

ENC Consistency

Robert Ward, IHB



Guidance

S-57 - ENC Product Specification

S-58 - Recommended ENC Validation Checks

S-65 - ENC Production Guidance

new *WEND Paper*

*- Guidelines for the Implementation of the
WEND Principles*



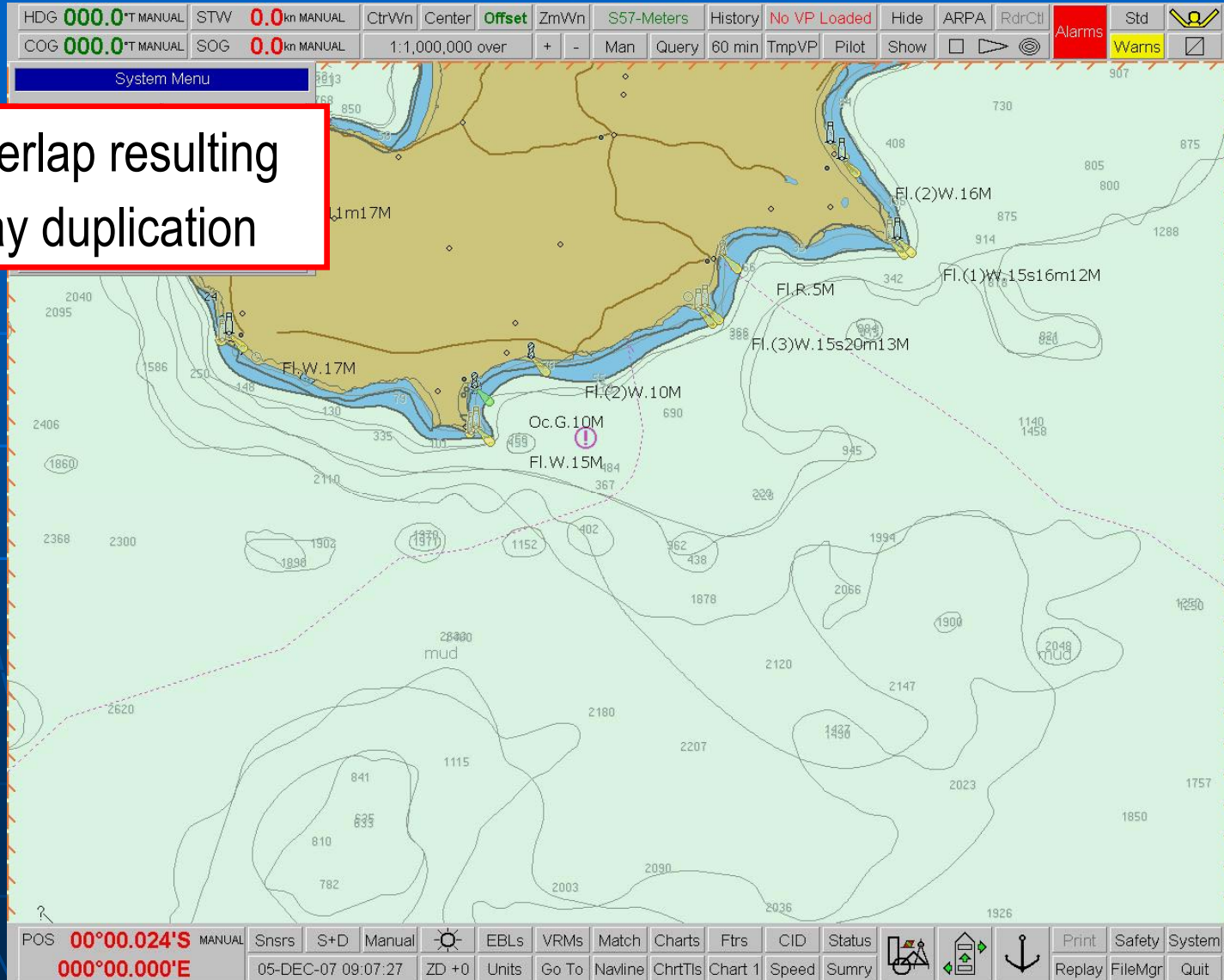
The Main Issues

- ✦ inconsistent display of data (SCAMIN)
- ✦ overlapping data
- ✦ incorrect or ambiguous ENC data
 - disagreement between paper charts and ENCs



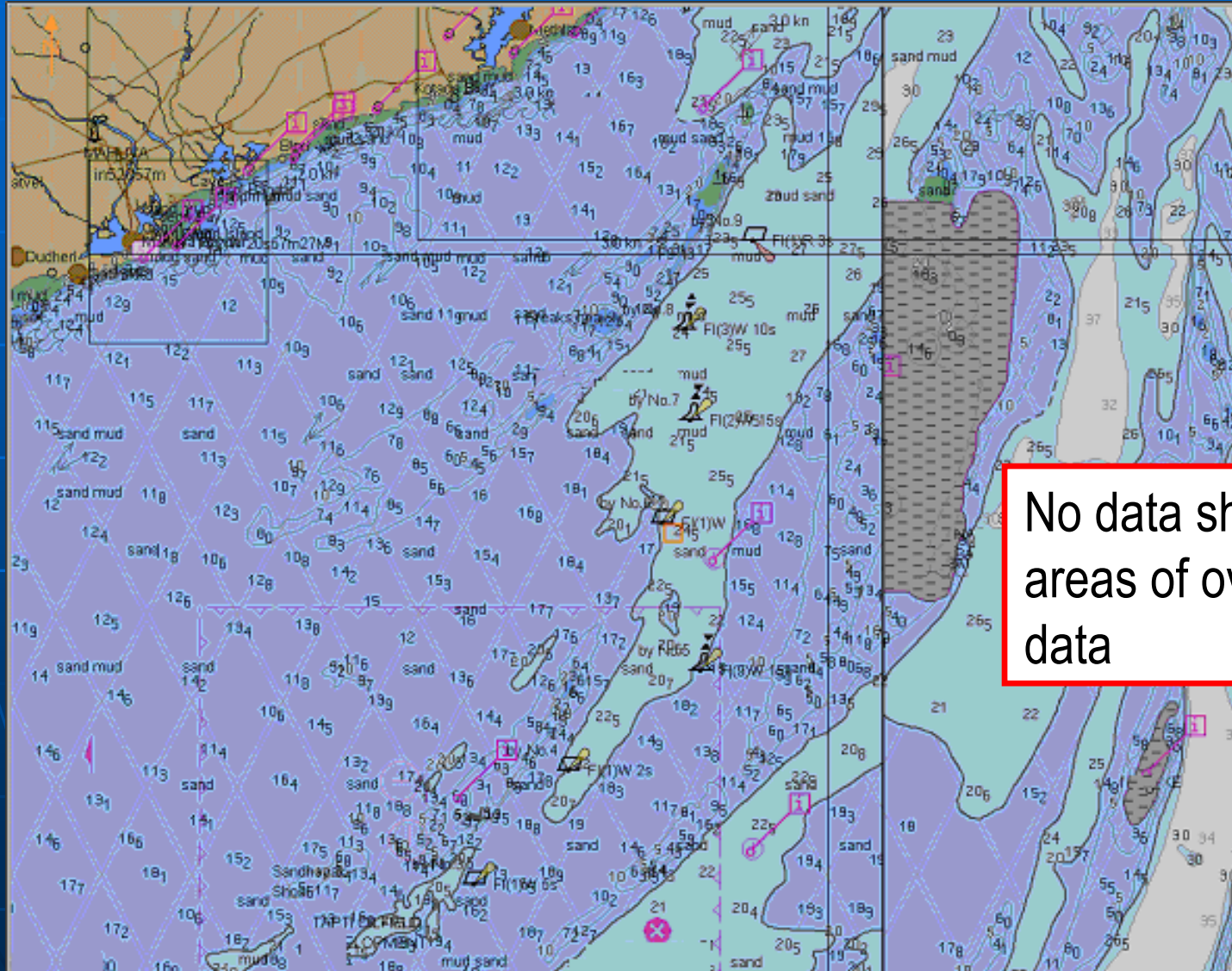
Overlapping data

ENC overlap resulting in display duplication





Overlapping data



No data shown in areas of overlapping data



Overlapping cells





Conclusion - 1 :

