

## **Mission Layout**

*Default layout for SM beta*

Wind 40 30 20 10 20 30 40

**Steadfast**  **All Stop**

Speed: **10.4** Kts RPM: **07**





Heading **320 310 300 290 280**

Position: **07 03.741 N**  
**116 35.301 E**

**Video** **Radar** **Status**

**Mission Tools**

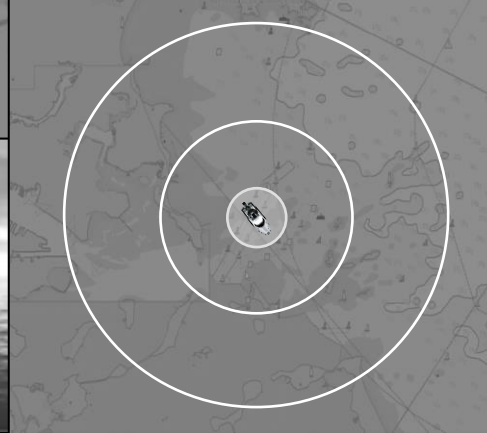
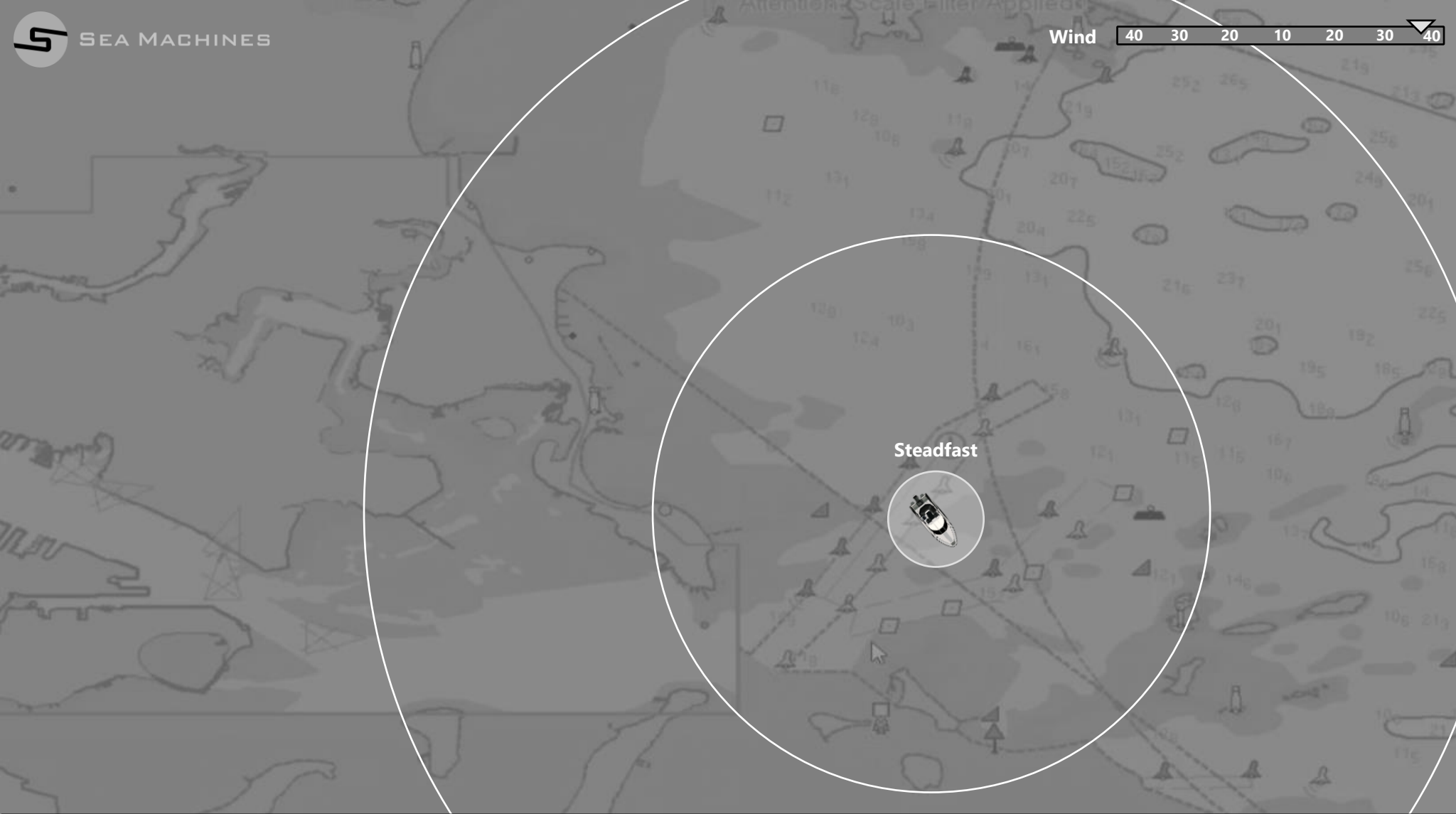
**New Mission** **Load Mission**

 **Edit**  **Stored**  **Remove**  **Save**

**Map Overlays**

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

**Map Tools**



Speed: **10.4** Kts RPM: **07**

Heading **320 310 300 290 280**

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

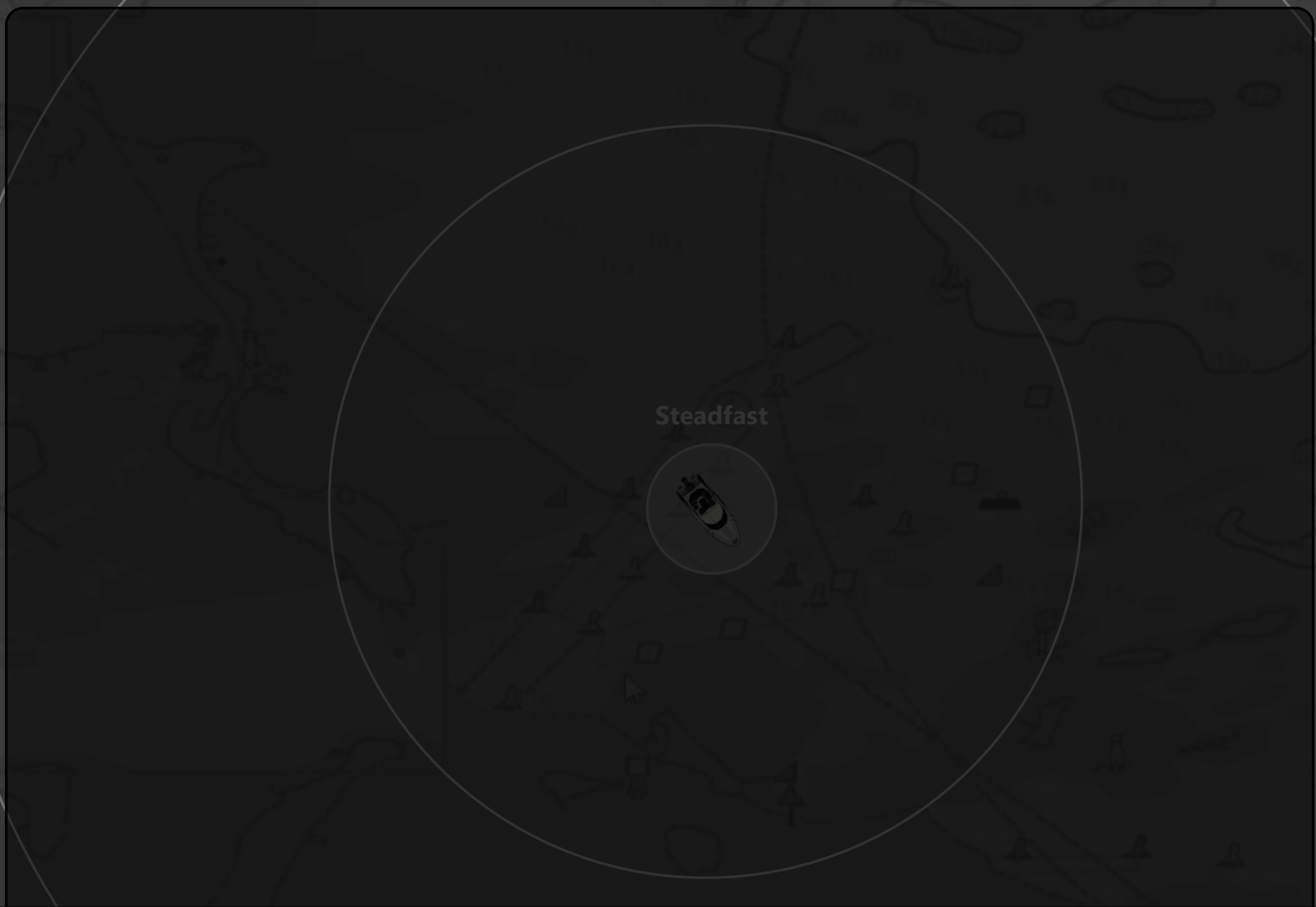
Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

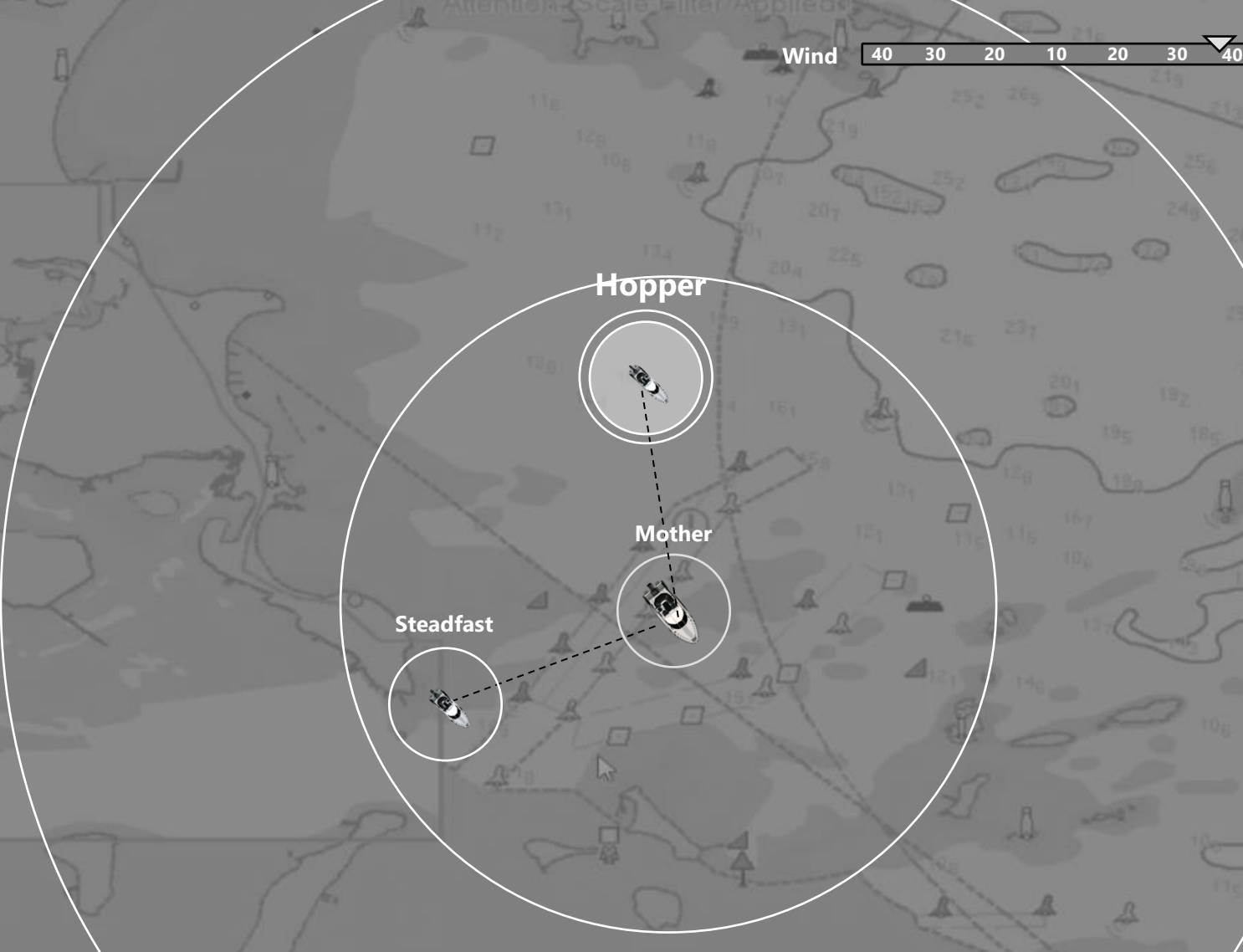
Map Tools



## **Multi Vessel Layout**

*Default layout collaborative following*

Wind 40 30 20 10 20 30 40



**Hopper** All Stop  
 Following  
 Speed: **10.4** Kts RPM: **07**  
 Heading 320 310 300 290 280  
 Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

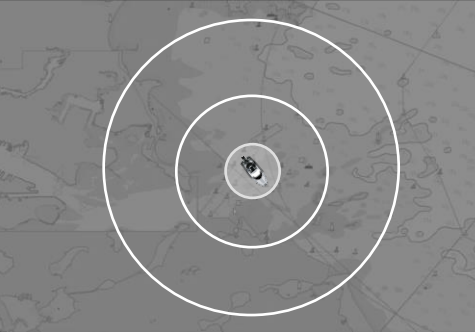
**Steadfast** All Stop  
 Following  
 Speed: **11.2** Kts RPM: **06**  
 Heading 320 310 300 290 280  
 Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

**Map Overlays** ▼

Radar  OFF    AIS  OFF  
 ARPA  ON    Camera  ON

**Map Tools** ▼



Wind 40 30 20 10 20 30 40

Hopper  All Stop

Following  
Speed: **10.4** Kts RPM: **07**  
Heading **320 310 300 290 280**  
Position: **07 03.741 N**  
**116 35.301 E**

[Video](#) [Radar](#) [Status](#)

Steadfast  All Stop

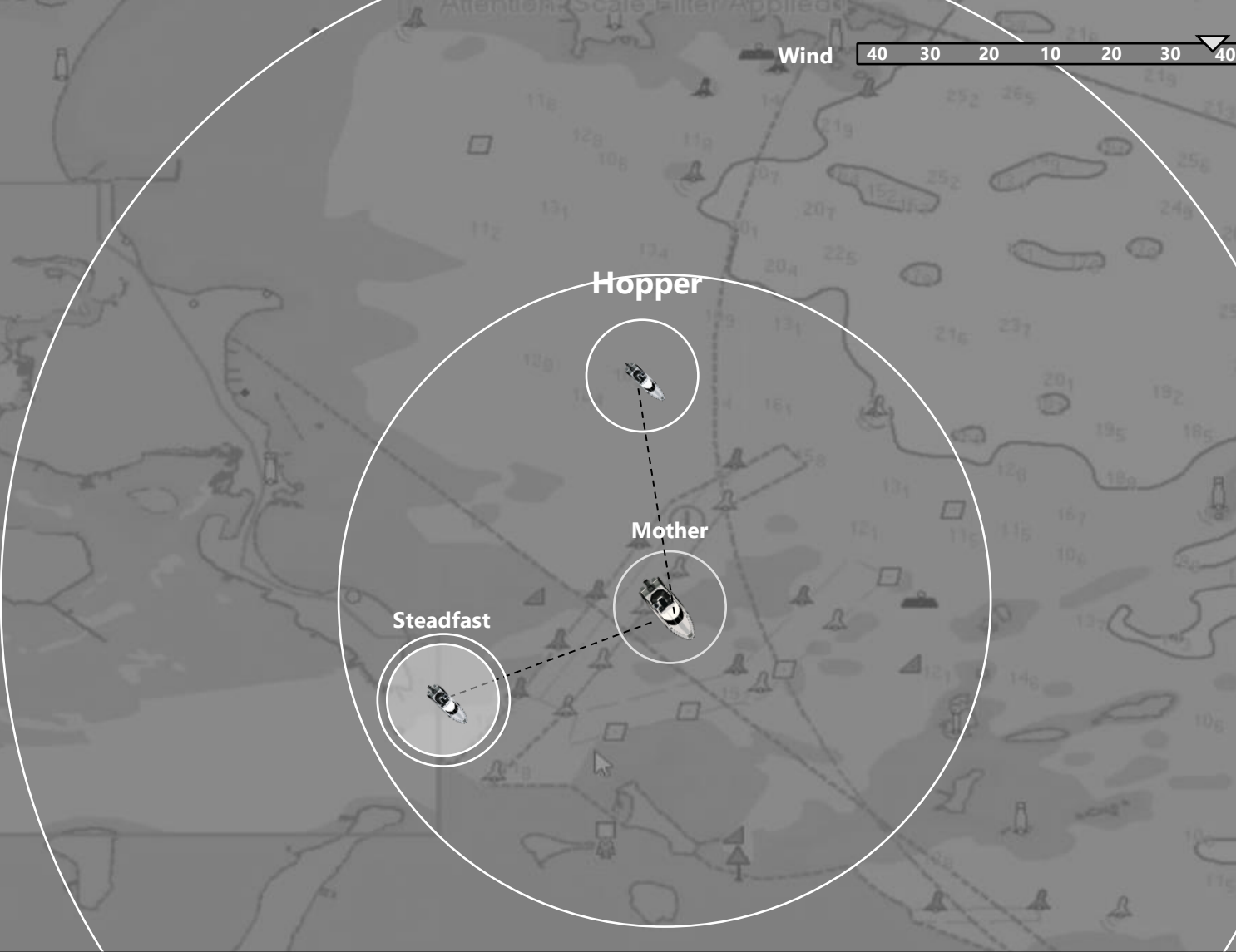
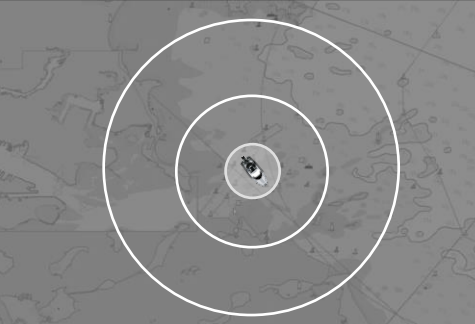
Following  
Speed: **11.2** Kts RPM: **06**  
Heading **320 310 300 290 280**  
Position: **07 03.741 N**  
**116 35.301 E**

