

SECTION XIV - INLAND AIDS TO NAVIGATION

INTRODUCTION:

Included in the responsibility of the Auxiliary ATON/CU Program is familiarization with INLAND AIDS TO NAVIGATION. This ATON/CU Program element is conducted similarly to the ATON/CU Program elements as indicated in the respective preceding Sections. It is an all inclusive program responsibility, consisting of reporting discrepancies on ATONs, "CHECKING" ATONs as directed, the verification/discrepancy reporting on PATONs, and chart updating for INLAND WATERWAYS. The Auxiliary assist the Coast Guard and the U.S. Army Corps of Engineers in the accomplishment of this important mission. In order to perform the tasks associated with this mission, participating Auxiliary members must be familiar with the physical characteristics and functioning of INLAND AIDS TO NAVIGATION (shape, color(s), identification, size, lights, attachments, etc.).

OBJECTIVE:

1. To acquire a general knowledge of the characteristics and functioning of INLAND AIDS TO NAVIGATION, and the responsibilities of the Auxiliary in the reporting the status of INLAND AIDS TO NAVIGATION.
2. To become familiar with the variations to the U.S. Aids to Navigation System.
3. To become familiar with the Intercoastal Waterway (ICW), the Western Rivers System and the Uniform State Waterway Marking System (USWMS).

INFORMATION:

As previously stated in Section II and otherwise, "To assist in navigation, the waterways of the U.S. are marked by the U.S. Aids to Navigation System." Now, the exception is, the INLAND WATERWAYS of the U.S. are marked by INLAND AIDS TO NAVIGATION in variation to the U.S. Aids to Navigation System. INLAND AIDS TO NAVIGATION consists of aids located on or adjacent to the INLAND WATERWAYS of the U.S. These INLAND AIDS TO NAVIGATION are characterized by the category of the INLAND WATERWAY for which they are associated with, i.e., the "Intercoastal Waterway" (ICW), the "Western Rivers System" or the "Uniform State Waterway Marking System" (USWMS). The Aids to navigation of the ICW and Western Rivers System are similar in characteristics and functioning as those of the U.S. Aids to Navigation System. with variation. The aids to navigation of the USWMS are significantly different than those of the U.S. Aids to Navigation System. These variations/differences are:

- **INTERCOASTAL WATERWAY (ICW)**

- a. The ICW consists of a combination of natural and man-made/man-enhanced waterways, traversing parallel to the Atlantic and Gulf coasts of the U.S. from Manasquan Inlet, New Jersey to the Texas/Mexican border.
- b. **The direction of buoyage in the ICW is generally southerly along the Atlantic coast and Westerly along the Gulf coast, unless otherwise indicated. (RED MARKERS ON RIGHT when heading South or West.)**
- c. All ICW aids to navigation have a YELLOW marking to distinguish them from aids marking other waterways. Otherwise, ICW aids have the same characteristics and functioning as those of the U.S. Aids to Navigation System. The characteristics and functions of the ICW YELLOW marked aids are:
 - (1) Yellow Triangle - indicates aids should kept to the starboard/right-hand of the passing vessel.
 - (2) Yellow Square - indicates aids should kept to the port/left-hand of the passing vessel.
 - (3) Yellow Horizontal Band - has no lateral significance, indicates aids which mark the ICW.
- d. When the ICW route is congruous with a major waterway, e.g., from Cape May (Light), New Jersey to Norfolk, Virginia - the Delaware Bay/Chesapeake and Delaware (C&D) Canal/Chesapeake Bay inside route, or Delaware/Maryland/Virginia coasts outside route, the buoyage system will be that of that waterway without the special ICW YELLOW marks.

- **WESTERN RIVERS SYSTEM**

- a. The Western Rivers System consists of the Mississippi, Ohio, Missouri, Illinois, Tennessee, Cumberland, Arkansas and White Rivers and their tributaries, and certain other rivers that flow towards the Gulf of Mexico. More than 14,000 aids to navigation mark these waterways.
- b. **The conventional direction of buoyage is considered upstream or towards the head of navigation.**
- c. Aids to navigation are placed to mark "SAFE WATER" and follow the depth curve, i.e., subject to frequent relocation due to changes in river paths and/or conditions As such, aids are **not position with respect to latitude/longitude.**

