION

CHECK OFF EACH DISCREPANCY THAT YOU OB

CRITICAL DISCREPANCIES Communicate to CG ANT by fastest means.	URGENT DISCREPANCIES Communicate to CG ANT by phone or E-mail.	ROUTINE DISCRE Report by E-mail or gov
1 ☐ Shrouded or covered with ice.	1 ☐ Light burning dim or showing reduced intensity.	1 ☐ Aid is obscured
2 ☐ Improper light characteristics	2 ☐ Light is partially obscured by dayboards.	2 ☐ Dayboard is fad
3 ☐ Light obscured.	3 ☐ Dayboard(s) is missing. (Photo)	3 ☐ Extensive bird fo
4 ☐ Light is extinguished.	4 ☐ Dayboard(s) is damaged. (Photo)	4 ☐ Aid is damaged
5 ☐ Lantern is damaged. (Photo)	5 ☐ Sound signal failure observed.	5 ☐ Paint deteriorati

7054 PATON Discrepancy Report

Observers Identification Data.

Fill out your personal data:

SECTION I OBSERVER'S IDENTIFICATION DATA		
OPCON	UNIT (DIV / FLOT)	LAST NAME AND INITIALS
01-41949	013-10-07	JONES J. J.

OPCON – Suggested list of CG ANTs provided.

UNIT (DIV / FLOT)

LAST NAME AND INITIALS.

TELEPHONE NUMBER	E-MAIL ADDRESS	MEMBER ID NUMBER
617-123-4567	JJJones@verizon.net	1234567

TELEPHONE NUMBER – Use the phone where you can be reached during normal business hours.

E-MAIL ADDRESS

MEMBER ID NUMBER

7054 – PATON Discrepancy Report

Coast Guard Notification

Only use when you have already communicated with a C.G ANT or other C.G. agency.

COAST GUARD UNIT NOTIFIED	TIME REPORTED	DATE REPORTED	COMMUNICATION METHOD USED FOR
ANT BOSTON	**1200**	**23-Feb-08**	**TELEPHONE**

Coast Guard Unit Notified.

Time Reported (hhmm)

Date Reported (DD-MMM-YY)

Communication method used: (Information block)

Radio

Telephone

E-Mail

Other, see Comments.

ANSC 7054 - Aid to Navigation Form

Aid Ownership and Identification.

Select the type of owner:

COAST GUARD
STATE
PRIVATE - PATON
USACE – US Army Corps of Engineers
NOAA

AID OWNERSHIP - check one:	[X] COAST GUARD	[ ] STATE	[ ] PRIVATE	[ ] USACE

LLNR	OFFICIAL NAME OF AID BEING REPORTED (Reference the Light List fo	PATON NUMBER
12345	**DORCHESTER BAY LIGHTED BUOY 5**	**12345**

	CHART NO.	ED	CHART DATE
	13270	**34**	**Sep-07**

LLNR – Light List or PATON Number
OFFICIAL NAME OF AID. (as shown in Light List)
PATON NUMBER.
CHART NUMBER
CHART EDITION
CHART DATE (MMM-YY)

ANSC 7054 - Aid to Navigation Form

Horizontal and Vertical Locations.

LATITUDE [DD-MM-SS.SS N]	LONGITUDE [DDD-MM-SS.SS W]	GPS DATUM	METHOD USED TO TAKE FIX
23-34-56.80 N	**071-03-45.80 W**	**WGS84**	**GPS WITH WAAS**

LATITUDE – (Formatted as DD-MM-SS.SS N)
LONGITUDE – (Formatted as DDD-MM-SS.SS W)
GPS DATUM – (DATUM loaded in your GPS Set)
METHOD USED TO TAKE FIX – Select:
GPS, DGPS, GPS with WAAS, or OTHER, see Comments.

QC CHECK	QC READING	U/M	TIME WHEN TAKEN
EPE	**12.3**	**FT**	**1245**

QC CHECK, select:
HDOP (Horizontal Dilution of Position)
EPE (Estimated Position Error)
QC READING (GPS reading on site.)
TIME WHEN TAKEN – Formatted as HHMM**.** as HHMM)

7054 – PATON Discrepancy Report

Horizontal and Vertical Locations.

Enter the following:

OFFICIAL NAME OF LOCATION – where the aid is located.