[Video](#) [Radar](#) [Status](#)

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools



## **Create a Mission**

*As a Captain I want to create a mission so that I can the launch the mission autonomously.*

Wind 40 30 20 10 20 30 40

Steadfast Autonomous All Stop

Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



Manual





Speed: **10.4** Kts RPM: **07**

Heading 320 310 **300** 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools

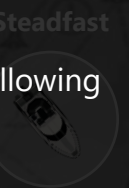


Manual

### Create New Mission

Select Mission Type:

- Waypoint
- Survey
- Collaborative Following
- Patrol



Cancel Save



Speed: **10.4** Kts RPM: **07**

Heading 320 310 **300** 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



Manual

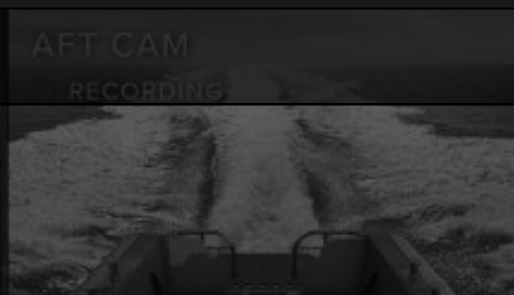
### Create New Mission

Select Mission Type:

- Waypoint
- Survey
- Collaborative Following
- Patrol

Enter Mission Name:

Cancel Save



New Mission Load Mission

Edit Stored Remove Save

Radar  OFF AIS  OFF

ARPA  ON Camera  ON



Manual

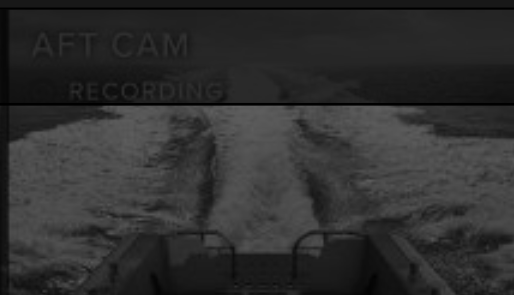
### Create New Mission

Select Mission Type:

- Waypoint
- Survey
- Collaborative Following
- Patrol

Enter Mission Name:

Cancel Save



Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



Manual

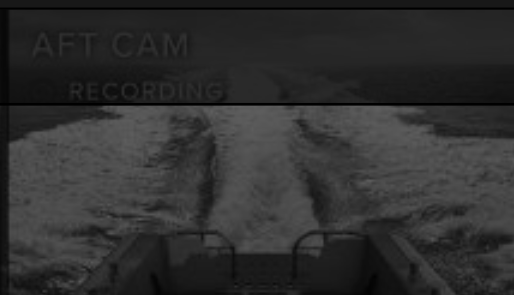
### Create New Mission

Select Mission Type:

- Waypoint
- Survey
- Collaborative Following
- Patrol

Enter Mission Name:

Cancel Save



Speed: **10.4** Kts RPM: **07**

Heading 320 310 **300** 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



Manual

### Create New Mission

Select Mission Type:

- Waypoint
- Survey
- Collaborative Following
- Patrol**

Enter Mission Name:

Cancel Save



Manual

### Create New Mission

Select Mission Type:

- Waypoint
- Survey
- Collaborative Following
- Patrol

Enter Mission Name:

New Mission 1

Cancel Save

PORT CAM  
 RECORDING

FWD CAM  
 RECORDING

AFT CAM  
 RECORDING

STBD CAM  
 RECORDING



New Mission Load Mission

Edit Stored Remove Save

Radar  OFF AIS  OFF

ARPA  ON Camera  ON



Manual

### Create New Mission

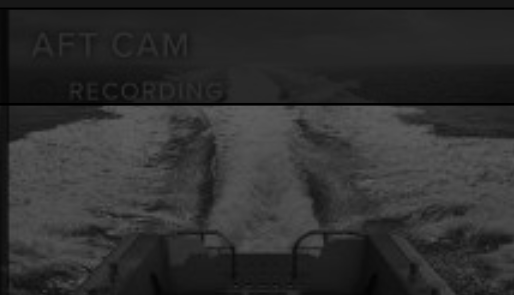
Select Mission Type:

- Waypoint
- Survey
- Collaborative Following
- Patrol

Enter Mission Name:

New Mission 1

Cancel Save



New Mission Load Mission

Edit Stored Remove Save

Radar  OFF AIS  OFF

ARPA  ON Camera  ON



Manual

### Create New Mission

Select Mission Type:

- Waypoint
- Survey
- Collaborative Following
- Patrol

Enter Mission Name:

New Mission 1

Cancel Save

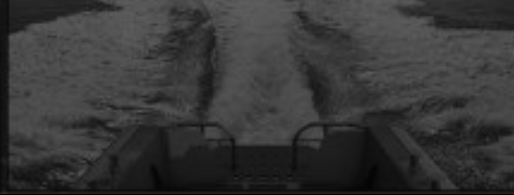
PORT CAM RECORDING



FWD CAM RECORDING



AFT CAM RECORDING



STBD CAM RECORDING





New Mission Load Mission

Edit Stored Remove Save

Radar  OFF AIS  OFF

ARPA  ON Camera  ON



Manual

### Create New Mission

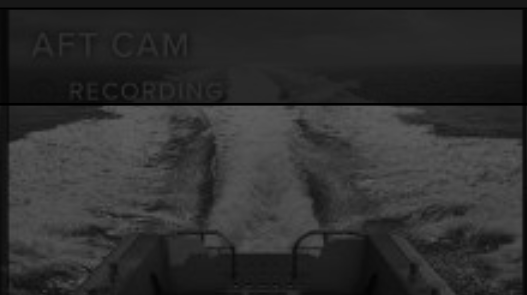
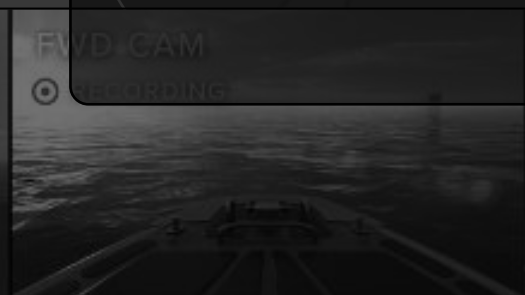
Select Mission Type:

- Waypoint
- Survey
- Collaborative Following
- Patrol

Enter Mission Name:

New Mission 1

Cancel Save



Speed: **10.4** Kts RPM: **07**

Heading **320 310 300 290 280**

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools

New Mission: New Mission 1

Left "Click" to create waypoint(s)  
Right "Click" to remove, save mission and other options.

Don't show this message again

Start Plotting a course



Speed: **10.4** Kts RPM: **07**

Heading **320 310 300 290 280**

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools

New Mission: New Mission 1

Left "Click" to create waypoint(s)  
Right "Click" to remove, save mission and other options.

Don't show this message again

Start Plotting a course



Wind 40 30 20 10 20 30 40

**Steadfast** Autonomous All Stop

Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools



Wind 40 30 20 10 20 30 40

Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

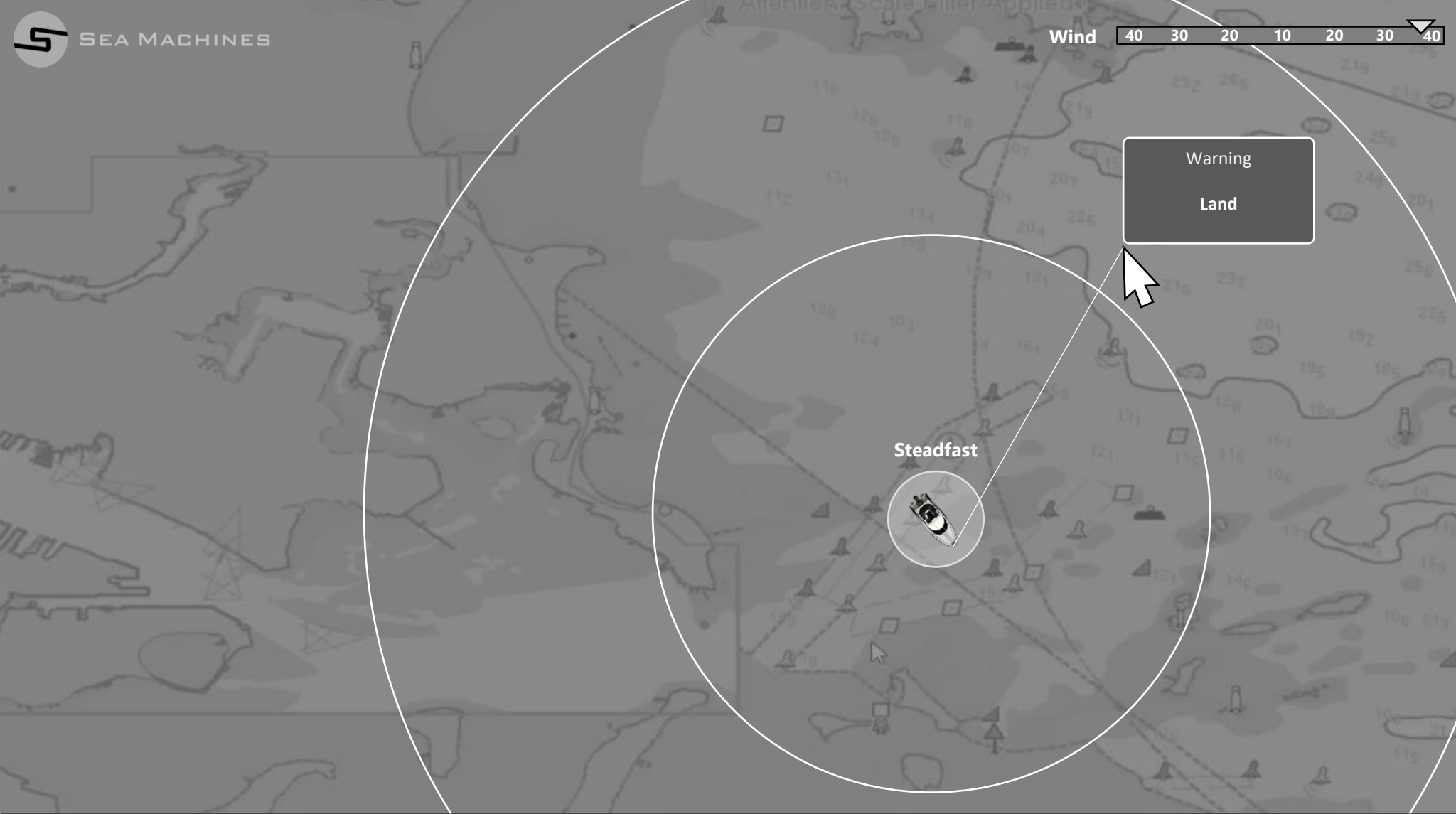
Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

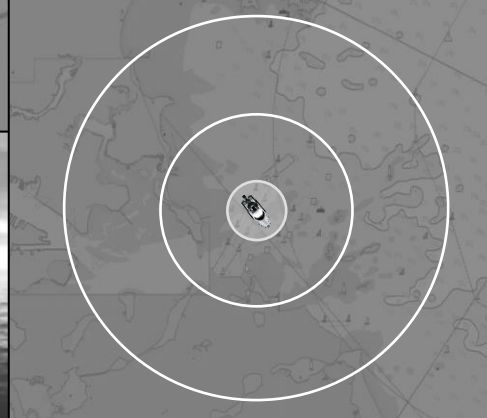
Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



Place waypoint 1  
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E

Steadfast



Wind 40 30 20 10 20 30 40

**Steadfast** Autonomous All Stop

Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools



Wind 40 30 20 10 20 30 40

Steadfast Autonomous

All Stop

Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

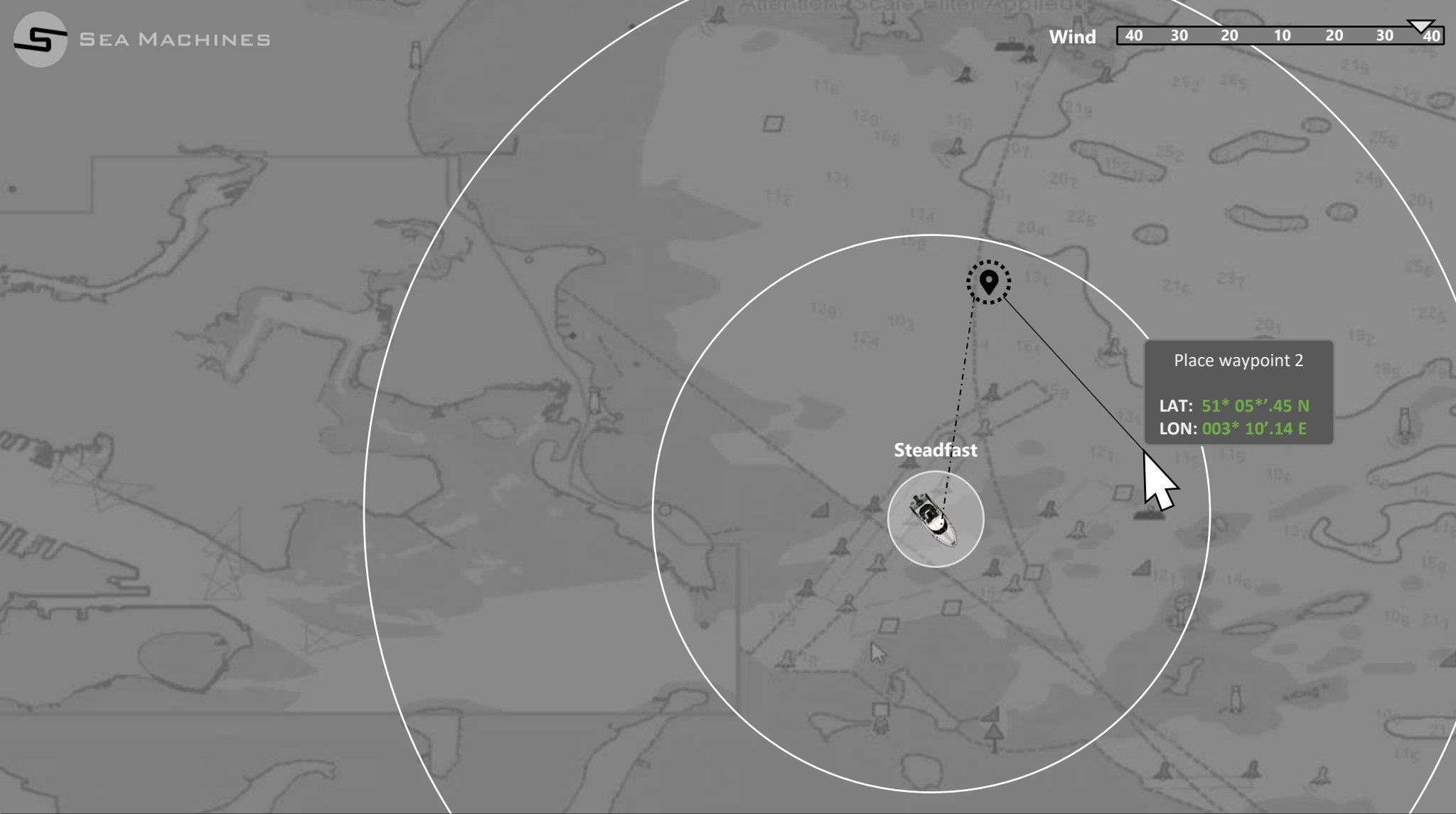
New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar OFF AIS OFF  
ARPA ON Camera ON

Map Tools





Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

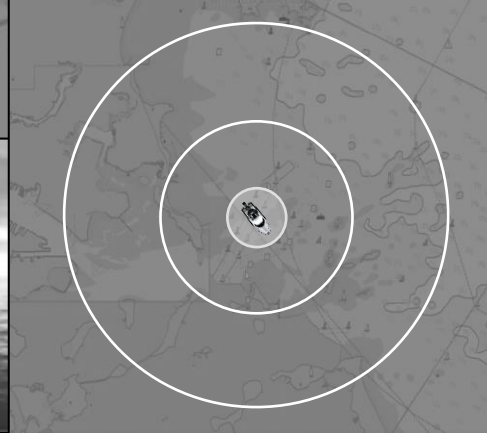
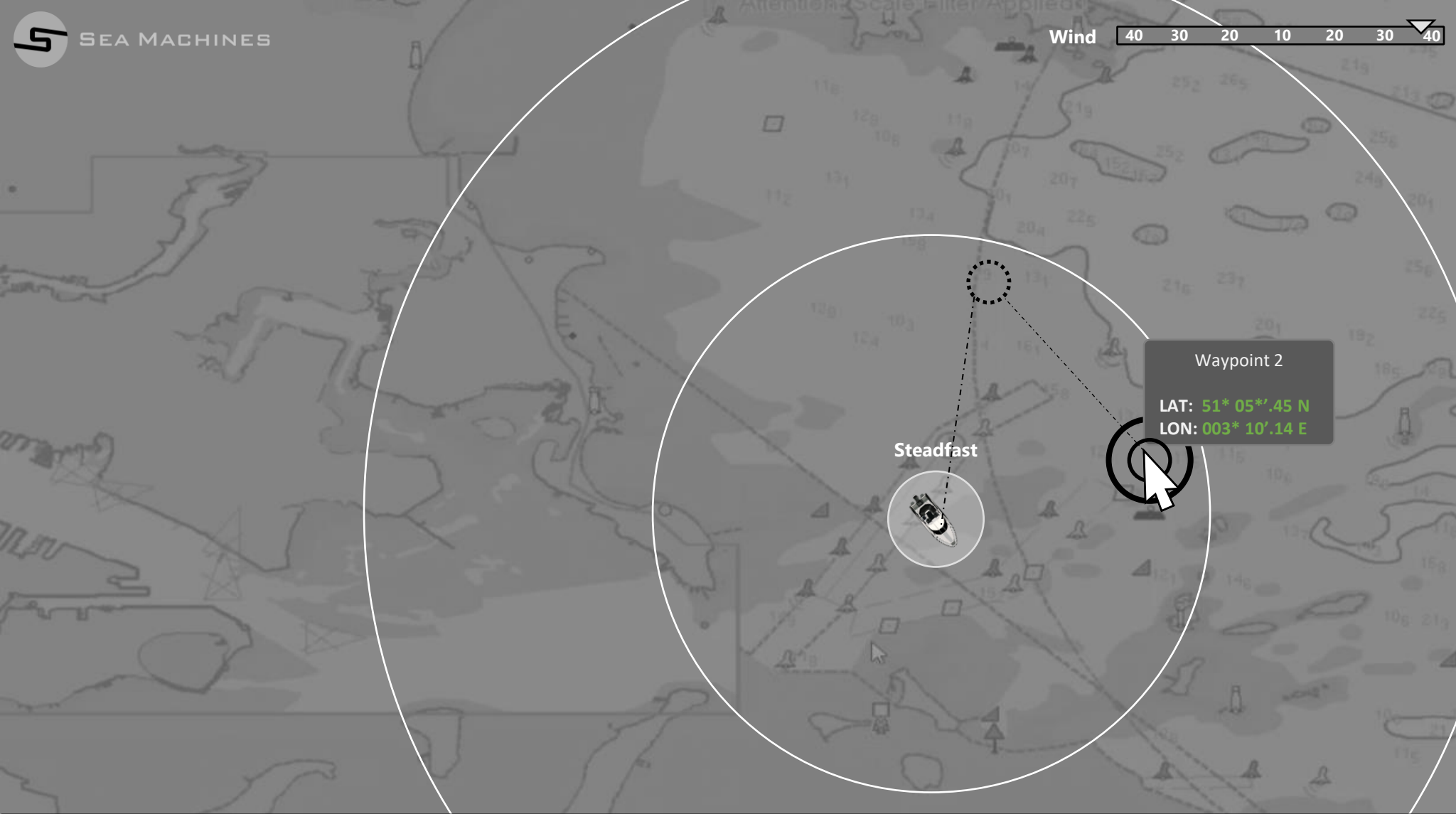
New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools