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- d. Floating aids to navigation, due to small size and type of sinker, and the characteristics of the river, may be placed using the "kick and splash" method.
- e. Seasonal changes, i.e., ice conditions, flooding, etc., dictate constant requirements to place and remove aids to navigation. This situation requires more frequent verification of such aids.
- f. Characteristics and functioning of aids to navigation similar to the U.S Aids to Navigation System are:
 - (1) Special Marks ("Yellow").
 - (2) Information and Regulatory Markers.
 - (3) Range Daymarks.
 - (4) Daymarks having no lateral significance.
- g. Distinct characteristics and functioning of aids to navigation in variation to the U.S Aids to Navigation System are:
 - (1) Aids are **not number for lateral significance**. Due to the constant relocation of aids to mark "SAFE WATER, " it is not practical to number an aid for lateral position each time it is placed.
 - (2) **"Mile Boards"** (12 inch by 36 inch horizontally mounted board) **are marked with numbers indicating mileage** from a fixed point - normally from the mouth of a river or the headwater of a stream.
 - (3) **No "Red and White"** (Safe Water) aids used.
 - (4) **Isolated Danger** marks are not used.
 - (5) **"Green"** aids indicate **port-side or right-descending bank** - lights may be **green** or **white** and show a single-flash characteristics.
 - (6) **"Red"** aids indicate **starboard-side or left-descending bank** - lights may be **red** or **white** and show a group-flash characteristics.
 - (7) **Diamond shaped "Green" or "Red" "Crossing Dayboard"** aids indicate where the river channel crosses from one bank to the other - channel change.
 - (8) **Rectangle shaped "Green" or triangle shaped "Red" "Passing**

Dayboard" aids indicate passing lanes.

- h. Other data pertaining to the Western Rivers System:
 - (1) Distances, usually in statute miles, are displayed on 12 inch by 36 inch horizontal Mile Boards attached to fixed aids to navigation (beacons - daymarks and lights). Otherwise, these Mile Boards are attached to landmarks, i.e., bridges, islands, overhead power-lines, etc. On all Western Rivers except the Ohio River, Mile Boards mark the distance beginning at the mouth of the river. On the Ohio River, Mile Boards mark the distance beginning at the headwater.
 - (2) Position is determined from reference to mile markers, landmarks, and/ or fixed aids to navigation. In this connection, it is important to know that, floating aids to navigation (buoys) are not used for position determination.
 - (3) Dead reckoning can be accomplished similarly as in coastal piloting, using the time-distance-speed calculations. Cognizance should be given to the particular over-the-bottom-speed characteristics of the waterway, i.e., wind, current, debris, visibility, etc.

- **UNIFORM STATE WATERWAYS MARKING SYSTEM (USWMS)**

- a. The USWMS supplements the existing Federal aid to navigation marking system on INLAND WATERWAYS. It includes lakes and other inland waterways that are not depicted on nautical charts.
- b. **The conventional direction of buoyage is considered upstream or towards the head of navigation.**
- c. Distinct characteristics and functioning of aids in variation to the U.S Aids to Navigation System are:
 - (1) Lateral system aids (buoys):
 - (a) **"Black Can"** (being converted to Green) - odd numbered, may show Green reflector or light - marks port-side looking upstream.
 - (b) **"Red Can"** - even numbered, may show Red reflector or light - marks starboard-side looking upstream.
 - (2) Other significance aids (buoys) - may shown White reflector or light:

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- (a) **"Black-horizontal top-band White Can"** (being converted to Green) - may be numbered (odd) - represents an obstruction - pass to north or east of buoy.
- (b) **"Red-horizontal top-band White Can"** - may be numbered (even) - represents an obstruction - pass to south or west of buoy.
- (c) **"Red-vertical stripped White Can"** - indicates an obstruction between the buoy and the nearest shore.
- (3) Mooring Buoy - **"Blue-horizontal mid-band White Can"** - may show a slow flashing white light.
- (4) Regulatory Markers - **"Orange"** marking on **"White"** background with **"Black"** lettering - may be lettered, may show a white light.

- CHARTING:

- a. The Western Rivers are charted by the Corps of Engineers. Some of these Western Rivers area charts may be revised and published annually, other may be revised less frequently.
- b. Other navigable INLAND WATERWAYS are charted, as the case may be, by NOS.
- c. Some INLAND WATERWAYS are not charted.
- d. River charts, are simple easy to use "line-drawn maps" that, illustrate the principal geographic features of the waterway and prominent man-made objects, and aids to navigation and channel or sailing lines. Unlike coastal charts, only landmarks/objects/structures in the immediate proximity of the waterway banks are shown on the chart. River charts do not necessarily indicate the geographical names for areas along the bank. As such, a general Road-Map of the area would serve as a useful supplement, providing names of local areas, road routes, etc. Also, topographical type maps provide essential terrain detail along the waterway.

NOTE: POLYCONIC projection is used for INLAND WATERWAY charts (refer to Section VII).

- ATON/CU PROGRAM - REPORTING OF ACTIVITIES:

- 1. ICW: No change from reporting for U.S. Aids to Navigation System - CG-5474 and NOAA 77-5 forms.

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2. WESTERN RIVERS SYSTEM: As specified by the respective Coast Guard District - CG-5474 and NOAA 77-5 forms, and/or specific reporting formats.
3. USWMS: As specified by the respective Coast Guard District - CG-5474 and NOAA 77-5 forms, and/or specific reporting formats.

Auxiliary members and their units are awarded points for submitting CG-5474 or specific District AN form reports for ATON/PATON activities, and are awarded credits for submitting NOAA 77-5 reports for CU activities, refer to Section XII.