- ✦ Overlapping ENCs cannot be tolerated
- ✦ mechanisms to remove overlaps or avoid overlaps are essential
- ✦ How ?
 - regional coordination
 - bilateral agreement
 - distributor intervention



Inconsistent encoding of SCAMIN

The screenshot shows a nautical chart software interface. The main map displays a coastal area with various features like 'PENISOLA DI BURI', 'HOWARILE BAY', and 'SOUTH MASSAWA CHANNEL'. A chart list is visible at the bottom left, with the following data:

Chart Number	Scale	Issue date	Last corr.	Format
GB283100	1 : 180,000	04-2008	06-06-2008	ENC
GB283200	1 : 180,000	04-2008	07-04-2008	ENC
GB283300	1 : 180,000	04-2008	07-04-2008	ENC
GB283400	1 : 180,000	04-2008	21-05-2008	ENC
GB283500	1 : 180,000	04-2008	04-04-2008	ENC
GB300460	1 : 90,000	05-2008	12-05-2008	ENC
GB300527	1 : 300,100	06-2008	18-06-2008	ENC
GB300813	1 : 180,000	03-2008	19-08-2008	ENC
GB301014	1 : 180,000	05-2008	13-05-2008	ENC

The right-hand panel shows system information and settings:

- ALARM: Check Pos-HDG-LOG
- Position Dropped
- Ship: 28-08-08, 00:00, 10:57:15
- Primary DR: 38° 31.733 N, 001° 45.537 E
- Secondary: None
- COG: HDG-m 035.0°, LOG-m 0.0 kt
- System Information: GB340720, Autoload ON, 1:200,000, Man. Corr.
- Drift: No data
- Current: 043.0° - 0.1 kt
- Sf. contour: 20 m - 30 m
- Tide height: No data
- Wind: No data
- Water t°: No data
- Depth: No data
- Settings: Accept correction, Symbolized, Paper chart, Shallow contour: 5 m, Safety contour: 20 m, Safety depth: 20 m, Deep contour: 20 m, Four shades, Shallow pattern, Use SCAMIN, Full light lines, Highlight Info, Show correction, M-quality objects, Question mark, National names.
- Buttons: Ahead, Review, ERBL, Zoom, Event, Info, Tasks List, Help, Vectors Fixed, Show, Depth in Metres WGS-84



Inconsistent encoding of SCAMIN

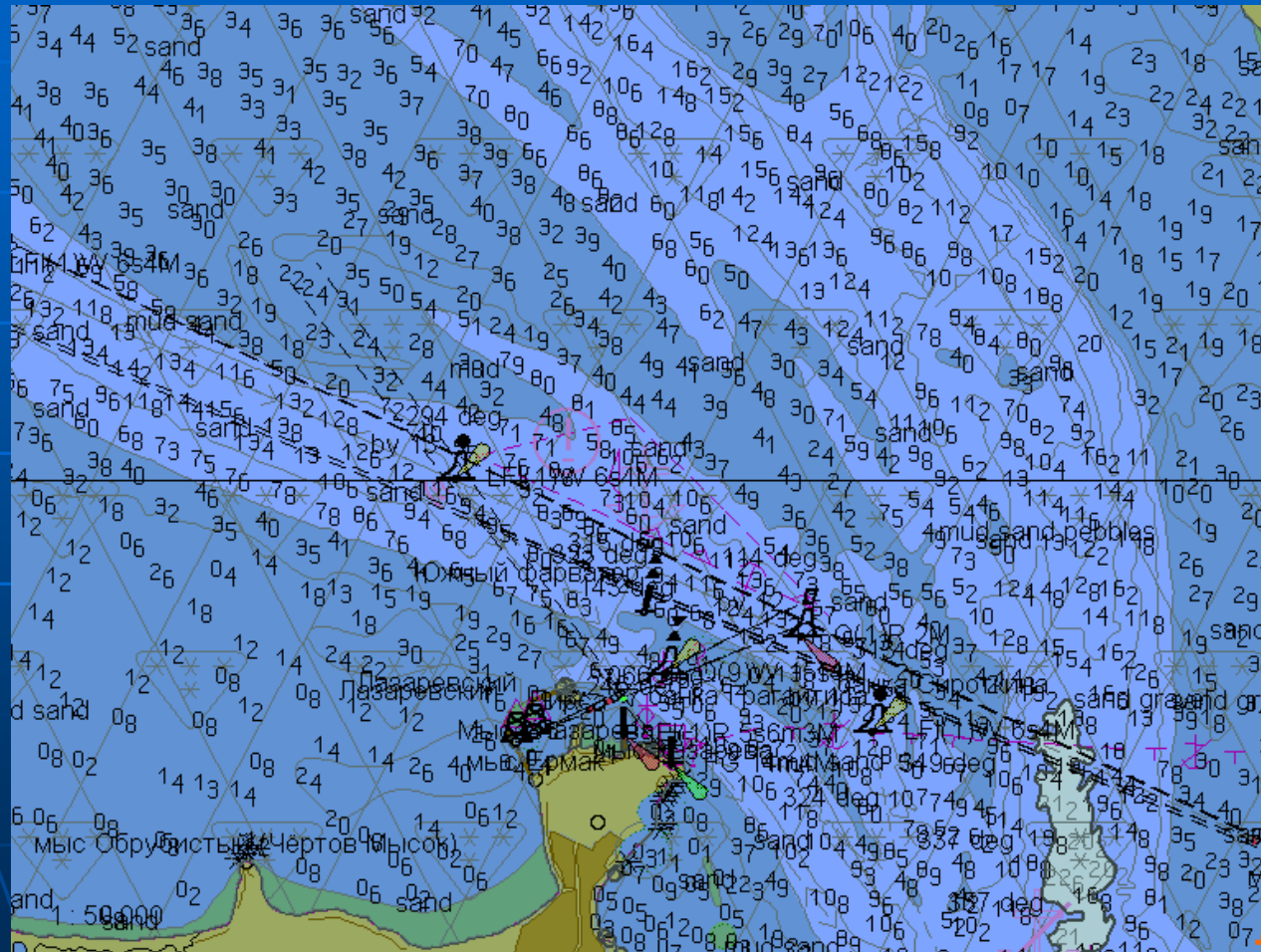
The screenshot displays a nautical charting application interface. The main map area shows a section of the Red Sea and Gulf of Aden, with various geographical features, depth contours, and navigational markers. A yellow circle highlights a specific area on the map. The right-hand side of the interface contains several data panels:

- ALARM:** No official chart
- Position Dropped:** Indicated by a red text.
- UTC:** 28 - 05 - 08, 14 : 05 : 42
- Primary DR:** 33° 59.974 S, 151° 11.914 E
- Secondary DR:** None
- COG:** None
- SOG:** None
- HDG-m:** 270.0°
- LOG-m:** 0.0 kt
- System Information:**
 - Drift: No data
 - Current: 193.1° - 0.0 kt
 - Sf. contour: 10 m
 - Tide height: 0.8 m
 - Wind: No data
 - Water t°: No data
 - Depth: No data
- Buttons:** Ahead, Review, ERBL, Zoom, Event, Info, Tasks List, Help
- Vectors:** Fixed, Show
- Depth in Metres:** WGS-84

At the bottom of the interface, there are buttons for 'Complete list', 'By position', 'Main', 'Dual', 'Charts', 'General', 'Layers', and 'ENC'. The scale of the map is indicated as 1 : 1,000,000.