Wind 40 30 20 10 20 30 40

**Steadfast** Autonomous All Stop

Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

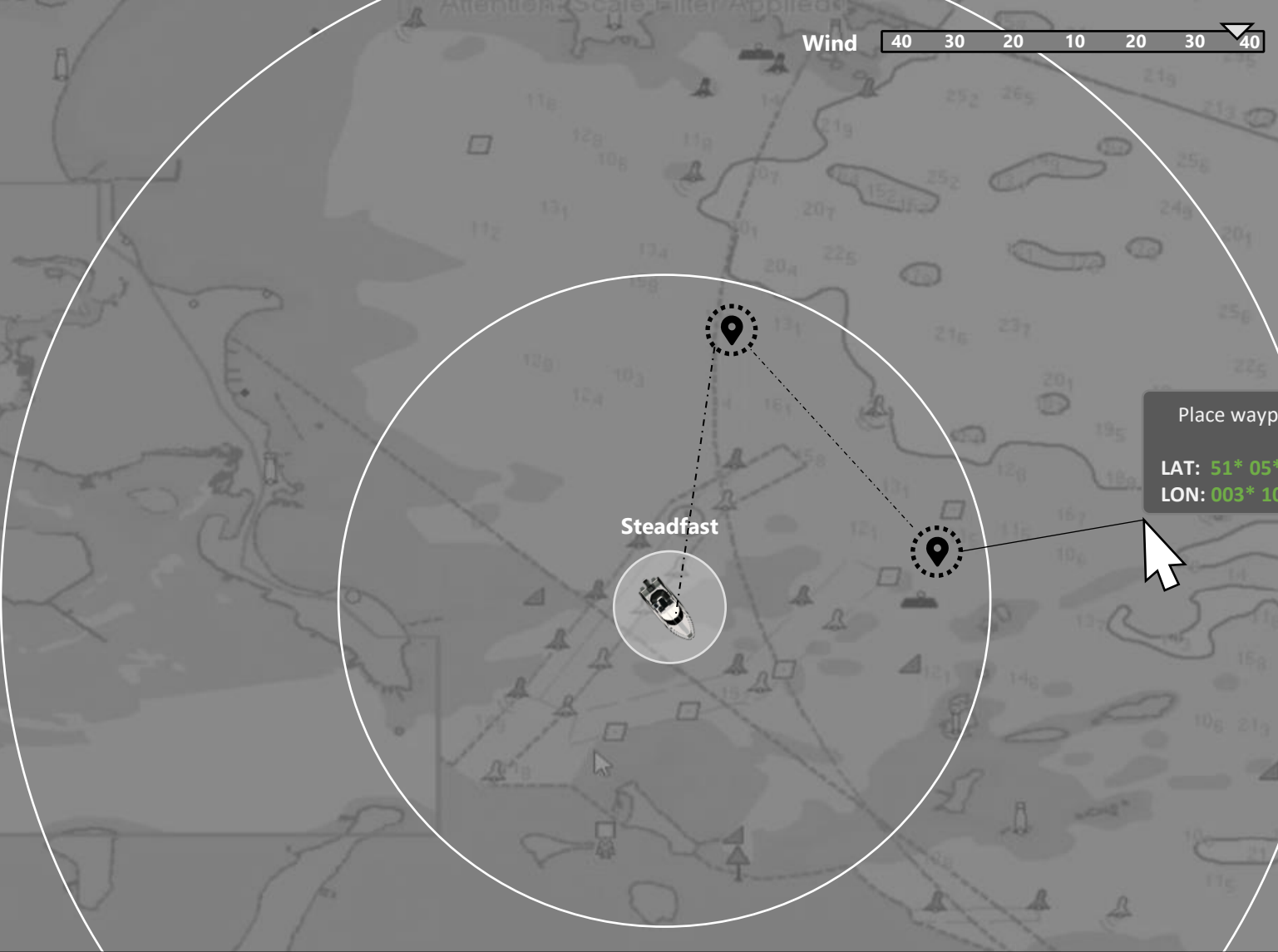
Save Mission Load Mission

Edit Stored Remove Save

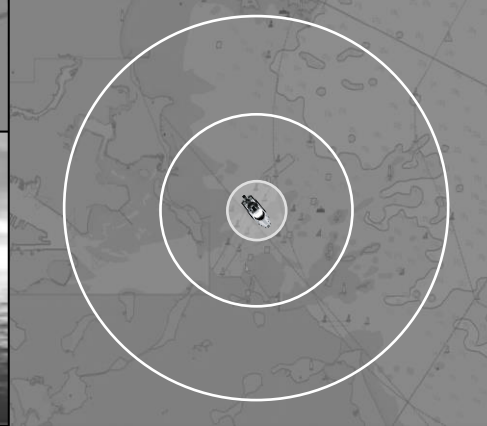
Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools



Place waypoint 3  
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E



Wind 40 30 20 10 20 30 40

**Steadfast**  **All Stop**

Speed: **10.4** Kts RPM: **07**





Heading **320 310 300 290 280**

Position: **07 03.741 N**  
**116 35.301 E**

**Video** **Radar** **Status**

**Mission Tools**

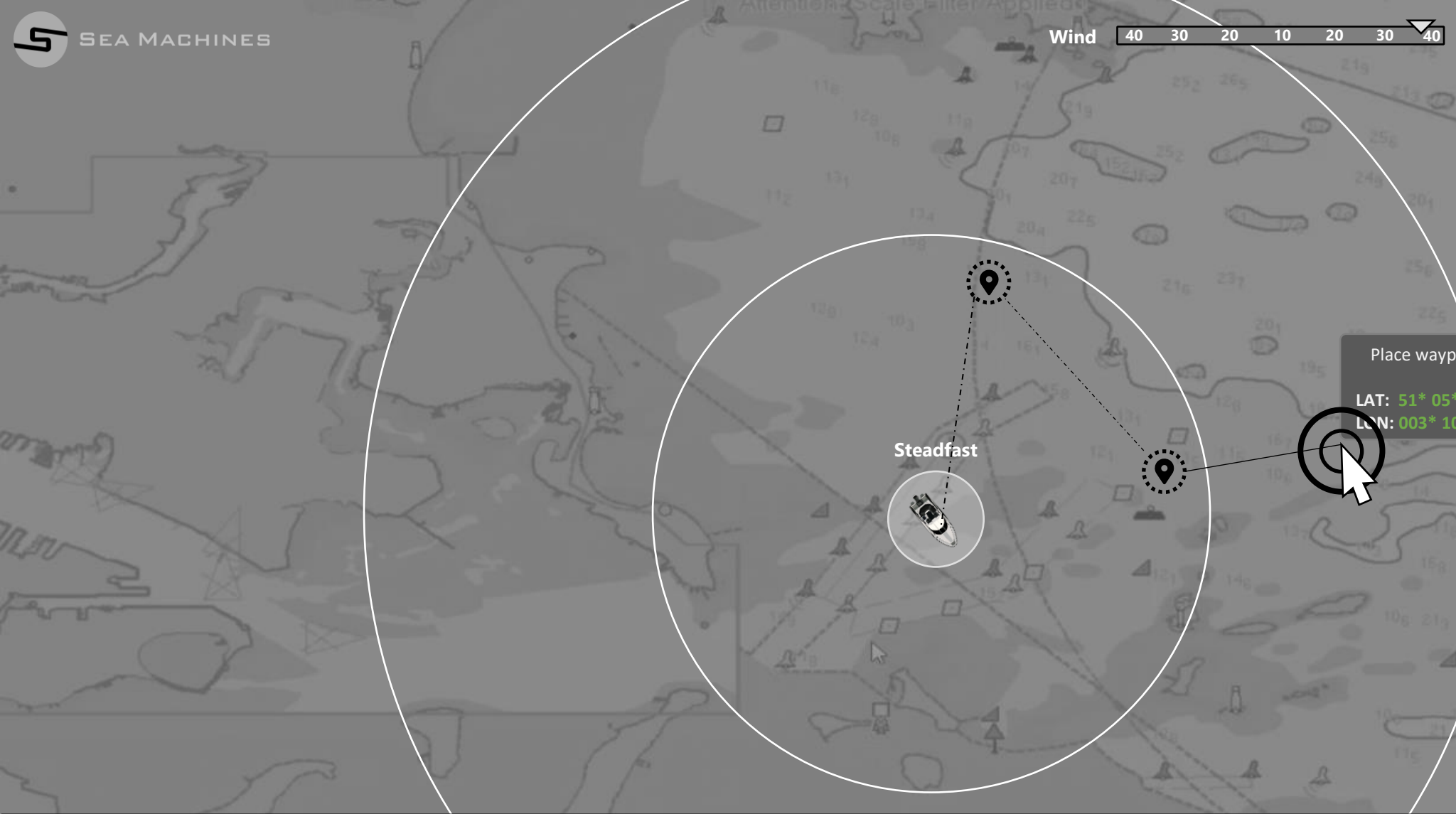
**Save Mission** **Load Mission**

 **Edit**  **Stored**  **Remove**  **Save**

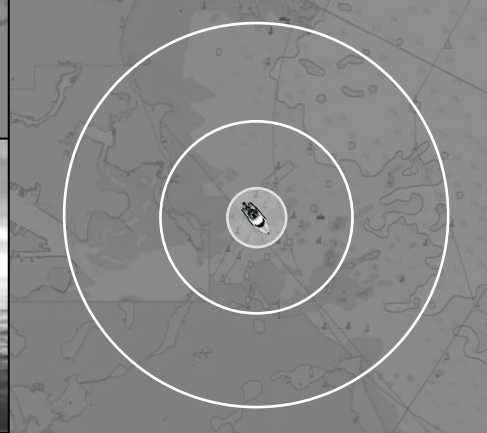
**Map Overlays**

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

**Map Tools**



Place waypoint 3  
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E



Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

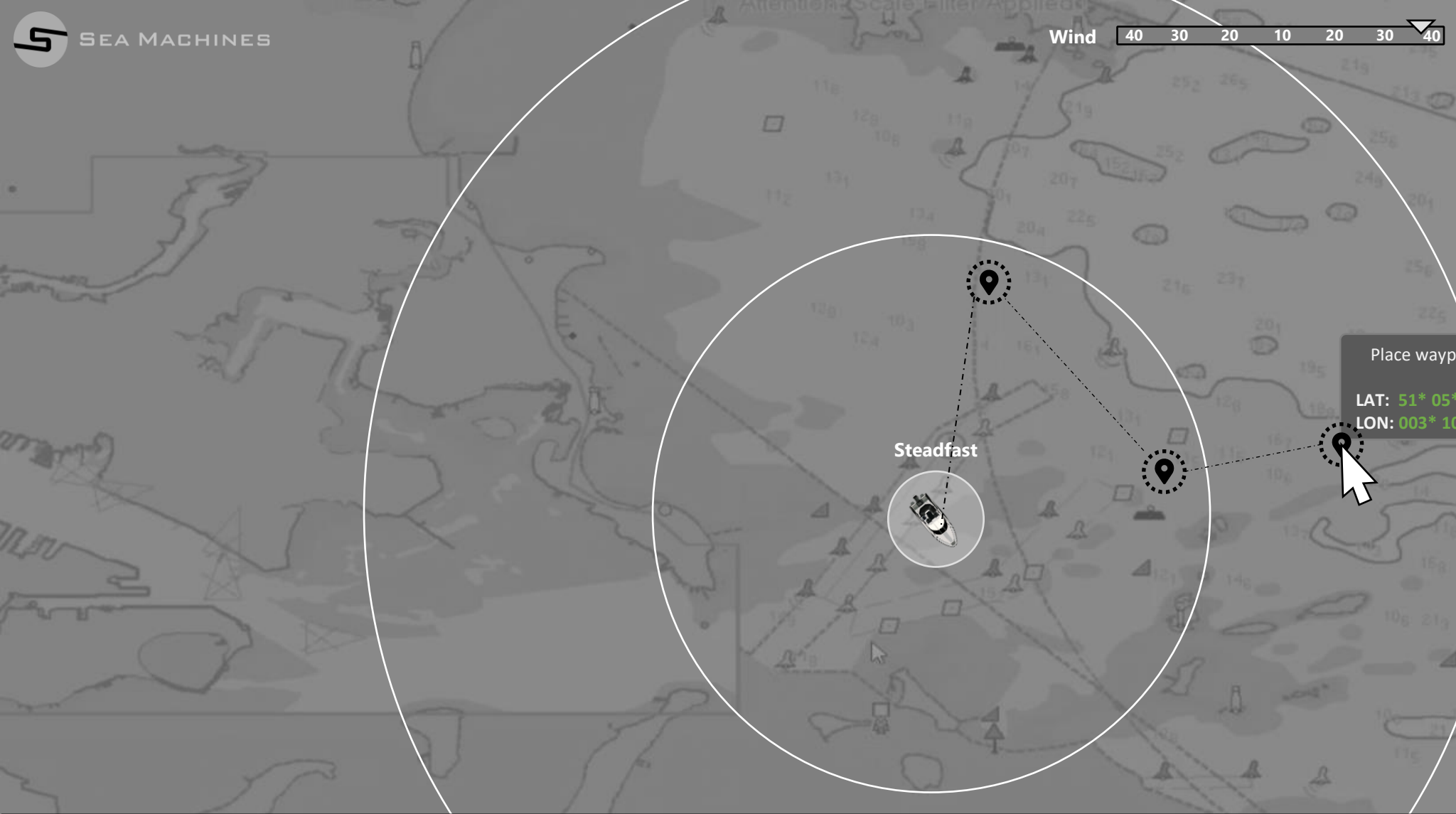
Save Mission Load Mission

Edit Stored Remove Save

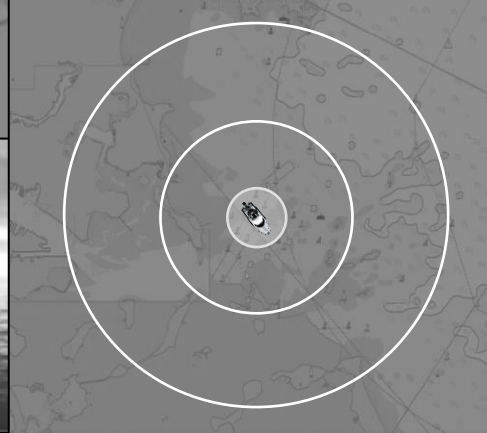
Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools



Place waypoint 3  
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E



Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

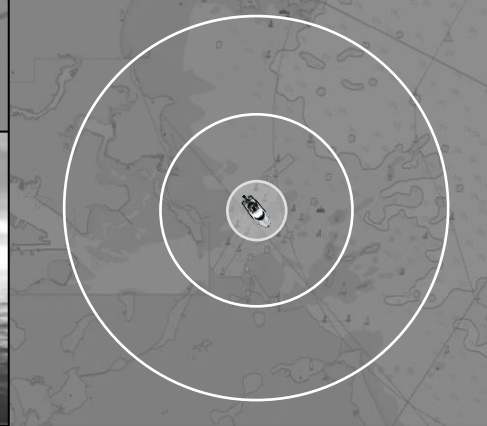
New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools



Mission Tools

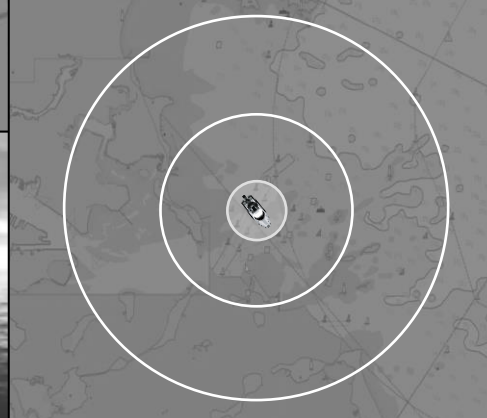
Press "Deploy" to begin:  
Mission 1 Edit

Deploy Mission Cancel

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools



**Mission Saved**

This mission is has been saved.  
To run this mission Click the  
"Deploy" button above