GPS MANUFACTURER AND MODEL NUMBER.

GPS OPERATION, select:

- **2D**
- **3D**
- **3D DIFFERENTIAL**
- **NOT AVAILABLE**

CHARTED DEPTH – Take from your NOAA Chart.

DEPTH DIFFERENCE – (System calculated field)

METHOD USED FOR DEPTH, select:

- **ECHO SOUNDER**
- **LEAD LINE**
- **SOUNDING POLE**
- **DEPTH NOT TAKEN**
- **OTHER, see Comments.**

ANSC 7054 - Aid to Navigation Form

Horizontal and Vertical Locations.

Enter the following:

MANUFACTURER AND MODEL NUMBER of echo sounder.

OBSERVED DEPTH.

CORRECTION FOR TRANSDUCER – distance from the location of the transducer on the boat to the waterline.

HEIGHT OF TIDE – take from the Almanac Screen on your GPS.

CORRECTED DEPTH – system calculated.

TIME – when thr depth was taken, formatted as **HHMM**.

ANSC 7054 - Aid to Navigation Form

Aid Characteristics.

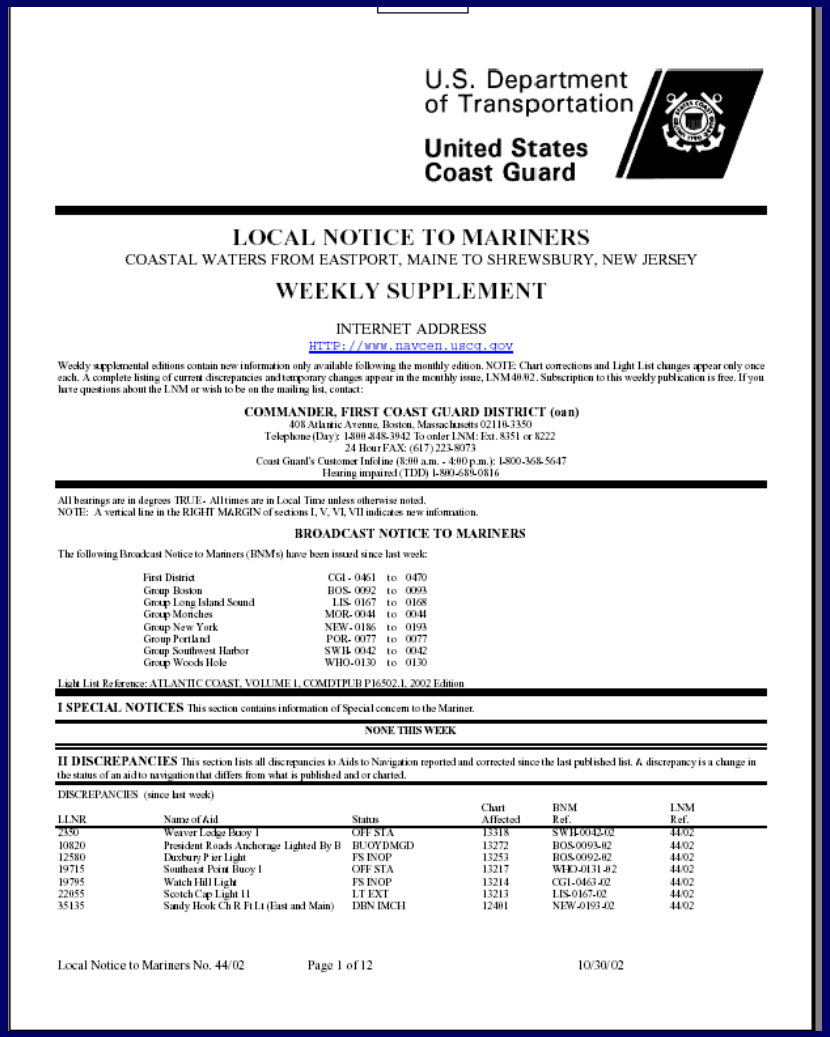
Reference the *AN10 – Aid Observation Worksheet* for the menu details:

- TYPE OF AID
- TYPE OF BUOY
- AID STRUCTURE
- LIGHT COLOR
- SOUND
- ELECTRONIC

ANSC 7054 - Aid to Navigation Form Aid Discrepancies.