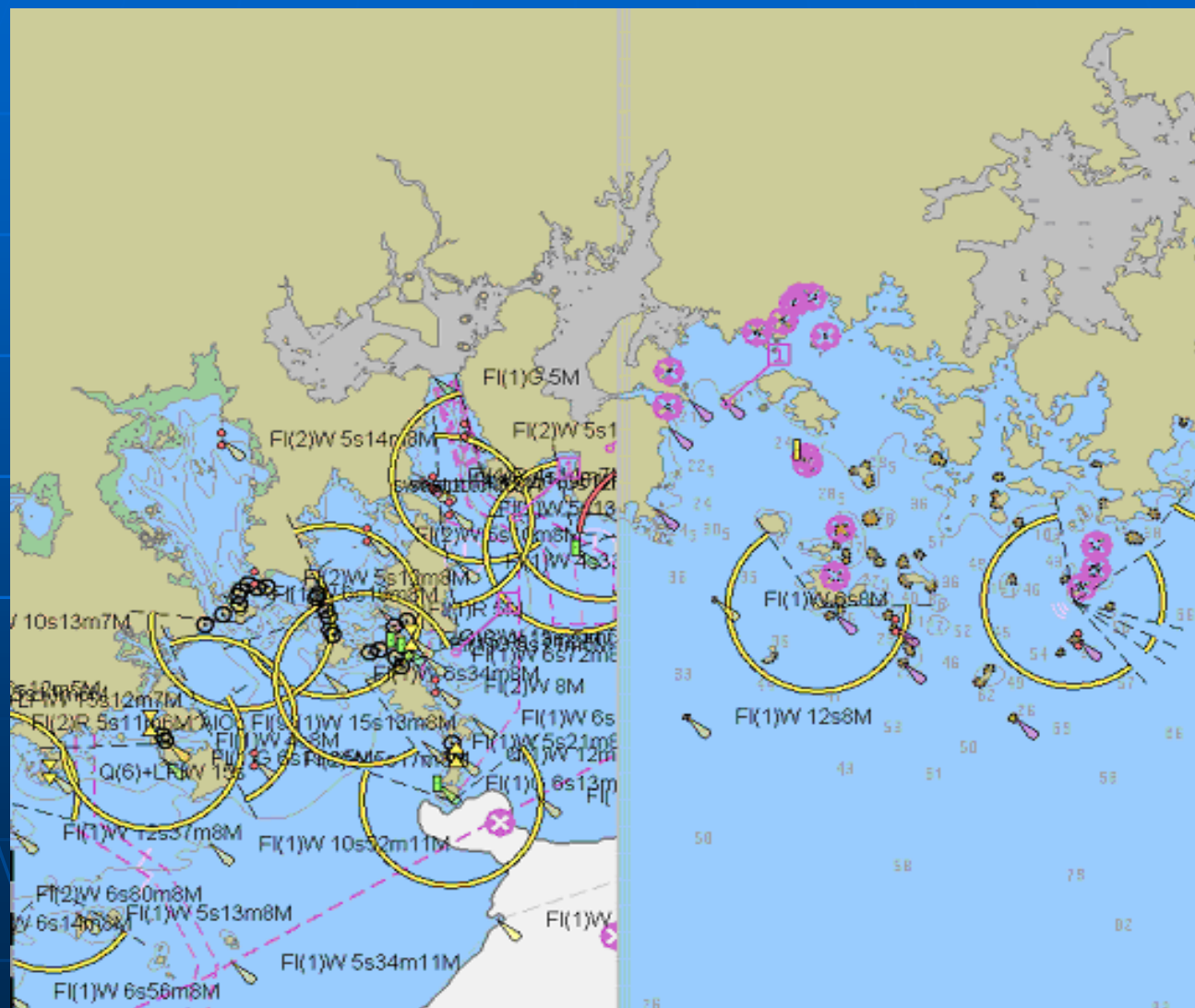


Inconsistent encoding of SCAMIN





Inconsistent encoding of SCAMIN





Conclusion - 2 :

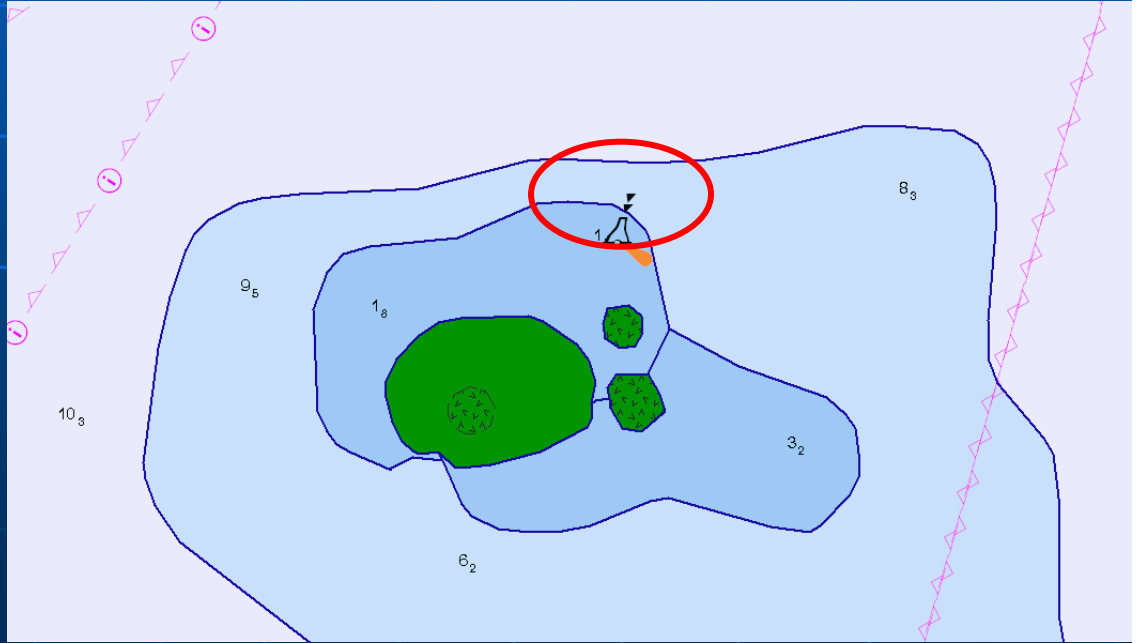
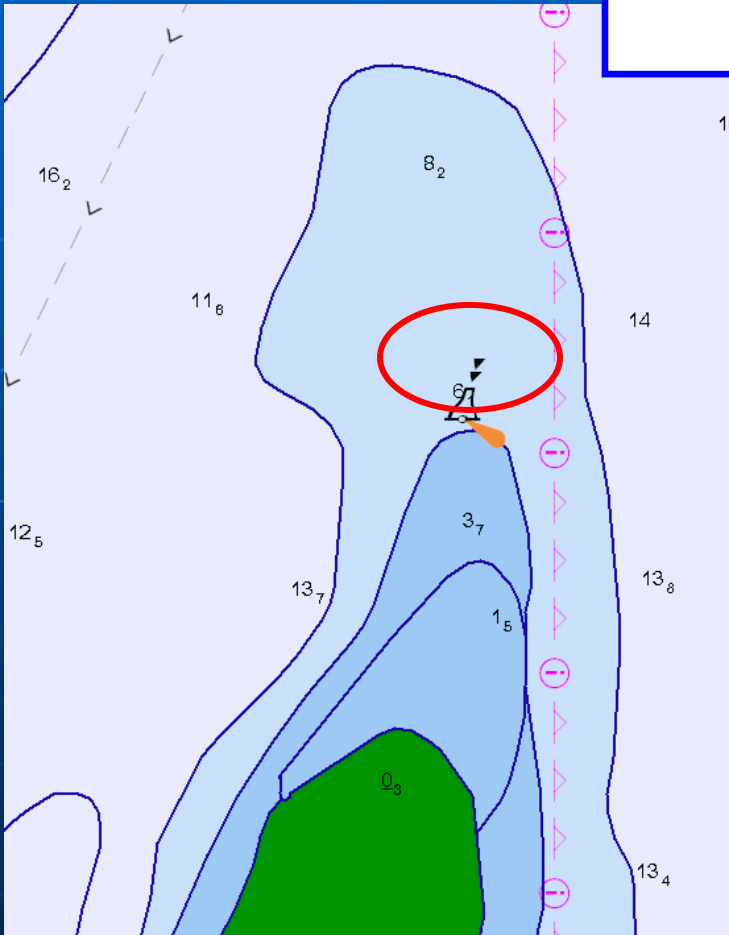
- use of SCAMIN must be coordinated
 - at least on a regional basis