Close



Wind 40 30 20 10 20 30 40

**Steadfast**  
Autonomous

All Stop

Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

Press "Deploy" to begin:  
Mission 1



Edit

Deploy Mission

Cancel

Map Overlays

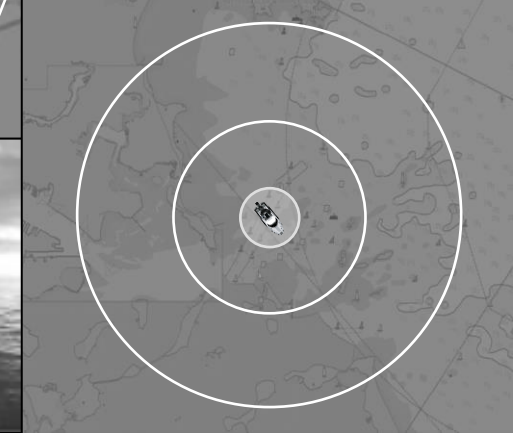
Radar  OFF

AIS  OFF

ARPA  ON

Camera  ON

Map Tools



Speed: **10.4** Kts RPM: **07**

Heading **320 310 300 290 280**

Position: **07 03.741 N  
116 35.301 E**

**Video** **Radar** **Status**

**Mission Tools**

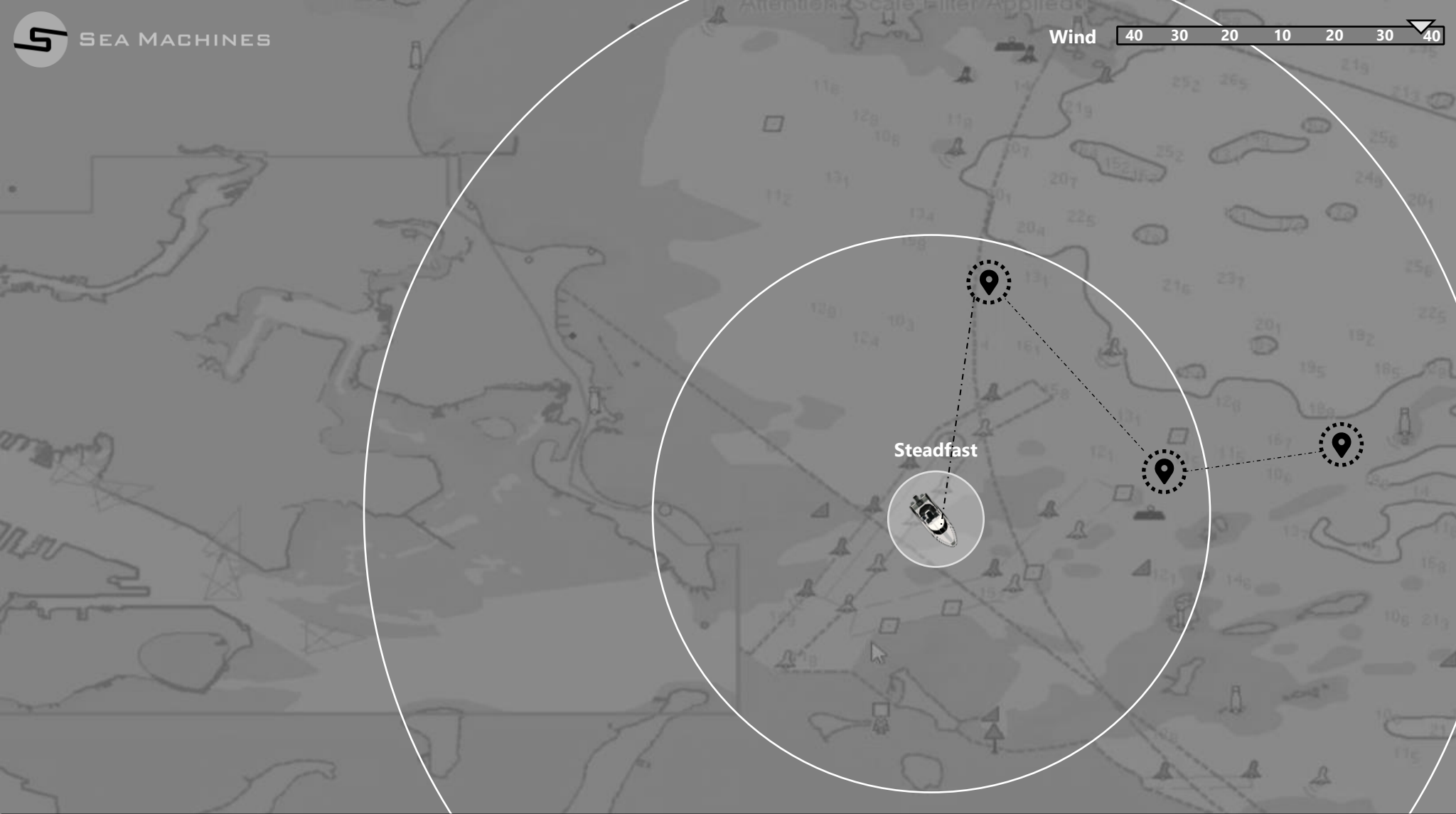
Current Mission: **Mooring to fishing new point in Newport**  **Edit**

**Deploy Mission** **Abort Mission**

**Map Overlays**

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

**Map Tools**





## **Load a Mission**

*As a Captain I want to load a saved a mission so that I can the launch the mission autonomously.  
(This scenario makes the assumption you are currently running a mission).*

Wind 40 30 20 10 20 30 40

**Steadfast** Autonomous All Stop

Speed: **10.4** Kts RPM: **07**

Heading 320 310 300 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

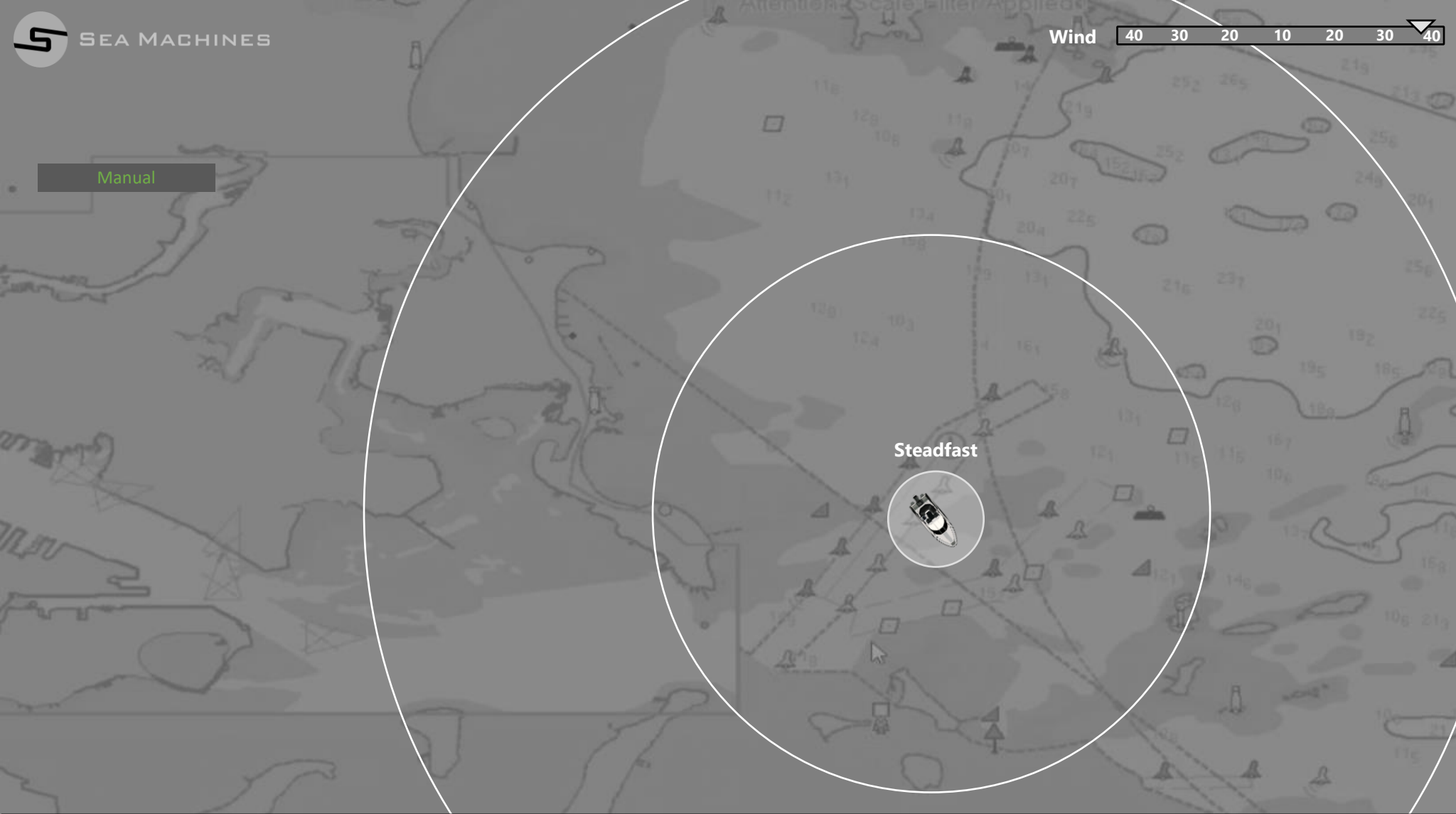
Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



Manual



Speed: **10.4** Kts RPM: **07**

Heading 320 310 **300** 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



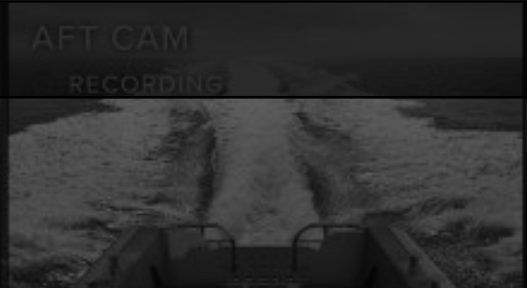
Manual

### Load Saved Mission

Select Mission:

- Captains Island 2-2-18
- Newport Harbor
- Test Survey 1-15-18
- Harbor Patrol
- Learning Demo Collaborative
- Simple Follow 1-18-18

Cancel Load Mission



Speed: **10.4** Kts RPM: **07**

Heading 320 310 **300** 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools

Manual

### Load Saved Mission

Select Mission:

- Captains Island 2-2-18
- Newport Harbor
- Test Survey 1-15-18
- Harbor Patrol
- Learning Demo Collaborative
- Simple Follow 1-18-18

Cancel Load Mission

PORT CAM  
 RECORDING

FWD CAM  
 RECORDING

AFT CAM  
 RECORDING

STBD CAM  
 RECORDING



Manual

### Load Saved Mission

Select Mission:

- Captains Island 2-2-18
- Newport Harbor
- Test Survey 1-15-18
- Harbor Patrol
- Learning Demo Collaborative
- Simple Follow 1-18-18

Cancel

Load Mission

PORT CAM  
RECORDING

FWD CAM  
RECORDING

AFT CAM  
RECORDING

STBD CAM  
RECORDING



New Mission Load Mission

Edit Stored Remove Save

Radar  OFF AIS  OFF

ARPA  ON Camera  ON



Manual

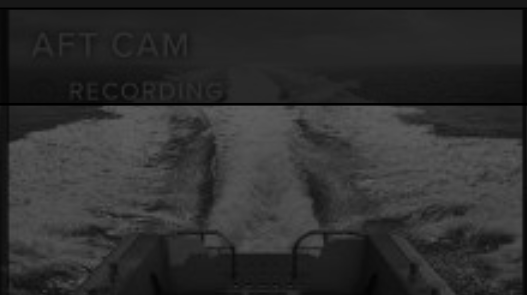
### Load Saved Mission

Select Mission:

- Captains Island 2-2-18
- Newport Harbor
- Test Survey 1-15-18
- Harbor Patrol
- Learning Demo Collaborative
- Simple Follow 1-18-18

Cancel

Load Mission



Speed: **10.4** Kts RPM: **07**

Heading 320 310 **300** 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



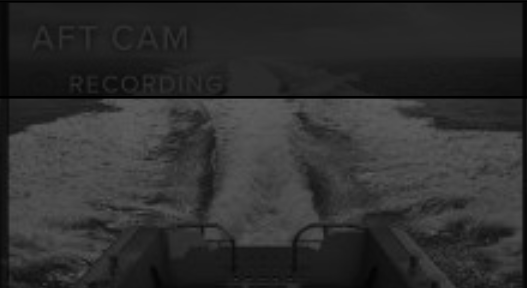
Manual

### Load Saved Mission

Select Mission:

- Captains Island 2-2-18
- Newport Harbor
- Test Survey 1-15-18
- Harbor Patrol
- Learning Demo Collaborative
- Simple Follow 1-18-18

Cancel Load Mission



Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



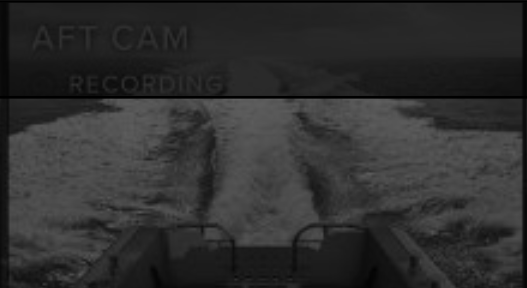
Manual

### Load Saved Mission

Select Mission:

- Captains Island 2-2-18
- Newport Harbor
- Test Survey 1-15-18
- Harbor Patrol
- Learning Demo Collaborative
- Simple Follow 1-18-18

Cancel Load Mission





Speed: **10.4** Kts RPM: **07**

Heading 320 310 **300** 290 280

Position: **07 03.741 N**  
**116 35.301 E**

Video Radar Status

Mission Tools

New Mission Load Mission

Edit Stored Remove Save

Map Overlays

Radar  OFF AIS  OFF

ARPA  ON Camera  ON

Map Tools



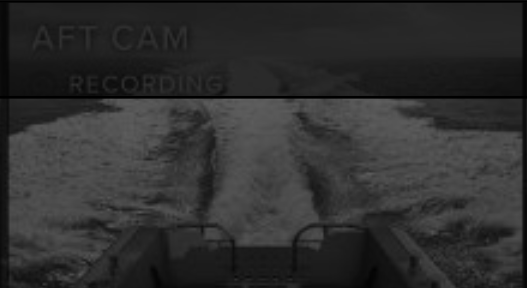
Manual

### Load Saved Mission

Select Mission:

- Captains Island 2-2-18
- Newport Harbor
- Test Survey 1-15-18
- Harbor Patrol
- Learning Demo Collaborative
- Simple Follow 1-18-18

Cancel Load Mission



Mission Tools

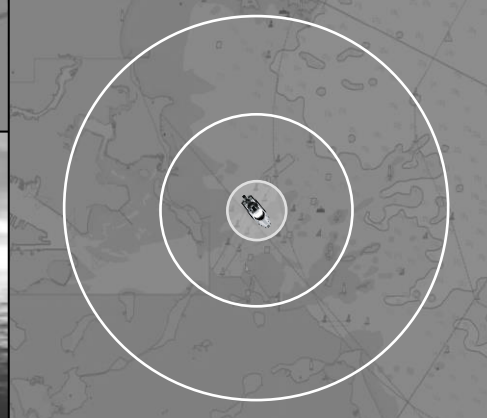
Press "Deploy" to begin:  
Mission 1 Edit

Deploy Mission Cancel

Map Overlays

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

Map Tools



Mission Saved

This mission is has been saved.  
To run this mission Click the  
"Deploy" button above

Close



Speed: **10.4** Kts RPM: **07**

Heading **320 310 300 290 280**

Position: **07 03.741 N  
116 35.301 E**

Video Radar Status

**Mission Tools**

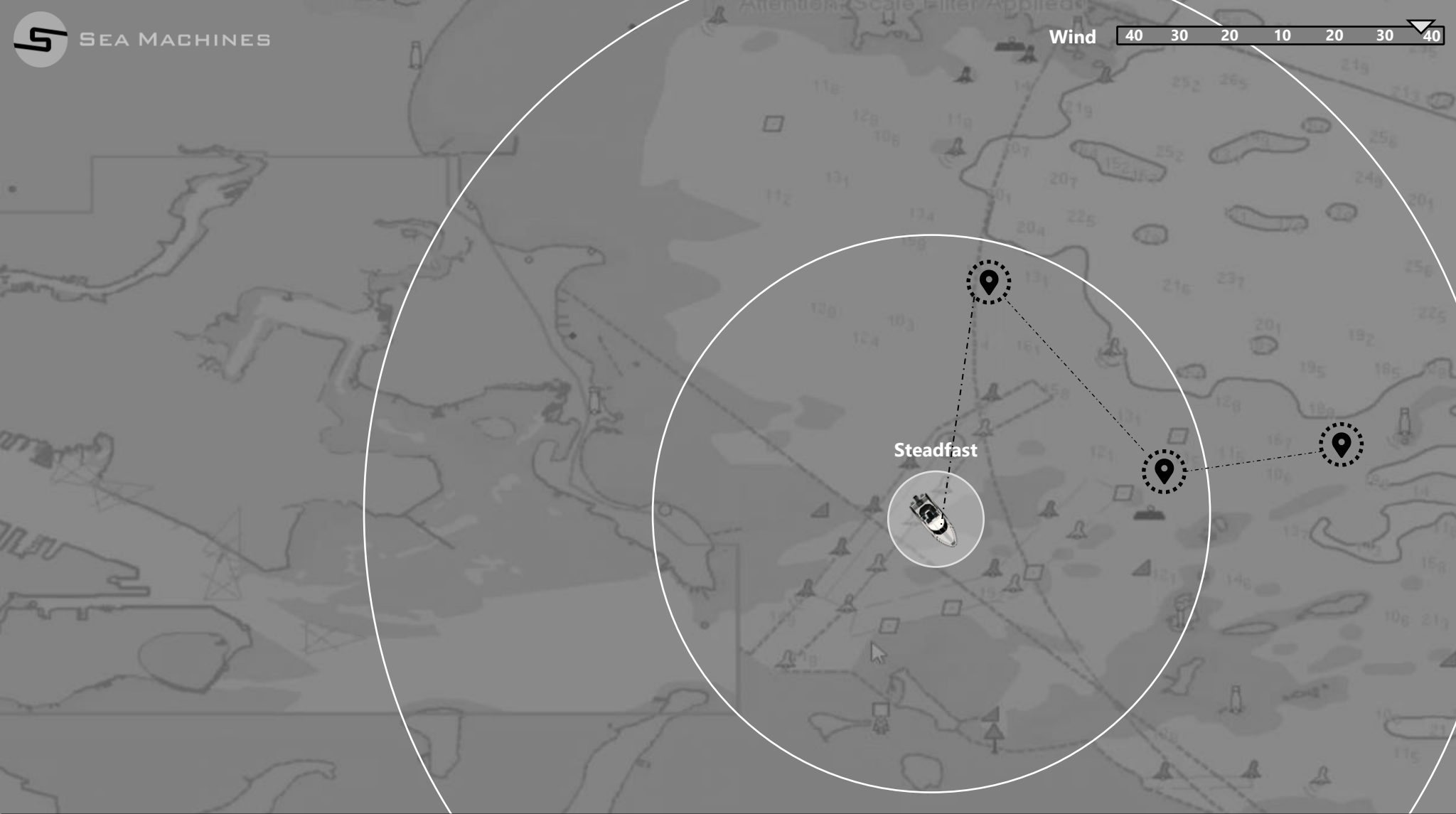
Press "Deploy" to begin:  
Mission 1 Edit