- CRITICAL DISCREPANCIES
- URGENT DISCREPANCIES
- ROUTINE DISCREPANCIES
- DOCUMENT AND SPECIFICATION CHECKS.

Discrepancy reports may be reflected in the LNM - Local Notice to Mariners



U.S. Department of Transportation

United States Coast Guard

LOCAL NOTICE TO MARINERS

COASTAL WATERS FROM EASTPORT, MAINE TO SHREWSBURY, NEW JERSEY

WEEKLY SUPPLEMENT

INTERNET ADDRESS

HTTP://www.navcen.uscg.gov

Weekly supplemental editions contain new information only available following the monthly edition. NOTE: Chart corrections and Light List changes appear only once each. A complete listing of current discrepancies and temporary changes appear in the monthly issue, LNM 40/02. Subscription to this weekly publication is free. If you have questions about the LNM or wish to be on the mailing list, contact:

COMMANDER, FIRST COAST GUARD DISTRICT (oan)
408 Atlantic Avenue, Boston, Massachusetts 02110-3350
Telephone (Day): 1-800-348-3942 To order LNM: Ext. 8351 or 8222
24 Hour FAX: (617) 223-8073
Coast Guard's Customer Infoline (8:00 a.m. - 4:00 p.m.): 1-800-368-5647
Hearing impaired (TDD) 1-800-689-0816

All bearings are in degrees TRUE - All times are in Local Time unless otherwise noted.
NOTE: A vertical line in the RIGHT MARGIN of sections I, V, VI, VII indicates new information.

BROADCAST NOTICE TO MARINERS

The following Broadcast Notice to Mariners (BNMs) have been issued since last week:

First District	CGL - 0461	to	0470
Group Boston	BOS- 0092	to	0093
Group Long Island Sound	LIS- 0167	to	0168
Group Moriches	MOR- 0044	to	0044
Group New York	NEW- 0186	to	0193
Group Portland	POR- 0077	to	0077
Group Southwest Harbor	SWH- 0042	to	0042
Group Woods Hole	WHO-0130	to	0130

Light List Reference: ATLANTIC COAST, VOLUME 1, COMDTPUB P16502.1, 2002 Edition

I SPECIAL NOTICES This section contains information of Special concern to the Mariner.

NONE THIS WEEK

II DISCREPANCIES This section lists all discrepancies to Aids to Navigation reported and corrected since the last published list. A discrepancy is a change in the status of an aid to navigation that differs from what is published and or charted.

DISCREPANCIES (since last week)

LLNR	Name of Aid	Status	Chart Affected	BNM Ref.	LNM Ref.
2350	Weaver Ledge Buoy 1	OFF STA	13318	SWH-0042-02	44/02
10820	President Roads Anchorage Lighted By B	BUOYDMGD	13272	BOS-0093-02	44/02
12580	Duxbury P ier Light	FS INOP	13253	BOS-0092-02	44/02
19715	Southeast Point Buoy 1	OFF STA	13217	WHO-0131-02	44/02
19795	Watch Hill Light	FS INOP	13214	CGL-0463-02	44/02
22055	Scotch Cap Light 11	LT EXT	13213	LIS-0167-02	44/02
35135	Sandy Hook Ch R Fl Lt (East and Main)	DBN IMCH	12401	NEW-0193-02	44/02

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The Local Notice to Mariner is generated using the ATONIS Database

- Chart Corrections
- Discrepancies
- Light List Changes

What is meant by the term "**checking**" of a Private aid?

- ✓ You completed a full pre-underway check of your measuring devices per the guidelines and determined that they are working accurately and that all of the necessary tools are available.
- ✓ On-scene, you took a fix alongside the aid in the channel per the guidelines and recorded the data on a worksheet, including the Quality evidence.
- ✓ On-scene, you checked the depth of water per the guidelines and recorded the data on a worksheet, including the Quality evidence.
- ✓ You completed an 7054 PATON Discrepancy Report to notify the Coast Guard of any discrepancy.

DO NOT REPORT private aids observed as "Watching Properly" to the Coast Guard.
(Unless you are verifying the aid)

ALWAYS *REPORT* all Private Aids to Navigation activity to AUXDATA as a *Mission 31* on an *7030 Activity Report – Mission Individual* form.

Any more questions about reporting Private Aids to Navigation?