Incorrect encoding / chart conversion

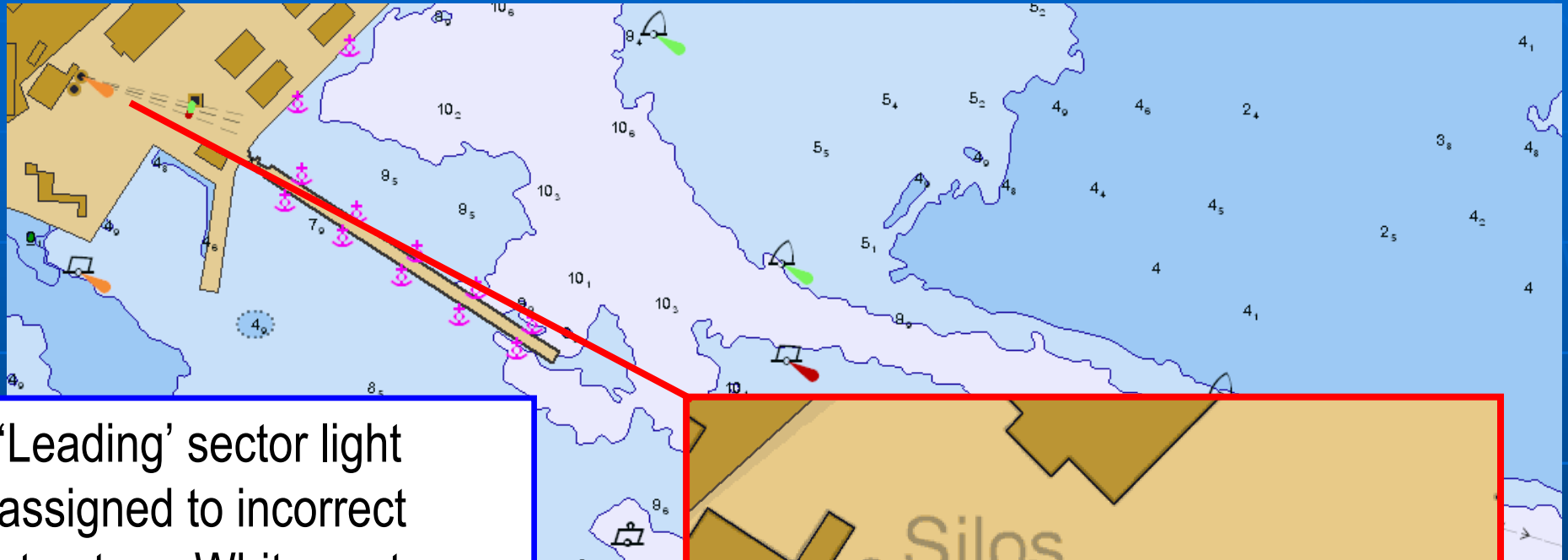


Incorrect coding of
buoy topmarks

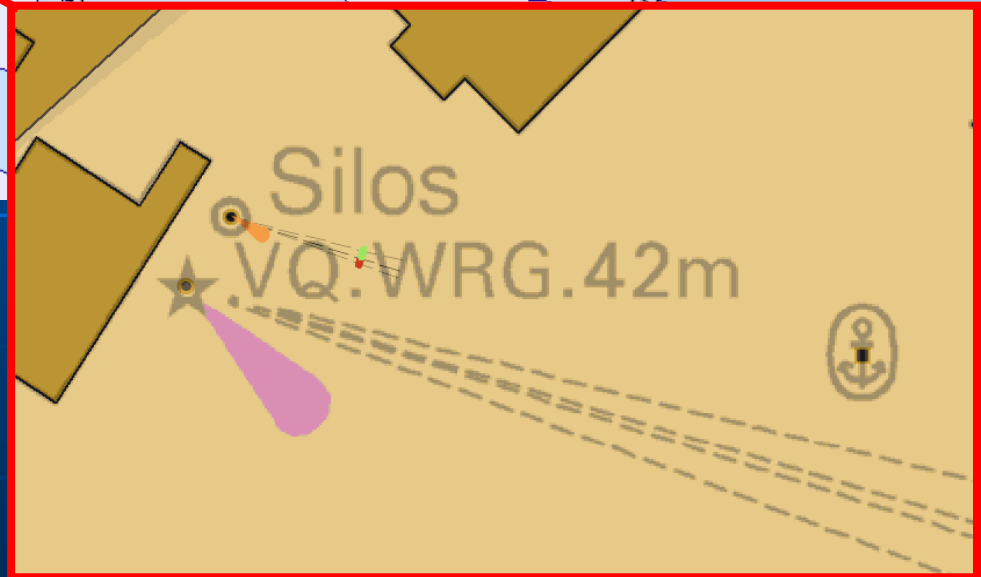




Incorrect encoding / chart conversion

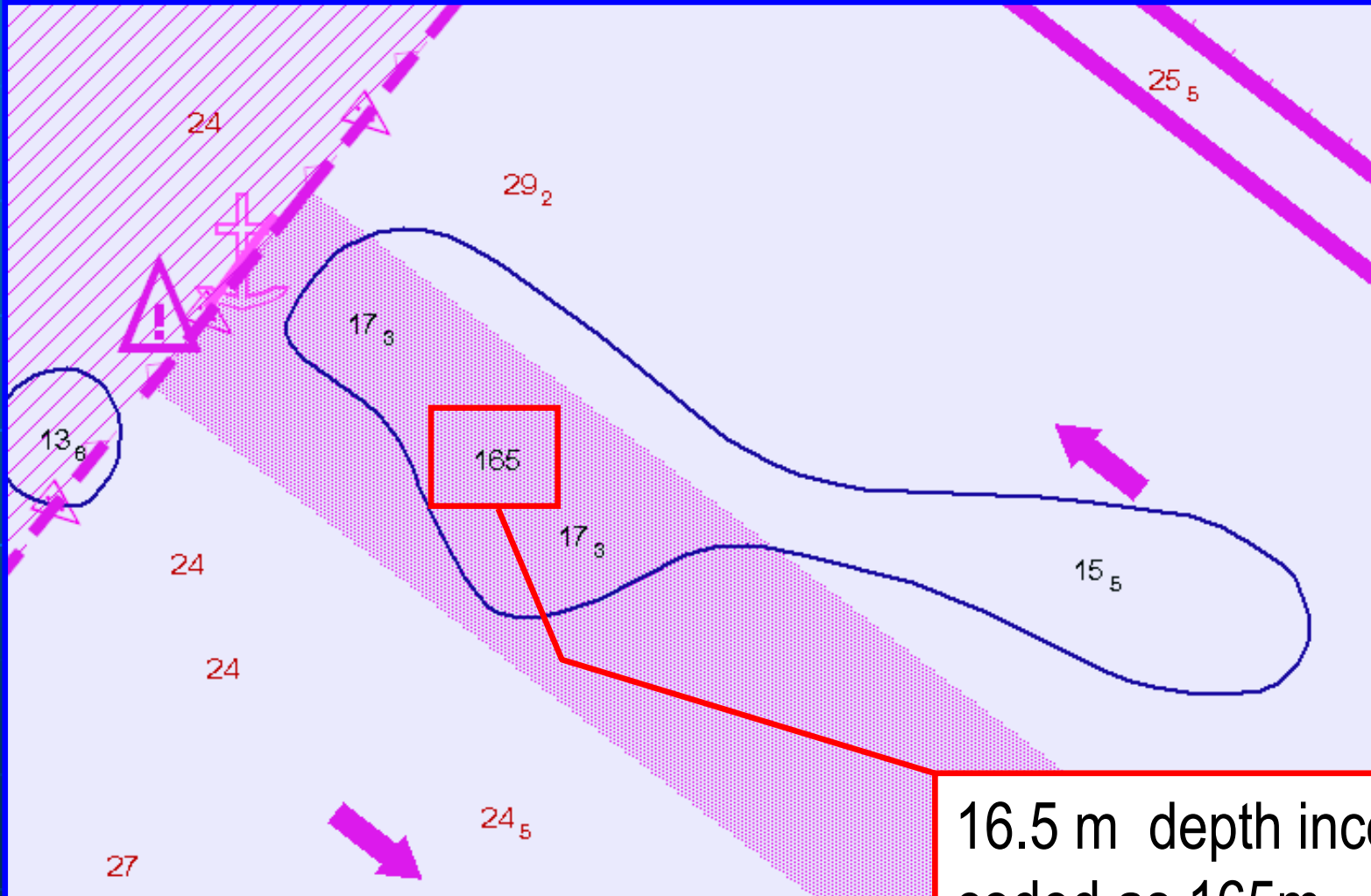


'Leading' sector light assigned to incorrect structure. White sector offset from channel