Deploy Mission Cancel

**Map Overlays**

Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

**Map Tools**



Speed: **10.4** Kts RPM: **07**

Heading **320 310 300 290 280**

Position: **07 03.741 N**  
**116 35.301 E**

**Video** **Radar** **Status**

**Mission Tools**

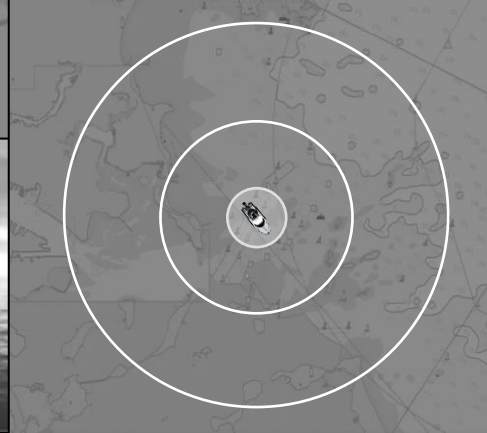
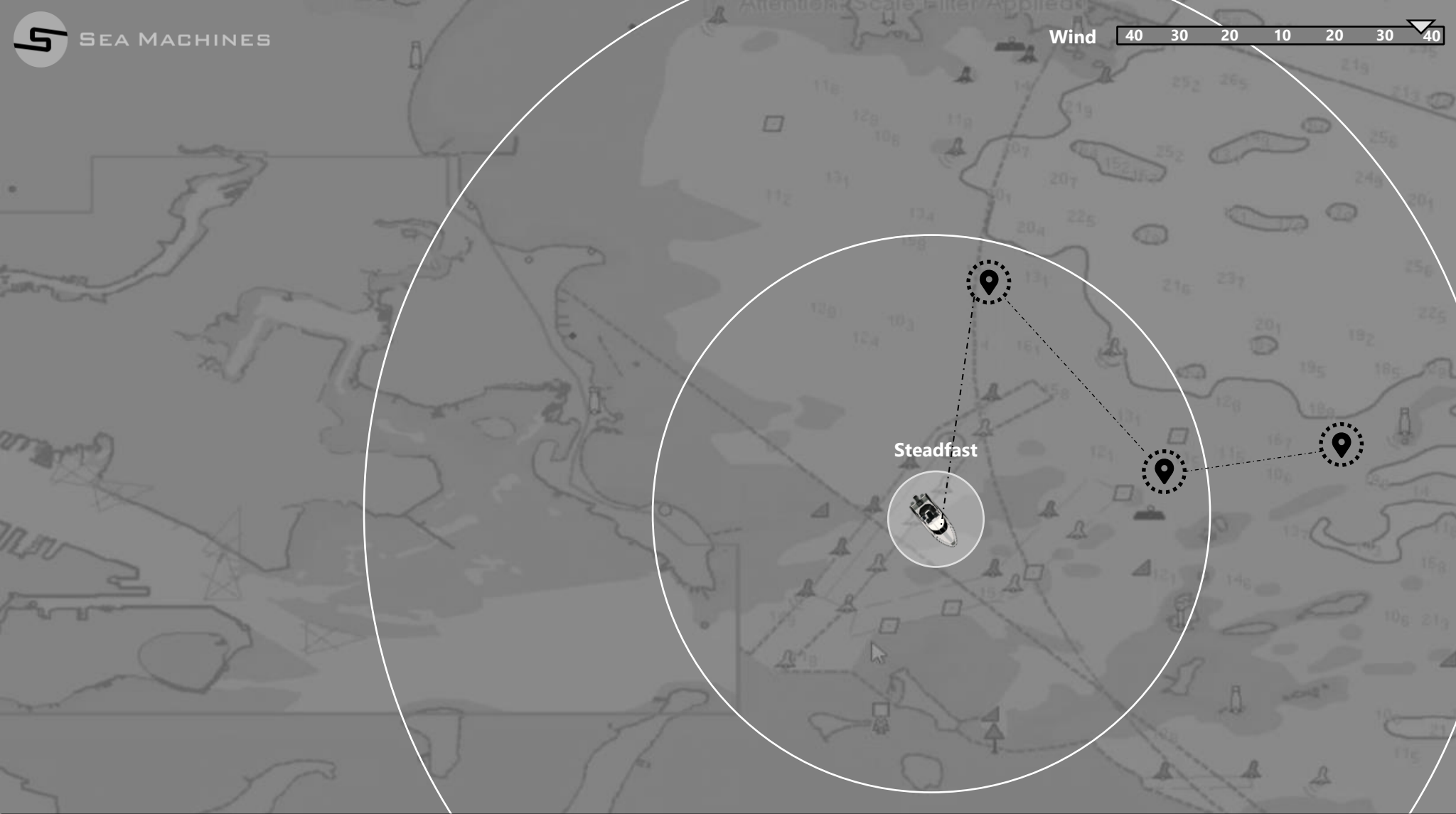
Current Mission: Mooring to fishing new point in Newport  Edit

**Deploy Mission** **Abort Mission**

**Map Overlays**

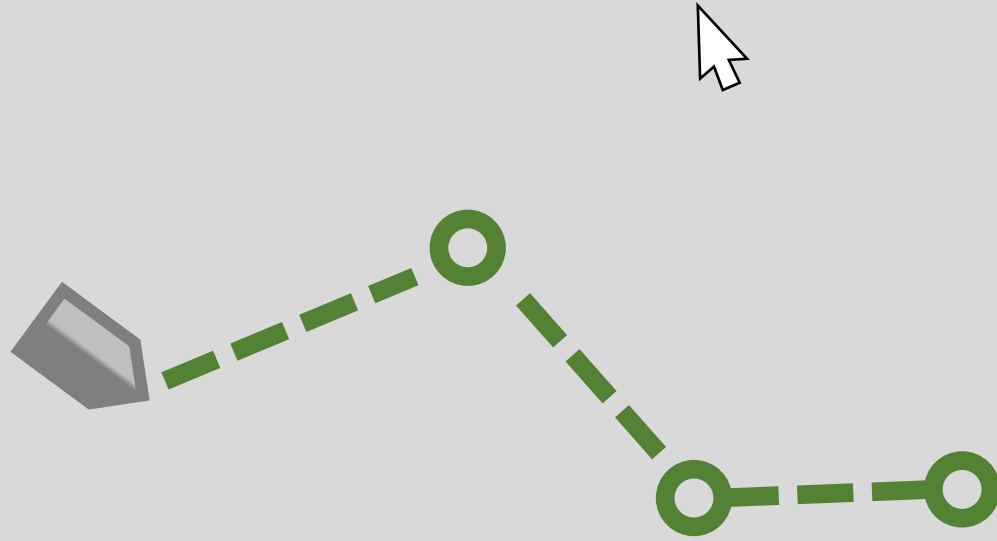
Radar  OFF AIS  OFF  
ARPA  ON Camera  ON

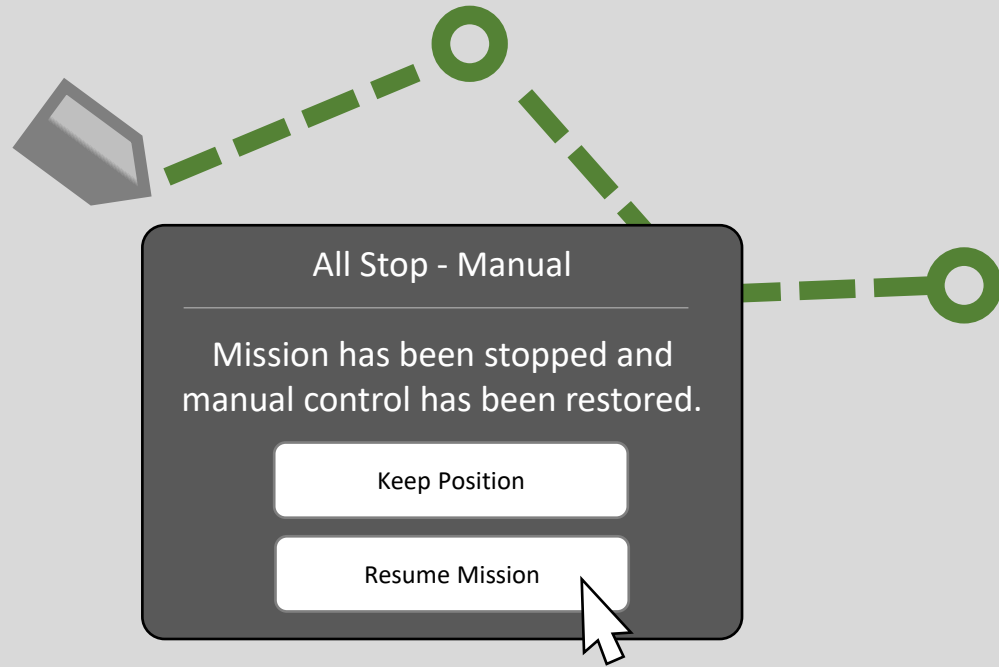
**Map Tools**



## **Stop (Pause) / Resume Mission**

*As a Captain I want to stop a mission so I can manually make adjustments then resume the mission without having to abort or start over.*







### All Stop – Keep Position

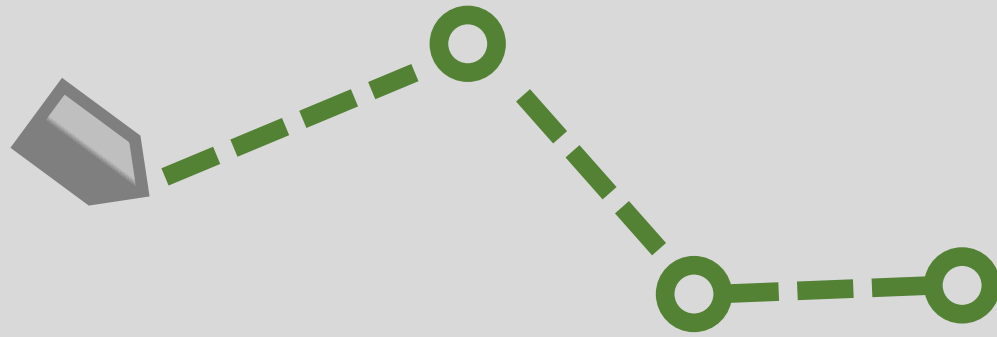
---

Mission has been stopped and manual control has been restored.

Manual

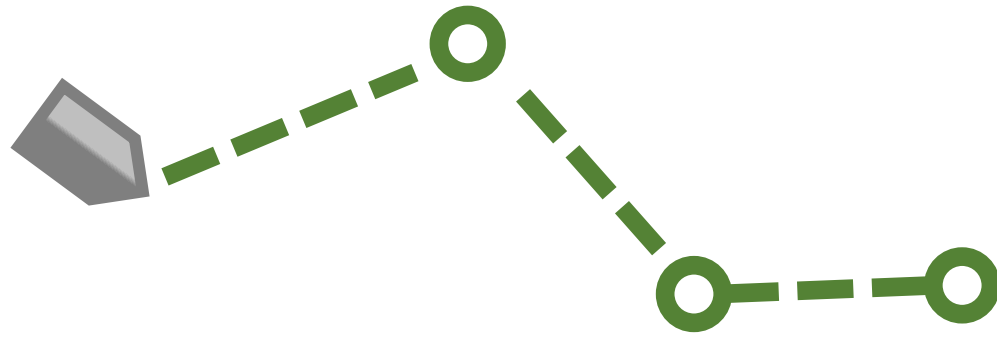
Resume Mission





## **Abort Mission**

*As a Captain I want to abort a mission that is currently deployed so I can manually control the vessel and have to need to reengage with a mission.*



No

Yes

## Mission Aborted

---

The mission has been  
successfully aborted.

---

Okay



**Read only Indicators to show what mode the vessel is in**

*As a Captain need to visually see what mode the vessel is in so I have a visual cue of the status, these modes are "Manual", "Remote" and a "Autonomous".*



## **Read only Indicators to show course details**

*As a Captain I need to visually see the current course details so I can always be aware of the vessels physical status. These include:*

- RPM
- KTS
- Pitch
- Roll
- Speed
- Wind
- Fuel





**Read only Indicators to show my the status of the UI signal connection to the vessel**

*As a Captain I need to visually see the current connection status and strength to be able to see if there is an issue that may need to be addressed*



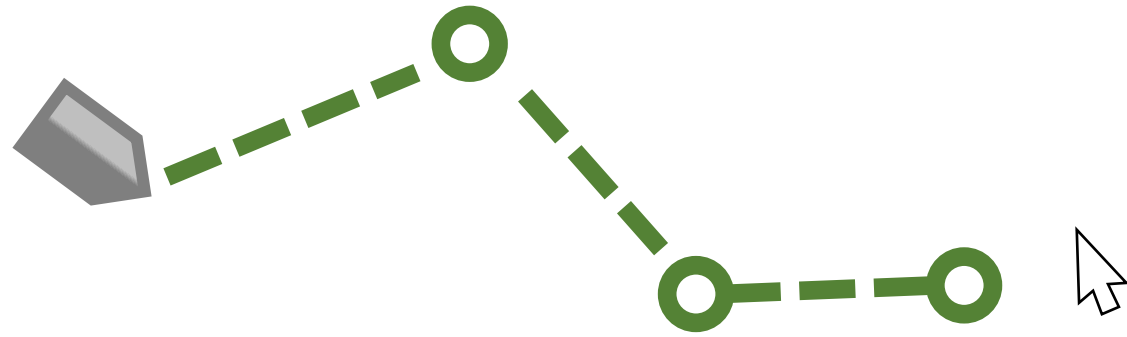
## **Mission Timeline visualization and interaction**

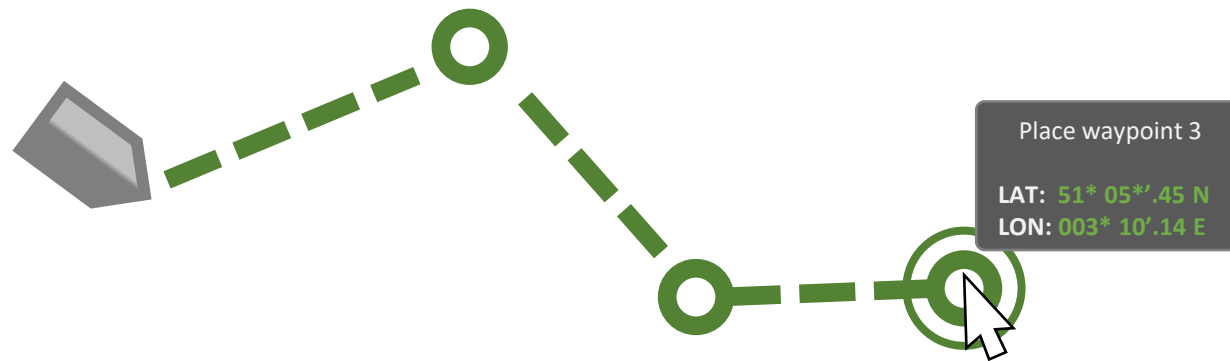
*As a Captain I need to visually see the current mission and timeline and be able to interact to see where is started from to the live status or completed status. Think DVR TiVo*



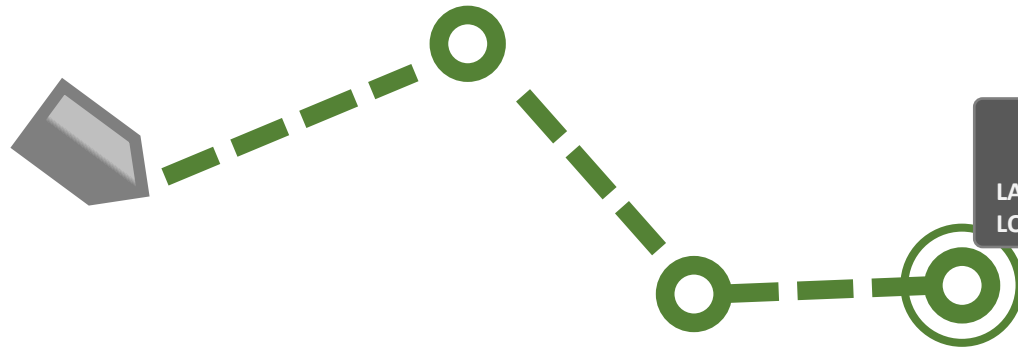
## **Name and save waypoints**

*As a Captain I want to be able to save and name a waypoint so I can easily retrieve it later and simply add it to a mission (think favorites or bookmarks)*









