

REEFREP NEWS

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Dynamic Ship Traffic Information (DSTI)

REEFREP, in consultation with coastal pilots and participating vessels has developed a model to generate dynamic ship traffic information (DSTI) and disseminate this to individual ships transiting the region over the past 12 months.

Recent trials of the new model (Figure 1) have demonstrated that DSTI provides more accurate information.

REEFREP would like to extend their thanks to the owners, agents, masters and pilots of the vessels in the trials, including *River Embley, River Boyne, Fitzroy River, Endeavour River, Barrington and the Palmerston*. Your participation has been greatly appreciated and was a major factor in developing the new model.

Receiving DSTI

To receive DSTI masters or pilots simply have to advise REEFCENTRE they would like to receive traffic information via DSTI.

What is different about DSTI

Under DSTI REEFREP will actively contact individual ships during their transit to provide ship traffic information or advise of changed traffic predictions as opposed to ships only receiving traffic

information at the Mandatory Reporting Points as in the past.

The key principles of DSTI are:

- **Upon entry** to the REEFREP area a ship will receive traffic information for vessels they will encounter in the first 6 hours of their transit through the region.
- **New/changed traffic information** - A constant 2-hour 'look around' bubble monitors any significant changes to the traffic information previously provided such as a new vessel, a change in ETA due to an increase or decrease in speed.

Where new or changed traffic information is generated for a vessel within the 2-hour 'look around' the vessel is provided with updated traffic information for the next six hours, identifying the expected encounters as either:

- New
 - Changed or,
 - Unchanged, that is where information provided previously has not changed.
- **5 Hour Update** - Where a vessel has transited for a period of 5 hours without any **New/changed traffic information** being generated the vessel is provided with updated traffic information for the next six hours.

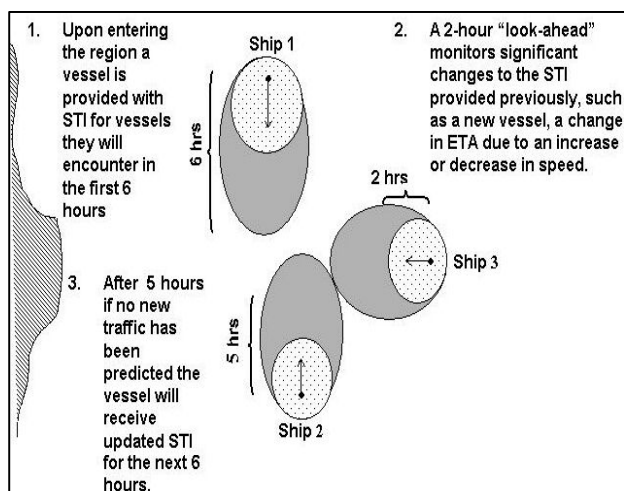


Figure 1. How DSTI works

Phrases used in providing ship traffic information and their meaning are:

Pass - The word "Pass" is used to indicate that the ship is stopped

Overtake - Overtake means that the ships are heading in roughly the same direction at the position of the predicted encounter

Meet - The word meet is used describe all other situations

Please Note: Vessels may contact REEFCENTRE at any time during their transit to seek traffic updates.

En Route Position Reports

Accurate ship traffic information is reliant on timely and accurate position reports from vessels. All vessels are encouraged to provide En Route Position Reports to REEFCENTRE by Automated Position Reporting via Inmarsat C (APR).

Up to 70% of vessels transiting the reef on a daily basis now provide En Route Position Reports via APR. Vessels participating in APR are automatically programmed from REEFCENTRE to forward a position report every 15 minutes.

REEFCENTRE will generally carry out APR remotely without the need for any intervention by the ships crew.

To participate in APR vessels simply need to contact REEFCENTRE and provide their Primary Inmarsat C details, including:

- Inmarsat C Mobile Number (IMN), and
- Manufacturer and Model.

Route Plans

Adequate route information is critical to delivering credible ship traffic information. Route information can be communicated to REEFCENTRE in three ways:

1. Standardised Route Plan
2. Mandatory Reporting Points, or
3. Waypoints

1. Standardised Route Plan

Standardised route plans have been developed in consultation with coastal pilots to provide a simple mechanism to communicate a vessels route plan for the entire transit to REEFCENTRE.

These are based on vessel draught, mandatory Reporting Points and, where there are two or more recommended routes between mandatory reporting points, the names of the alternative legs between these.