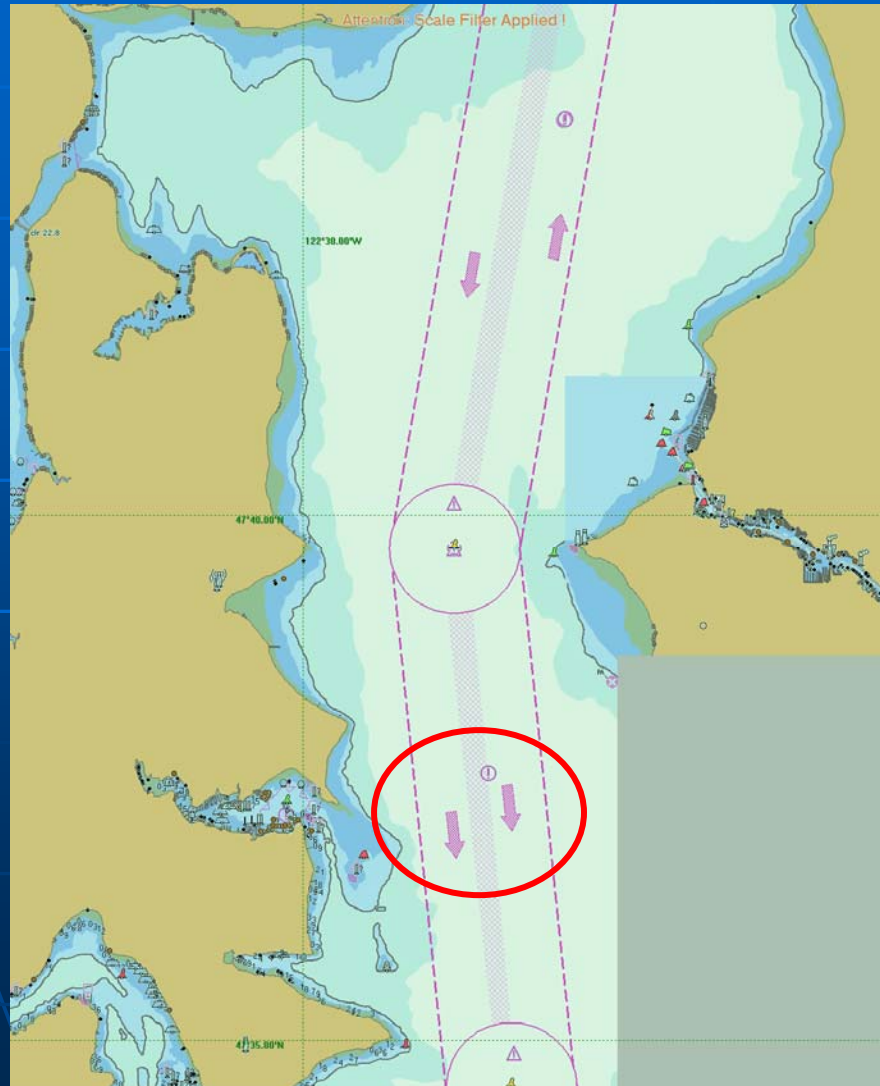
Incorrect encoding / chart conversion



16.5 m depth incorrectly coded as 165m

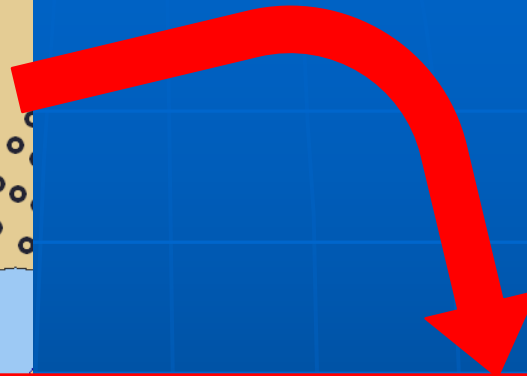
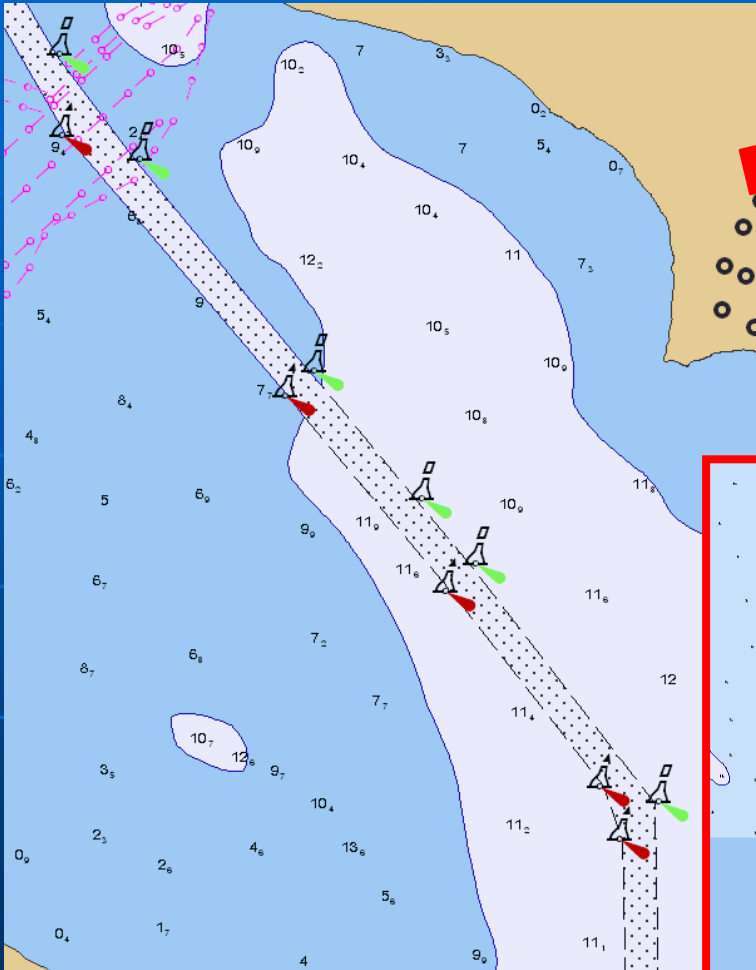