Place waypoint 3  
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E

Waypoint 3

41.4901°

71.3128°



Cancel

Save

Home

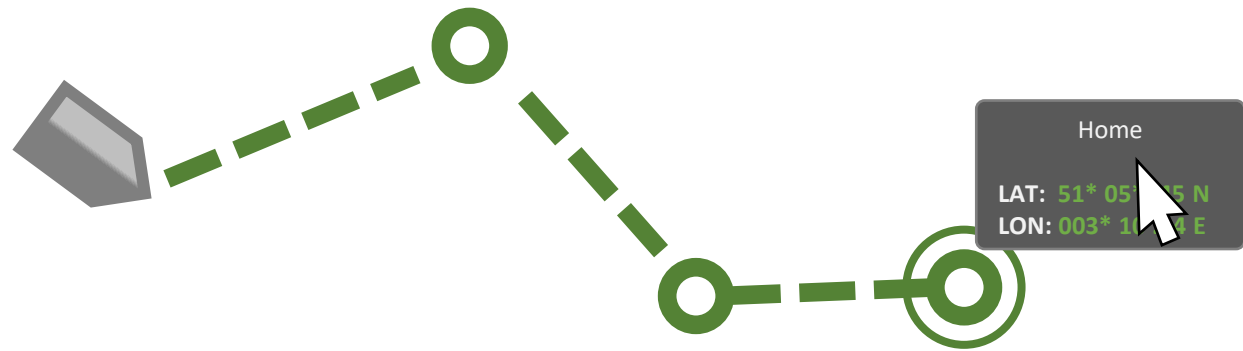
41.4901°

71.3128°

Save and store this waypoint for future use

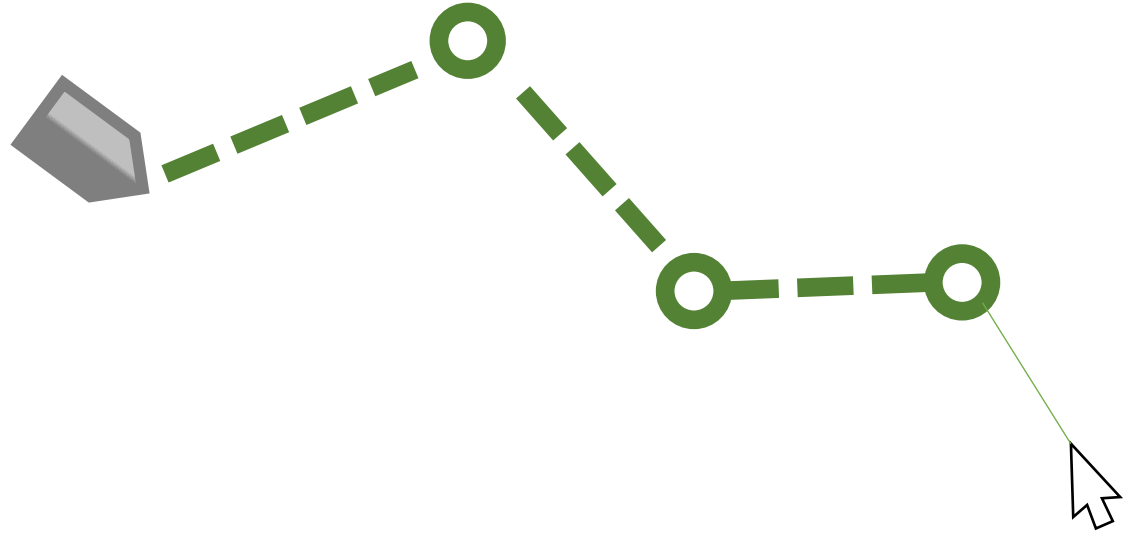
Cancel

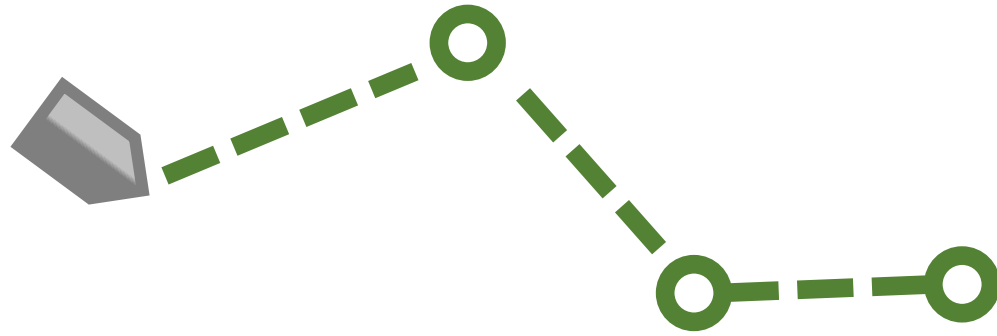
Save



## **Load saved waypoints**

*As a Captain I want to be able to load a previously saved waypoint so I can easily retrieve it and add it to a mission (think favorites or bookmarks)*





- 
- 
- 

Cancel

Load

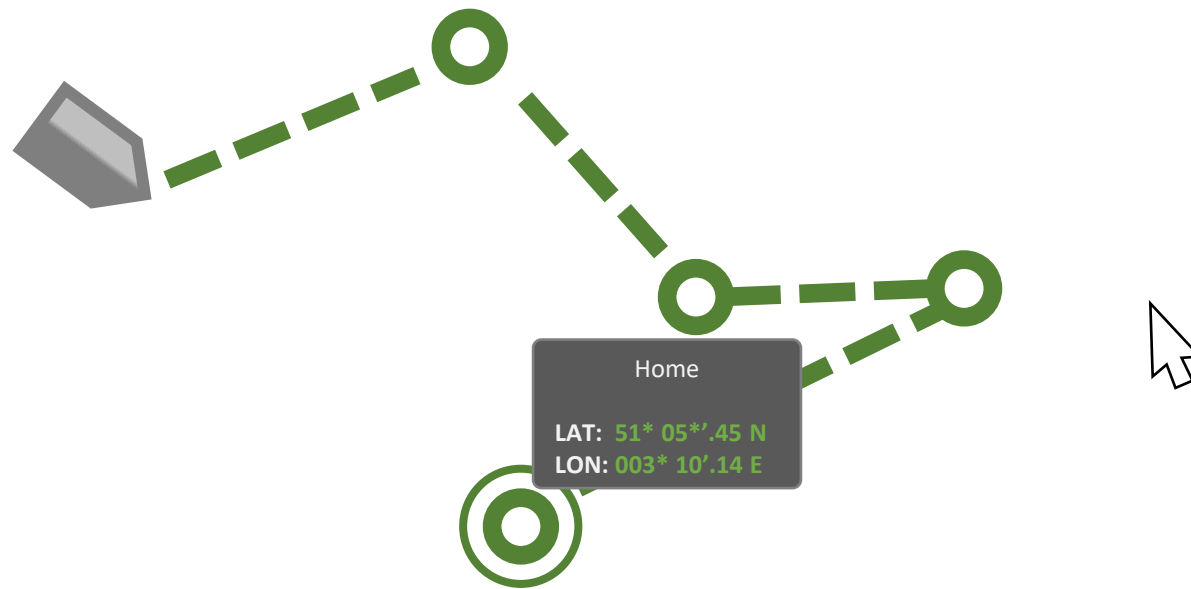




Home

Cancel

Load



## **Collaborative Following**

*As a Captain I need to create a mission so that I can manually control one vessel while another vessel autonomously follows my lead*

Manual



Manual

- 
- 
- 
- 



Cancel

Save

- 
- 
- Collaborative Following
- 

Cancel

Save

- Waypoint
- 
- Collaborative Following
- 

New Mission 1

Cancel

Save



Manual

Orca



Cancel

Save



Manual

Orca

The Black Pearl

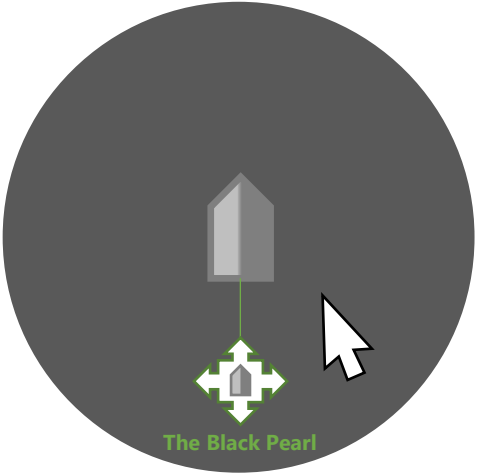
Cancel

Save



0

15

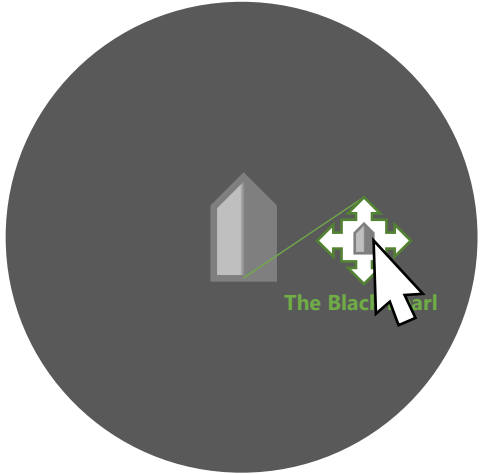


Cancel

Save

-14

-5

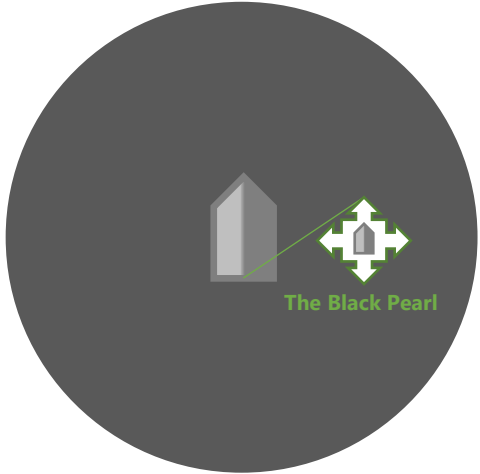


Cancel

Save

-14

-5

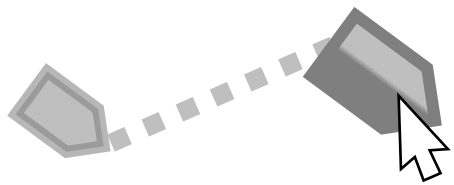


Cancel

Save







### The Black Pearl

---

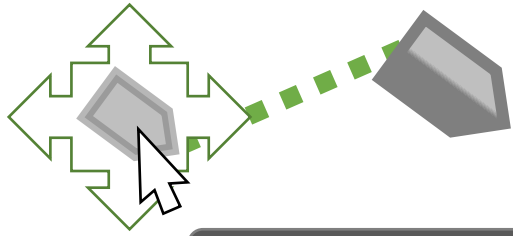
Status: Lead Ship Manual

Longitude

Vector

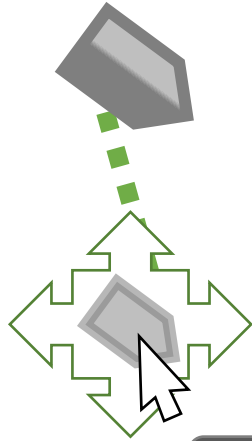
Distance from Orca (Following):

Depth



The Black Pearl

Status: Following, Autonomous



The Black Pearl

Status: Following, Autonomous





## **Show / Hide Tools**

*As a Captain I want to hide the tools on my screen so I can have more real-estate for on my screen for viewing the map*



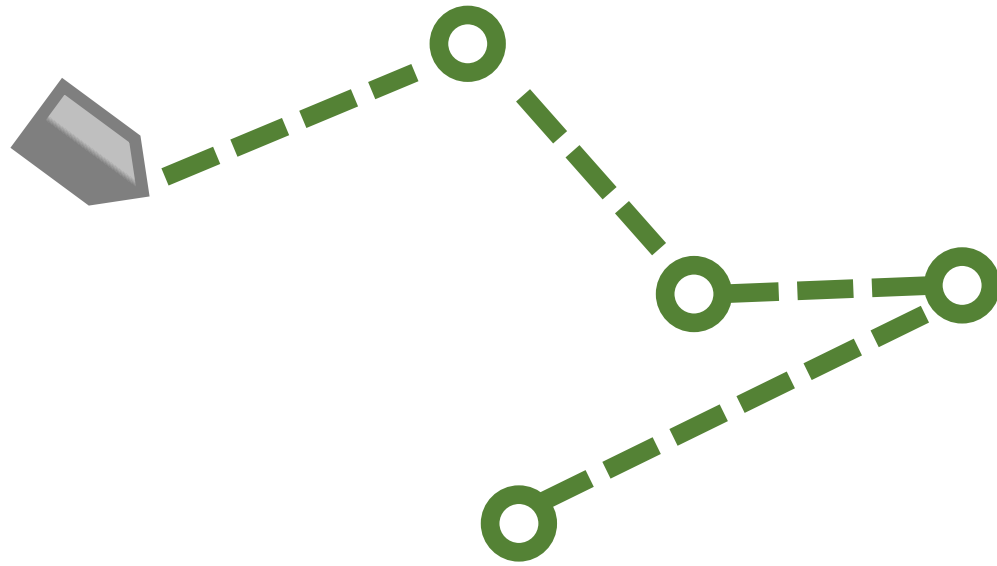


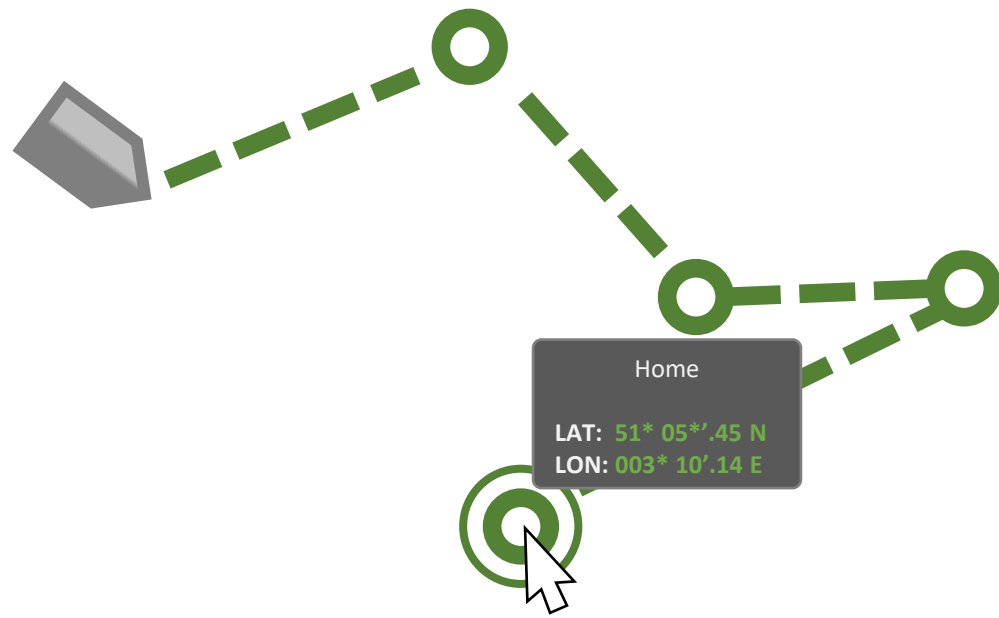


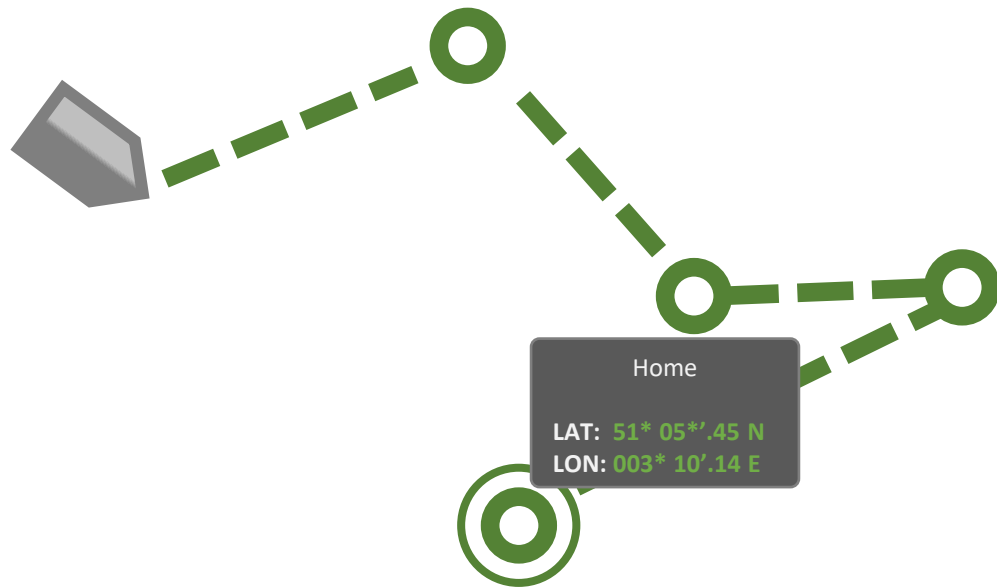
New

## **Tools Defined**

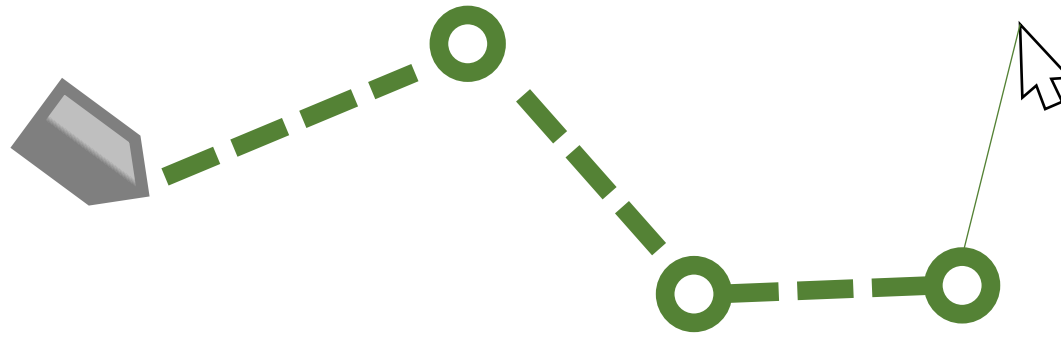
*As a Captain I want to understand the use for all the buttons in the “Tools” area so I can easily navigate the creating of a mission “Remove” “Undo” “Return”*











New

## **Video**

*As a Captain I want to view the video feeds (3) on my vessel so I can visually follow my mission and have the option to have a draggable window available on the main screen*

New

## **Video Settings**

*As a Captain I want to adjust the settings on my video feeds individually or all at one time so I can save time and space on my display*



Remove



Undo





Video Settings

The central control panel features a directional pad with four yellow arrowheads pointing up, down, left, and right, centered around a grey circle. Below the pad are seven horizontal sliders, each with a yellow knob and yellow minus/plus signs at the ends. The sliders are labeled: Zoom, Focus, Iris, Brightness, Contrast, Saturation, and Hue. At the bottom of the panel is a light grey button labeled "PTZ Settings".