For example, a south bound deep draught vessel entering at Booby, transiting via the standard route, and departing at High Peak can simply provide the route plan as: "*Deep draught, Booby to High Peak*".

Similarly, where it is intended to deviate from a standardised route plan (eg. transit via Heath) the route plan can be communicated simply as: "*Deep draught, Booby to High Peak via Heath*".

An information sheet describing the standardised routes will be available shortly.

2. Mandatory Reporting Points

Route plans can also be provided to REEFCENTRE using the mandatory reporting points. Where there are two or more recommended routes between mandatory reporting points, the names of the alternative legs between these are to be provided (eg. Mandatory Reporting Point X to Mandatory Reporting Point Y via ZZZ).

3. Waypoints

For vessels using non-standard routes, their route plan can be provided to REEFCENTRE as a list of intended waypoints for the transit using actual latitude and longitude of the proposed waypoints, mandatory Reporting points, or a combination of both.

Where there are two or more recommended routes between the waypoints and/or mandatory reporting point/s the proposed route (eg. Waypoint X to Mandatory Reporting Point Y via ZZZ).

Please Note: Vessels must advise REECENTRE of any deviations to route plans

Exemption – Mandatory VHF Reporting Points

Vessels will be exempt from the mandatory VHF Reporting points providing they:

- Provide en route position reports via APR as required by REEFCENTRE
- Provide adequate route plans, and
- Advise REECENTRE of any deviations to route plans

Where these conditions are not met vessels **will not** be exempt from the mandatory VHF Reporting Points.

Automated Message Delivery (AMD)

From September onwards vessels have the choice of receiving ship traffic information (DSTI) via VHF voice communications or via Inmarsat C where a 'hard copy' can be printed on-board. To receive DSTI via AMD masters or pilots simply have to contact REEFCENTRE.

NAVAIDS - Update

Torres Strait and Great North East Channel

During September a new gravity base structure (Figure 2) will be towed into position close north west of the buoy at Nardana Patches in the Prince of Wales Channel. Once established aids to navigation systems will be set to work, including a

light and transmitting tide gauge and current meter. As these new aids to navigation are commissioned relevant information will be promulgated in Australian Notices to Mariners.



Figure 2. New navaid being installed at Nardana Patches

LADS Passage (Fairway Channel)

Seven of nine new aids to navigation have been completed and set to work. It is anticipated that the remaining two structures (South Creech Reef and Fairway Channel) will be completed in November or December 2004 and these lights set to work early in 2005. At present, temporary buoys exist at West and East Fairway.



Figure 3. Installing new navaid at Robin Reef



Figure 4. New navaid at Frederick Patches

AIS - Update

The June Newsletter provided an update on the four AIS base stations brought 'on-line' in recent months, including:

- Hammond Island (Torres Strait)
- Mt Yarrabah (Cairns)
- Pelorus Island, and
- Hay Point

These base stations have successfully enhanced the surface picture available to REEFCENTRE for transiting vessels in the footprint of a base station. It is now intended that three more will be commissioned in 2004/05. These include:

- Sue Island (Torres Strait)
- The Whitsunday Islands (site to be determined), and
- Penrith Island (Off Mackay)

REEFCENTRE has begun to follow-up on some problems associated with installation and the configuration of AIS units onboard ships (e.g. incorrect vessel information (due to keying errors on board), incorrect positional data (use of incorrect datum) and poor installation (poor siting of antennas).

In most cases the response from vessels has been positive and the problems quickly rectified.

REEFREP Statistics

Preliminary ship traffic through the region for the 2003/04 and previous financial years is provided below:

Year	Number of Ships	Number of Transits
1997/98	1,903	6,782
1998/99	2,024	7,676
1999/00	1,975	7,838
2000/01	1,929	7,488
2001/02	1,884	7,103
2002/03	1,918	7,234
2003/04	2,071	7,404

Preliminary ship traffic through the region by month for the 2003/04 financial year is provided below:

Month	Number of Ships	Number of Transits
Jul 03	368	663
Aug 03	361	658
Sep 03	362	653
Oct 03	384	719
Nov 03	389	660
Dec 03	352	618
Jan 04	363	620
Feb 04	338	562
Mar 04	345	619
Apr 04	370	652
May 04	379	669
Jun 04	354	602

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