Incorrect encoding / chart conversion

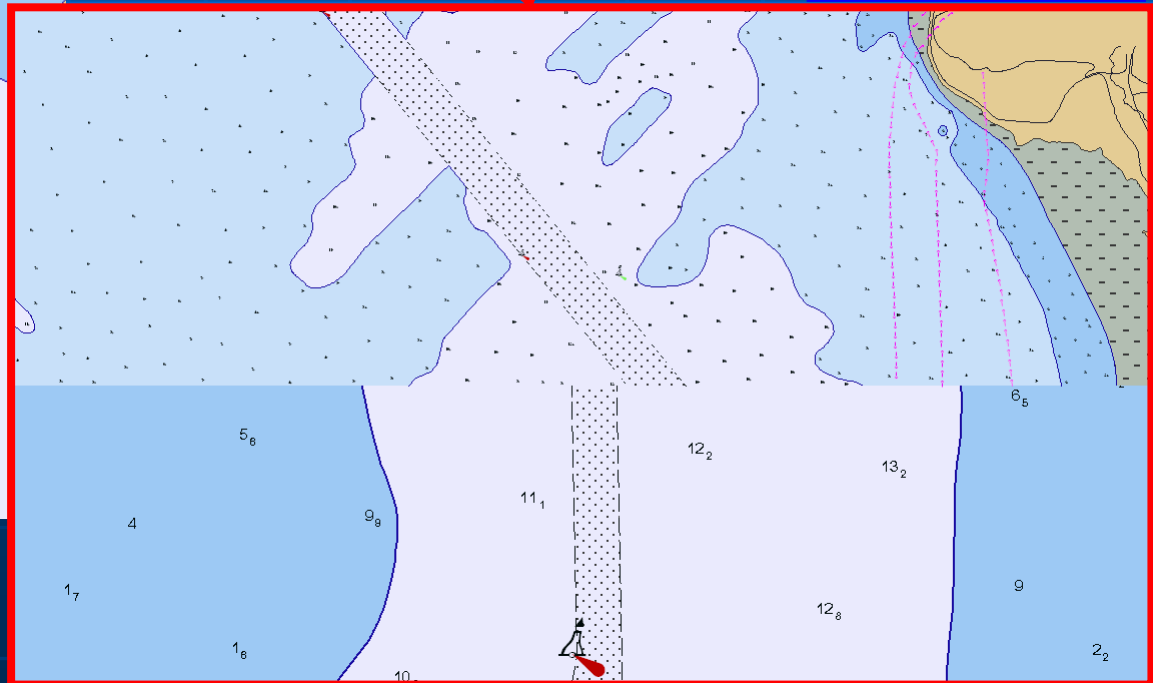




Incorrect encoding / chart conversion

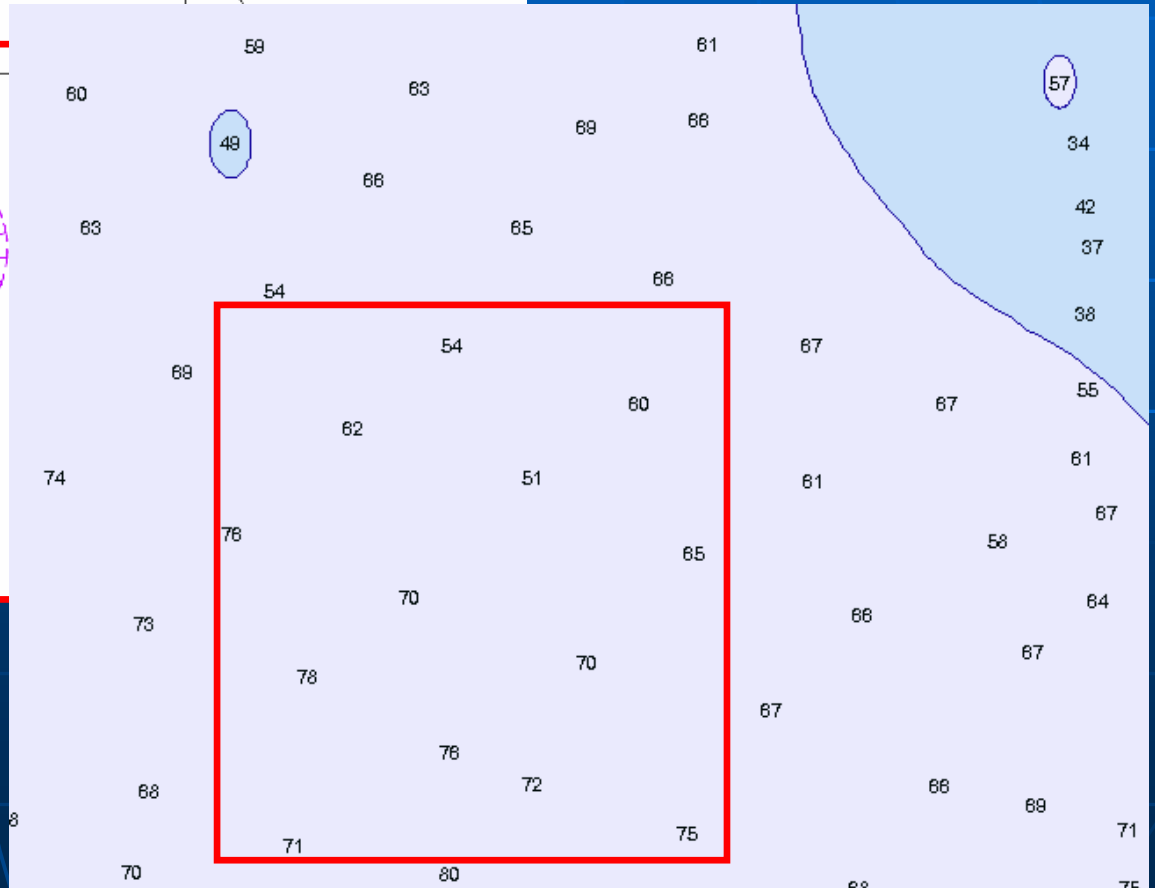
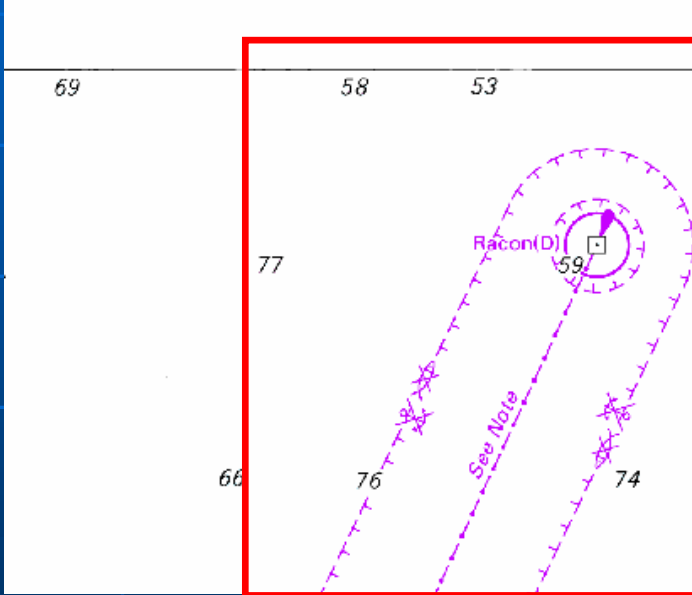
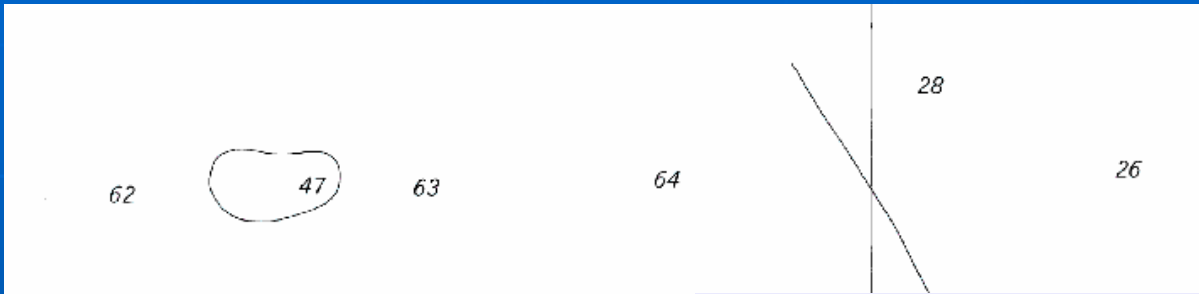


zoom-in