Zoom

Focus

Iris

Brightness

Contrast

Saturation

Hue

PTZ Settings



Video Settings

The central control panel features a directional pad with four yellow arrowheads pointing up, down, left, and right, centered around a grey circle. Below the pad are seven horizontal sliders, each with a yellow knob and yellow minus/plus end caps. The sliders are labeled: Zoom, Focus, Iris, Brightness, Contrast, Saturation, and Hue. At the bottom of the panel is a light grey button labeled "PTZ Settings".

Zoom

Focus

Iris

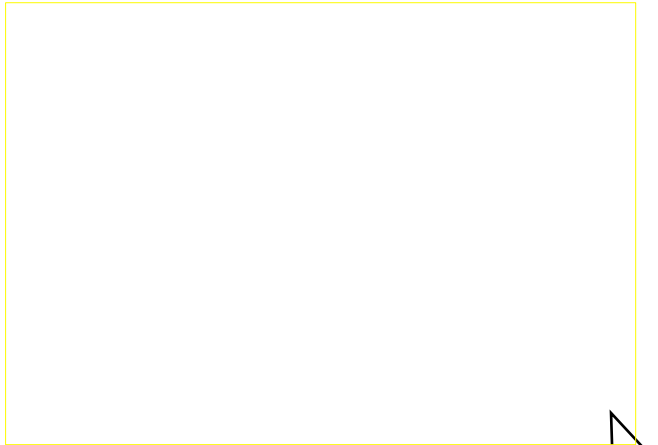
Brightness

Contrast

Saturation

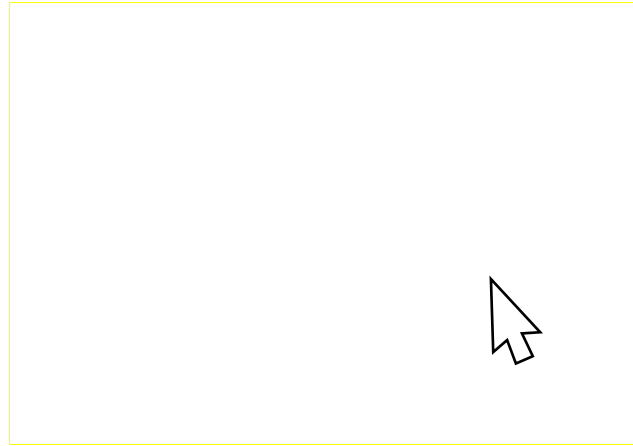
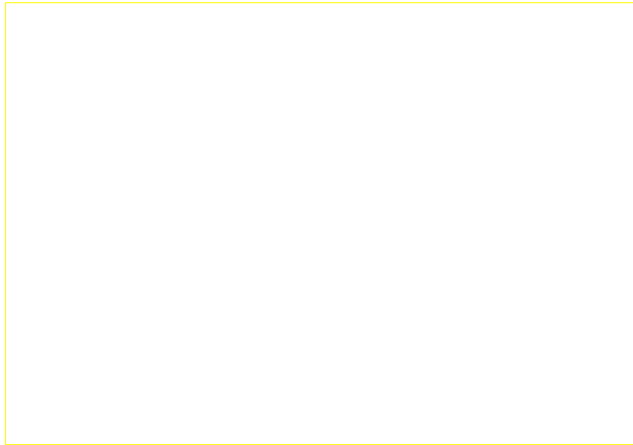
Hue

PTZ Settings



Video Settings

A vertical control panel for video settings. At the top is a directional pad with four yellow arrows pointing up, down, left, and right. Below it are seven sliders, each with a yellow knob and minus/plus signs on either side. The sliders are labeled: Zoom, Focus, Iris, Brightness, Contrast, Saturation, and Hue. At the bottom is a button labeled "PTZ Settings".




Video Settings




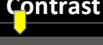
A central control pad with a grey circle in the center and four yellow arrows pointing up, down, left, and right.

Zoom 

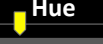
Focus 

Iris 

Brightness 

Contrast 

Saturation 

Hue 

PTZ Settings





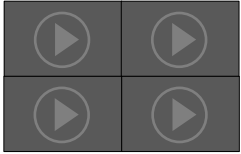
Video Settings

A vertical control panel for video settings. At the top is a directional pad with four yellow arrows pointing up, down, left, and right, and a central grey circle. Below this are seven sliders, each with a yellow knob and yellow minus/plus signs on either side. The sliders are labeled: Zoom, Focus, Iris, Brightness, Contrast, Saturation, and Hue. At the bottom is a grey button labeled "PTZ Settings".



## **Video Feed Selection**

*As a Captain I want to select between the 3 video feeds in the popup window on my vessel so I can quickly select my preferred view*









Video Feed 1 Feed 2 Feed 3 X

A video player interface with a dark gray background. At the top, there is a header bar with the text "Video", "Feed 1", "Feed 2", "Feed 3", and a yellow "X" icon. A white mouse cursor is pointing at the "Feed 2" tab. In the center of the player is a large, semi-transparent gray play button. At the bottom, there is a control bar with a yellow play button icon, the text "1:08 / 4:27", a progress slider with a yellow knob, a yellow "X" icon, and a yellow gear icon.




Video Feed 1 Feed 2 Feed 3 







▶ 1:08 / 4:27   

A video player interface with a dark gray background. At the top, there is a navigation bar with four tabs: "Video", "Feed 1", "Feed 2", and "Feed 3". The "Feed 3" tab is currently selected and highlighted. To the right of the "Feed 3" tab is a small yellow 'X' icon. A white mouse cursor is pointing at this 'X' icon. In the center of the video area is a large, semi-transparent gray play button. At the bottom, there is a control bar. On the left, it shows a play button icon followed by the text "1:08 / 4:27". To the right of the text is a horizontal progress bar with a yellow circular slider. Further right are two icons: a yellow 'X' and a yellow gear.



Video Feed 1 Feed 2 Feed 3 



1:08 / 4:27   





Video Feed 1 Feed 2 Feed 3



1:08 / 4:27





## **AIS / Radar Toggle On – Off Buttons**

*As a Captain I want to be able to quickly turn off and on map features so I can easily see my preferred view between AIS and Radar or both*





Hide



New

### **Show all status**

*As a Captain I want to view all my status options in a full screen setting so that I can see all settings quickly when needed and be able to hide them to view my main screen*



Remove



Undo



- Off
- On
- On
- Off
- Off
- Off
- Off
- Off
- Off
- Off
- Off
- Off

- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 

- Off
- On
- On
- Off
- Off
- Off
- Off
- Off
- Off
- Off
- Off
- Off

- 
- 
- Off
- Off
- Off
- Off
- Off
- Off
- Off
- Off
- Off

Close







Engine 1  
Rpm | Water Temp | Pressure

Engine 2  
Rpm | Water Temp | Pressure

Rudder 1  
Position

Rudder 2  
Position

Fuel Tank 1  
Level

Fuel Tank 2  
Level

Battery 1  
Voltage

Battery 2  
Voltage

Batter House  
Voltage





- Off Port Engine
- On Stbd Engine
- On Bilge 1
- Off Bilge 2
- On Nav Lights
- On Mast Light 1
- Off Mast Light 2
- On Mast light 3
- Off Strobe Work Light

- Off GPS
- On AIS
- On VSAT
- Off Radio
- On Cam 1
- Off Cam 2
- On Cam 3
- Off Aux 1
- On Aux 2
- Off Aux 3

- Port Engine Alarm
- Stbd Engine Alarm
- Bilge 1 Alarm
- Bilge 2 Alarm
- Fire Alarm
- Security Alarm
- Aux 1
- Aux 2
- Aux 3
- Aux 4
- Aux 5
- Aux 6
- Aux 7
- Aux 8

Close

Alarms or Status						
			Buttons		Value / Gauges	
<b>Port Engine Alarm</b>			Port Engine Start			
<b>Stbd Engine Alarm</b>			Port Engine Shutdown			Engine 1 Rpm
<b>Bilge 1 Alarm</b>			Stbd Engine Start			Engine 2 Rpm
<b>Bilge 2 Alarm</b>			Stdb Engine Shutdown			Rudder 1 Position
<b>Fire Alarm</b>			Bilge 1 ON/Off			Rudder 2 Position
<b>Security Alarm</b>			Bilge 2 ON/OFF			Fuel Tank 1 Level
			Nav Lights ON/OFF			Fuel Tank 2 Level
<b>Aux 1</b>			Horn			Battery Voltage 1
<b>Aux 2</b>			Mast Light 1			Battery Voltage 2
<b>Aux 3</b>			Mast Light 2			Batter Voltage House
<b>Aux 4</b>			Mast light 3			Engine 1 Water Temp
<b>Aux 5</b>			Strobe Work Light			Engine 2 Water Temp
<b>Aux 6</b>			GPS On/Off			Engine 1 Gear Temp
<b>Aux 7</b>			Ais On/Off			Engine 2 Gear Temp
<b>Aux 8</b>			Vsat On/Off			Engine 1 Pressure
			Radio On/Off			Engine 2 Pressure
			Cam 1 On/Off			
			Cam 2 On/off			
			Cam 3 ON/off			
			Aux 1 On/Off			
			Aux 2 On/Off			
			Aux 3 On/Off			



Remove



Undo

Show Video



1:08 / 4:27

1:08 / 4:27

1:08 / 4:27

1:08 / 4:27



Remove



Undo



Close

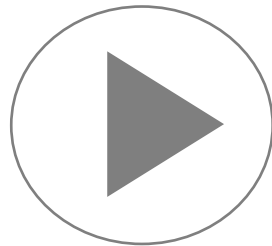
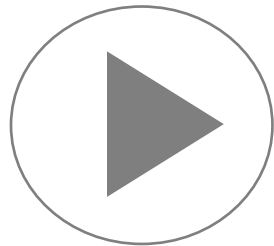
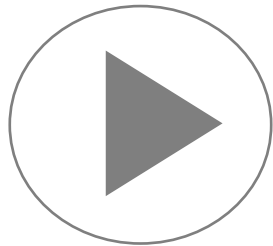
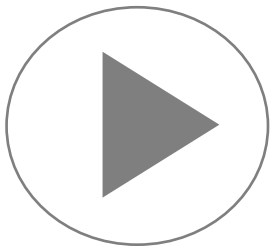




Remove



Undo



▶ 1:08 / 4:27   

▶ 1:08 / 4:27   

▶ 1:08 / 4:27   

▶ 1:08 / 4:27   

Mission Timeline

Minutes

Hours

Days

**Remove**

### **Collaborative Following Edit configuration**

*As a Captain I need to edit the vessel configuration so that I can choose what vessel is the lead and what vessel is autonomous*



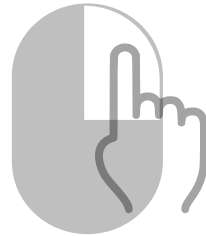
**Remove**



Remove



- Collaborative Following
- Add / Edit New Vessel
- Cancel
- Change Default Vessels



**Remove**

Manual

Orca

Remove

Edit

Remove

Edit

Orca: Manual, Lead

Autonomous, following

Change Vessel hierarchy

Type Vessel Name

Cancel

Add Vessel

**Remove**

Manual

Orca

Remove

Edit

Remove

Edit

Orca: Manual, Lead

Autonomous, following

Change Vessel hierarchy



Type Vessel Name

Cancel

Add Vessel

Remove

Manual

Orca

Orca



Add / Edit Vessels...

Cancel

Save

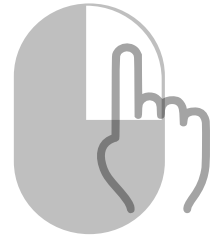
## **Collaborative Following Add Vessel**

*As a Captain I need to add a Vessel to my system so I can select it as one of my choices for a mission*

Remove



- Collaborative Following
- Add / Edit New Vessel
- Cancel
- Change Default Vessels



**Remove**

Orca

Orca



Add / Edit Vessels...

Cancel

Save



**Remove**

Orca

Orca

Add / Edit Vessels...



Cancel

Save

**Remove**

- 
- 
- 

Cancel

Add Vessel

**Remove**

- 
- 
- 

Cancel

Add Vessel

**Remove**

Orca

Orca



Add / Edit Vessels...

Cancel

Save

**Remove**

- Orca
- 
- 

- Orca
- 
- 

Add / Edit Vessels...

Cancel

Save

**Remove**

Orca

Orca

SM Vessel 8



Add / Edit Vessels...

Cancel

Save



### **Collaborative Following Remove Vessel**

*As a Captain I need to remove a Vessel from my system so It can no longer be selected for any mission*

**Remove**

Orca

Remove

Edit

Remove

Edit



Orca: Manual, Lead

Autonomous, following

Change Vessel hierarchy

Type Vessel Name

Cancel

Add Vessel



**Remove**

Orca

Remove

Edit

Remove

Edit



Orca: Manual, Lead

Autonomous, following

Change Vessel hierarchy

Type Vessel Name

Cancel

Add Vessel

Remove

No

Yes





SEA MACHINES



MODE

NAV

PLANNER

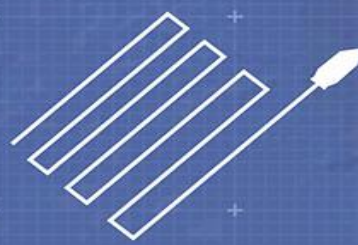
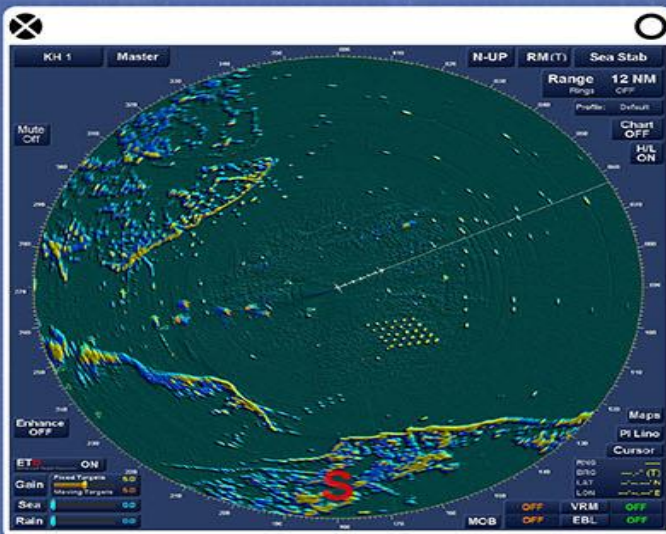
DATA

FEED

CONFIG

ONBOARD

EMERGENCY  
KILL



TRAFFIC

6.2 KTS  
SPEED

31.2°  
HEADING

8.1 | 5.2  
PITCH | ROLL

7.9 KTS  
WIND

80%  
FUEL

STATUS

GAUGES

LAT 40.2893  
LONG -67.3296

SURVEY MODE



REMOTE STATION  
KEEP



WEATHER VANE



WEATHER VANE



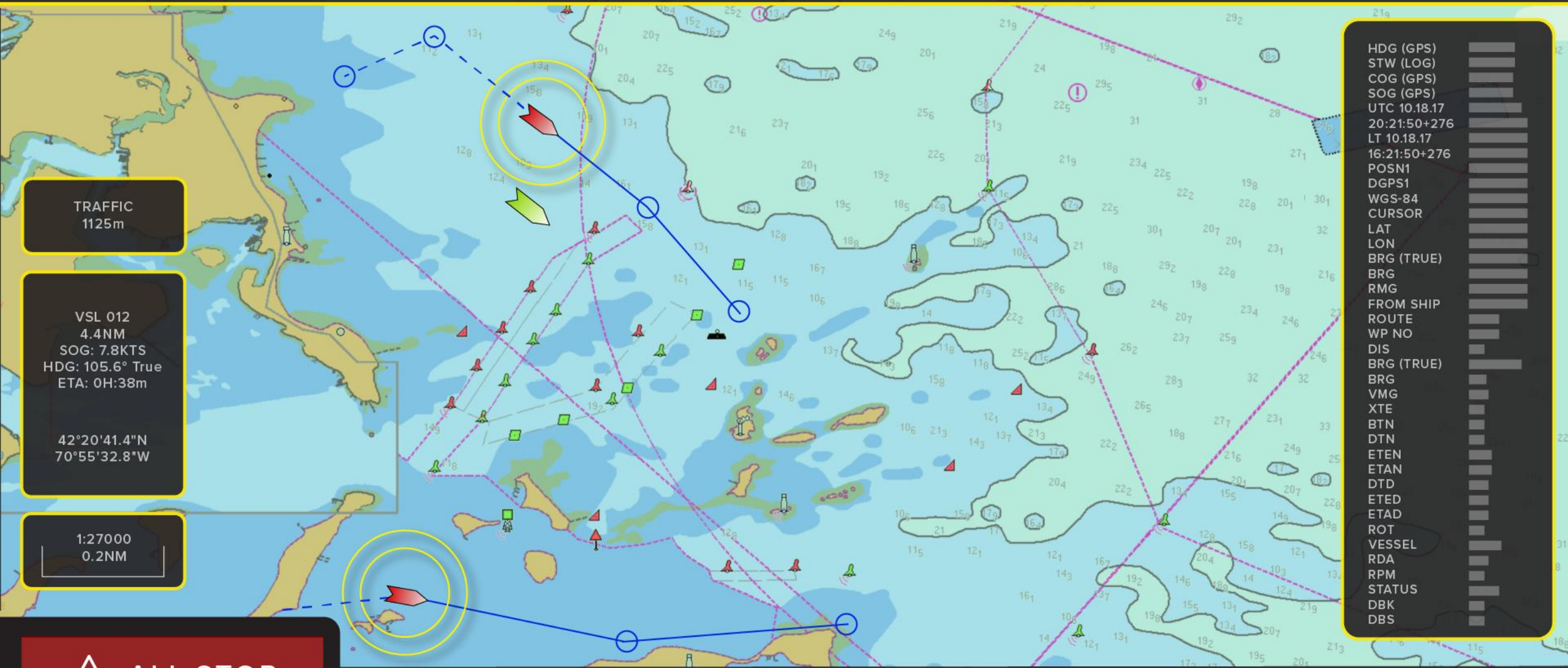
LEFT



RIGHT

# TALOS

MANUAL | REMOTE | AUTO


 TRAFFIC  
1125m

 VSL 012  
4.4NM  
SOG: 7.8KTS  
HDG: 105.6° True  
ETA: 0H:38m

 42°20'41.4"N  
70°55'32.8"W

 1:27000  
0.2NM

 HDG (GPS)  
STW (LOG)  
COG (GPS)  
SOG (GPS)  
UTC 10.18.17  
20:21:50+276  
LT 10.18.17  
16:21:50+276  
POSN1  
DGPS1  
WGS-84  
CURSOR  
LAT  
LON  
BRG (TRUE)  
BRG  
RMG  
FROM SHIP  
ROUTE  
WP NO  
DIS  
BRG (TRUE)  
BRG  
VMG  
XTE  
BTN  
DTN  
ETEN  
ETAN  
DTD  
ETED  
ETAD  
ROT  
VESSEL  
RDA  
RPM  
STATUS  
DBK  
DBS