Incorrect encoding / chart conversion



Oil Terminal,
Pipeline, Prohibited
Area, Racon and
Light not shown on

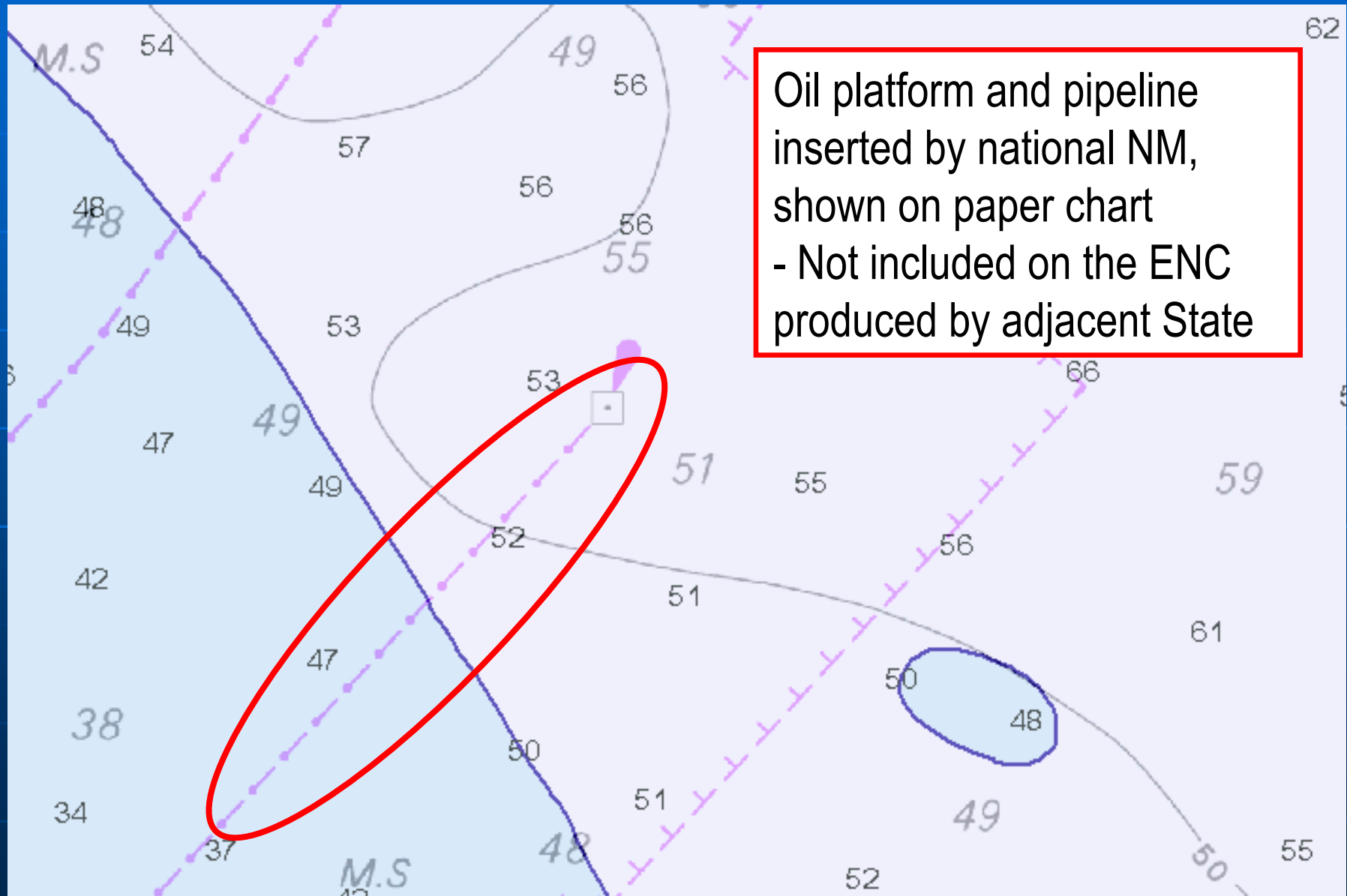


Conclusions - 3 :

- ✦ Efficient mechanisms to cross-check ENC with paper charts are required
- ✦ Anomalies must be rectified once identified

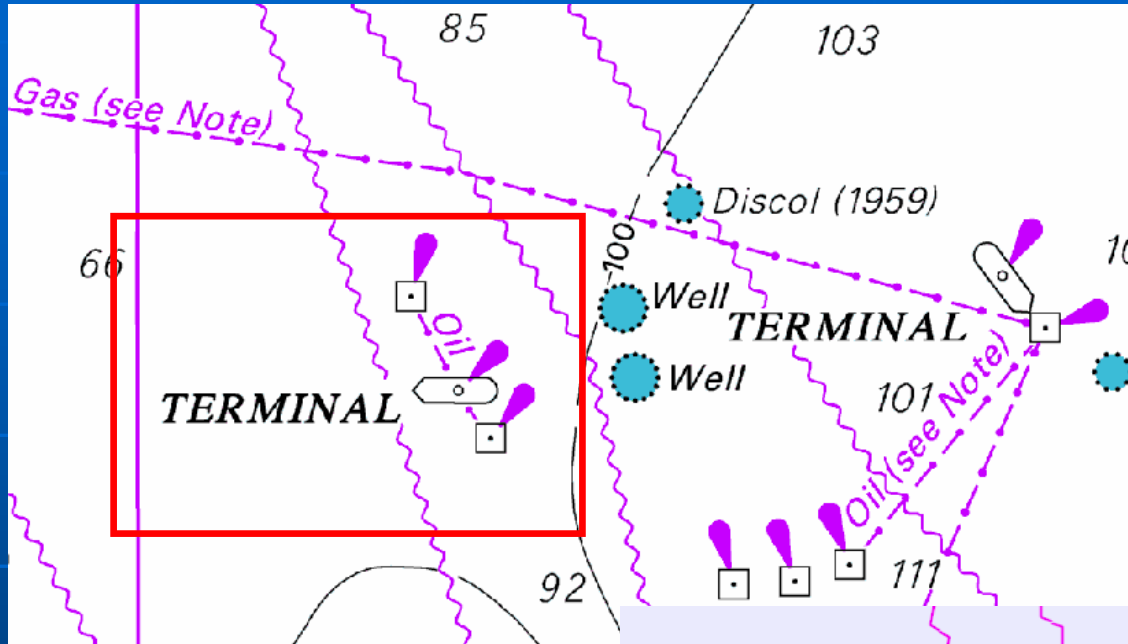


Incorrect or ambiguous ENC data

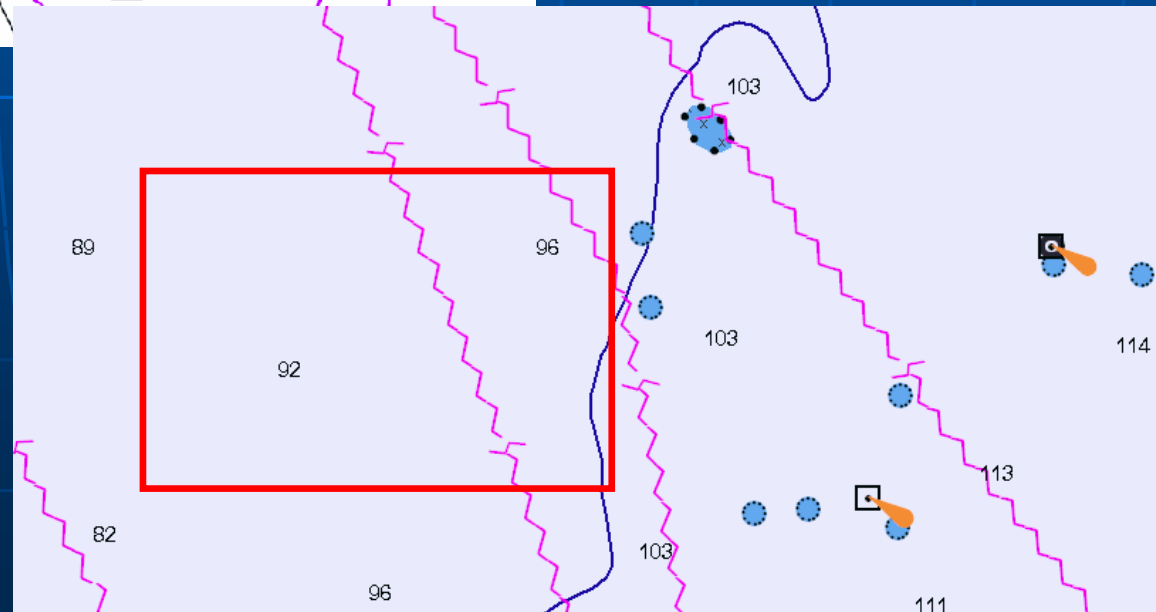




Incorrect or ambiguous ENC data



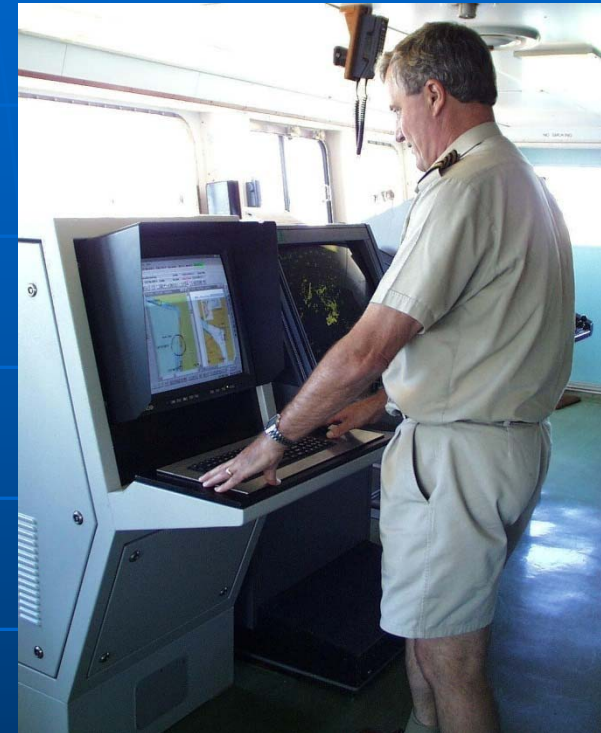
Oil platforms reported by national NtoM and included on BA chart – not included on national ENC





Incorrect or ambiguous ENC data

- Mariners are now commenting :
 - paper charts and ENCs do not agree
 - some ENCs are not being updated at all
 - some ENC updates take much longer than NtoMs





Conclusions - 4 :

- ✦ ENC producers are failing to cross-check ENCs with paper charts
- ✦ Significant (and potentially dangerous) differences between the paper chart and ENC cannot be tolerated



WEND Paper

- ★ *Guidelines for the Implementation of the WEND Principles*
 - summary of key points in here



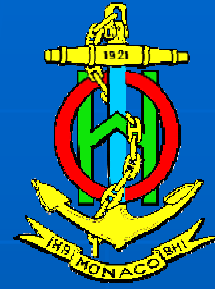
Summary

1. Overlapping data is unacceptable
2. Adjacent ENCs must be consistent in their appearance and functionality
 - ★ Regional coordination is required



Summary

3. Information in ENC's and paper charts must not conflict
4. Widespread ENC anomalies are undermining the credibility of ALL HO's
 - ★ Rigorous checking is required
 - ★ ENC updating must be harmonized with paper charts



ENC Consistency