**ALL STOP**

14:23 :35

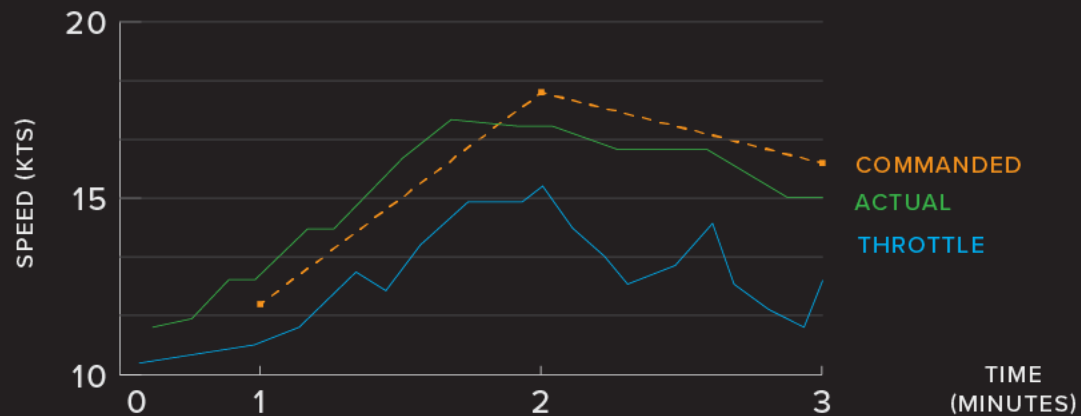


## TALOS

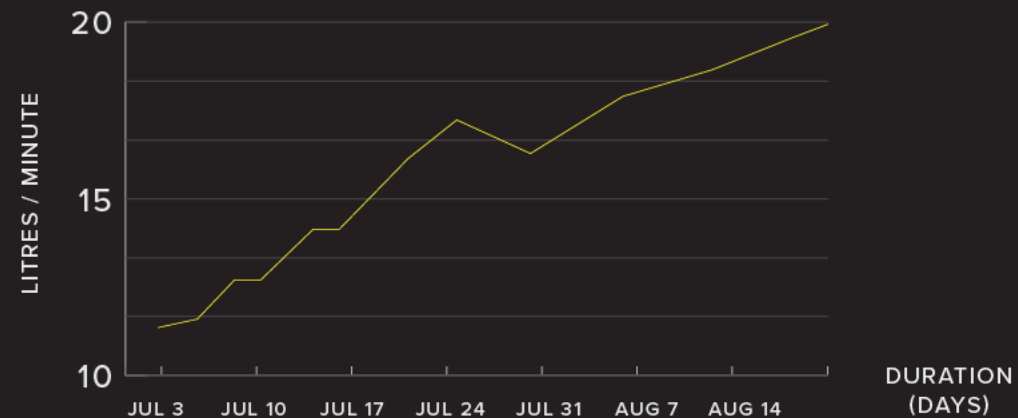
MANUAL | REMOTE | AUTO



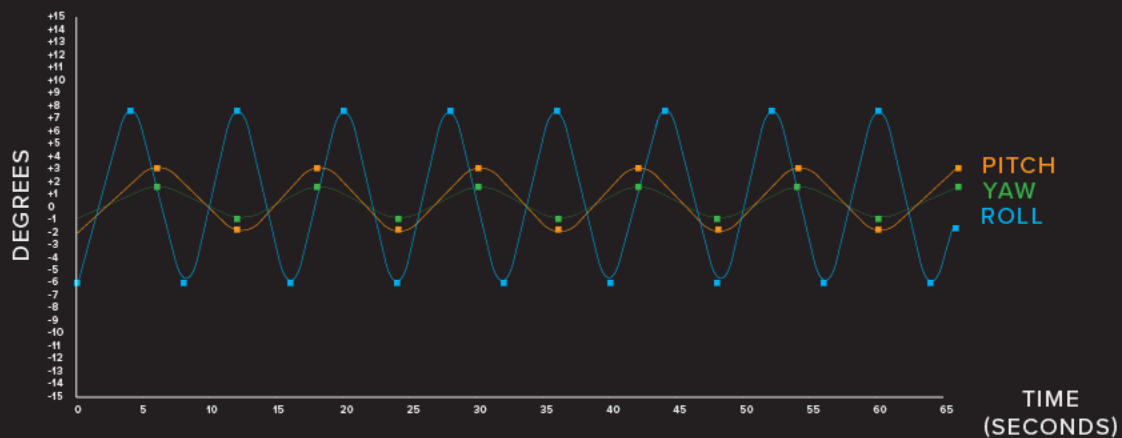
VESSEL SPEED AND THROTTLE



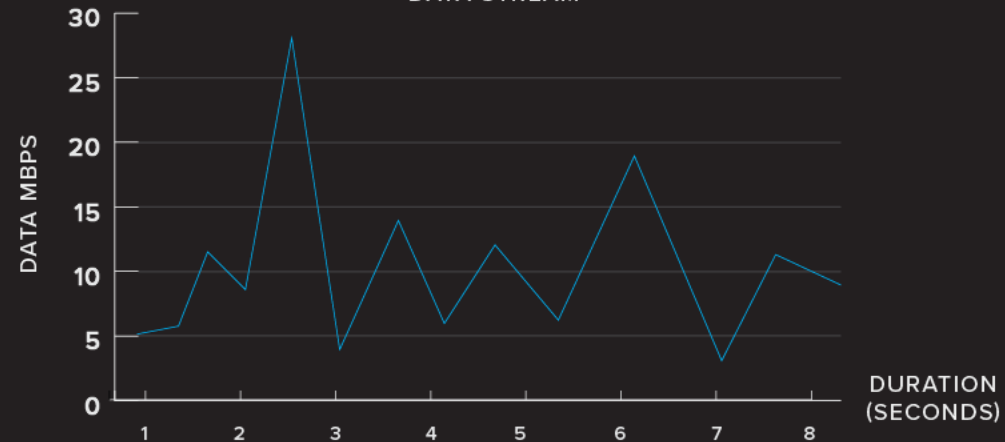
FUEL CONSUMPTION



VESSEL MOTIONS



DATA STREAM



# TALOS

MANUAL | REMOTE | AUTO



ALL STOP

14:23 :35



CAMERA





UP

LEFT

RIGHT

DOWN

- ZOOM +

- FOCUS +

- IRIS +

TYPE

BRIGHTNESS

CONTRAST

SATURATION

HUE

PRESET

PTZ SEQUENCE

ID

ALL STOP

Nomenclature for all buttons and language?

Are these buttons even necessary, wouldn't the UI suggest that if you engage or deploy a mission manual is off?

For Remote wouldn't the same be true, if I engage the remote (a physical device) it would simply take control?

So my question is are these not simply indicators rather than actions engaged through the UI?

What gages would we like to see?

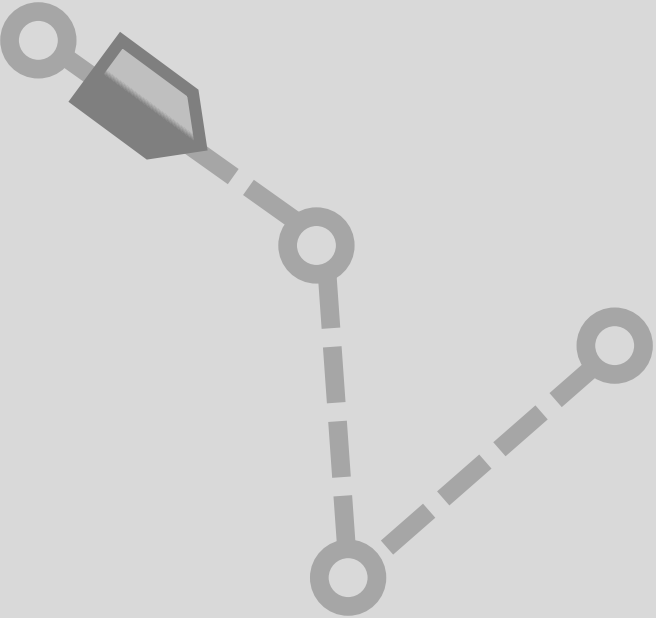
What style could be produce?

Can this screen be modified or customized or Hide and Show what the user prefers visually?

Mission timeline, how far back can this go? Hours, Day's and so on. How would this interaction be shown and is it possible?







NEW

## **Context menu alternative 1**

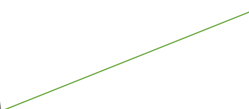
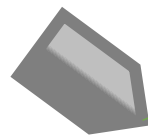
*On screen tools with contextual cues*

New Mission :test

Save

Cancel

Deploy



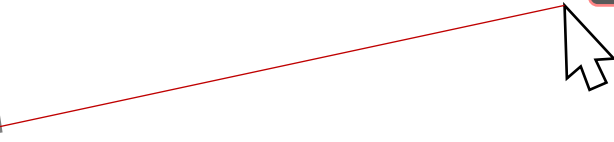
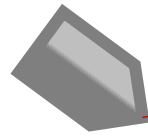
Place waypoint 1  
LAT: 51\* 05\*'.45 N  
LON: 003\* 10\*'.14 E

New Mission :test

Save

Cancel

Deploy



Place waypoint 1

Warning: Land

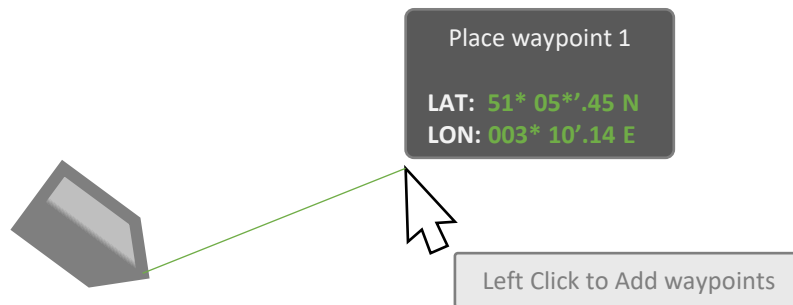


New Mission :test

Save

Cancel

Deploy



New Mission :test

Save

Cancel

Deploy

Waypoint 1:

LAT: 51° 05' .45 N

LON: 003° 10' .14 E



New Mission :test

Save

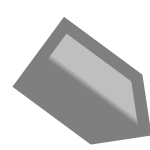
Cancel

Deploy

Waypoint 1:

LAT: 51° 05' .45 N

LON: 003° 10' .14 E



Place waypoint 2  
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E









New Mission :test

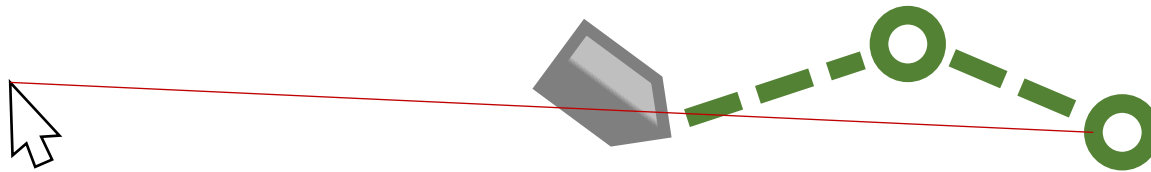
Save

Cancel

Deploy

Waypoint 1:   
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E 

Waypoint 2:   
LAT: 53° 07' .49 N  
LON: 002° 14' .19 E 







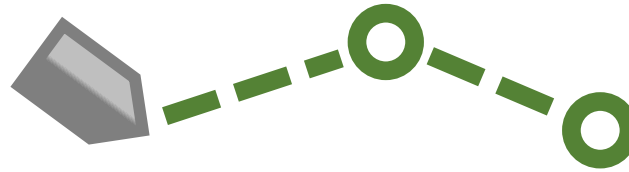
New Mission :test

Save

Cancel

Deploy

Waypoint 1: LAT: 51° 05' .45 N LON: 003° 10' .14 E	 
Waypoint 2: LAT: 53° 07' .49 N LON: 002° 14' .19 E	 






New Mission :test

Save

Cancel

Deploy

Waypoint 1:   
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E 

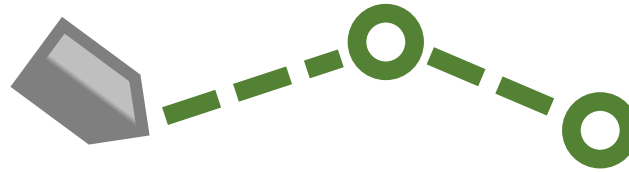
Waypoint 2:   
LAT: 53° 07' .49 N  
LON: 002° 14' .19 E 

Enter Name

Enter Lat, Lon

Cancel

Save



New Mission :test

Save

Cancel

Deploy

Waypoint 1:   
LAT: 51° 05' .45 N   
LON: 003° 10' .14 E

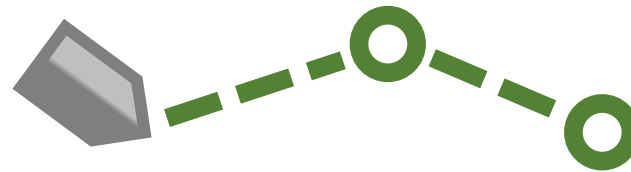
Waypoint 2:   
LAT: 53° 07' .49 N   
LON: 002° 14' .19 E

Home

Enter Lat, Lon

Cancel

Save



New Mission :test

Save

Cancel

Deploy

Waypoint 1:   
LAT: 51° 05' .45 N   
LON: 003° 10' .14 E

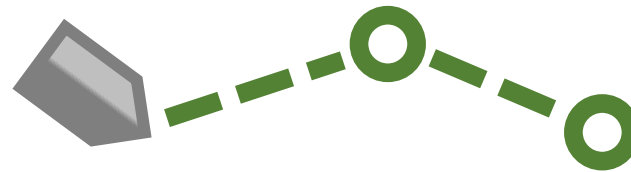
Waypoint 2:   
LAT: 53° 07' .49 N   
LON: 002° 14' .19 E

Home

Lat: 51 Lon: 51, 32

Cancel

Save



New Mission :test

Save

Cancel

Deploy

Waypoint 1:   
LAT: 51° 05' .45 N   
LON: 003° 10' .14 E

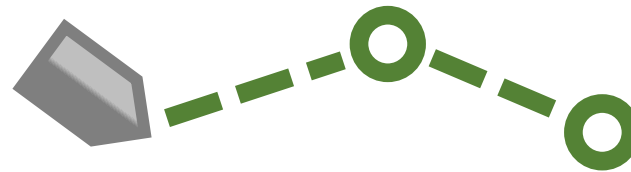
Waypoint 2:   
LAT: 53° 07' .49 N   
LON: 002° 14' .19 E

Home

Lat: 51 Lon: 51, 32

Cancel

Save






New Mission :test

Save

Cancel

Deploy

Waypoint 1:   
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E 

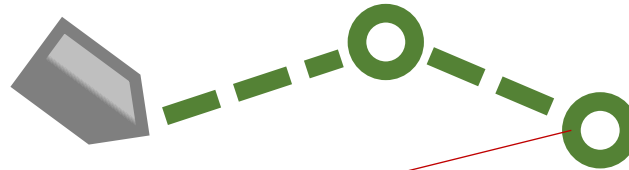
Home:   
LAT: 53° 07' .49 N  
LON: 002° 14' .19 E 

Home

Lat: 51 Lon: 51, 32

Cancel

Save



Place waypoint 3

Warning: **Land**



New Mission :test

Save

Cancel

Deploy

Waypoint 1:

LAT: 51° 05' .45 N

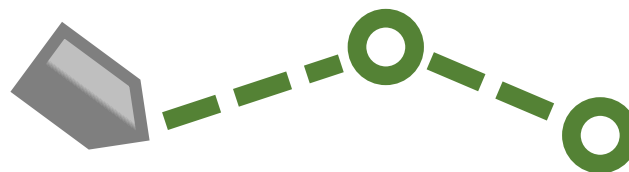
LON: 003° 10' .14 E



Waypoint 2:

LAT: 53° 07' .49 N

LON: 002° 14' .19 E







New Mission :test

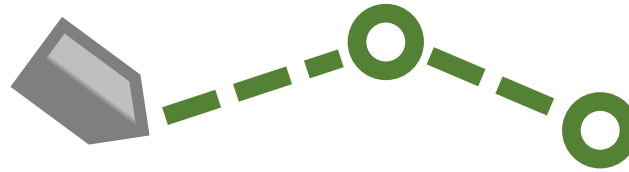
Save

Cancel



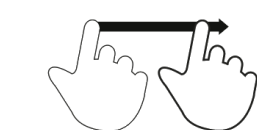







Deploy

Waypoint 1:   
LAT: 51° 05' .45 N  
LON: 003° 10' .14 E 

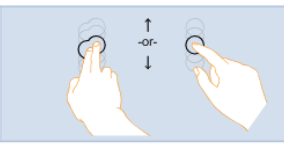
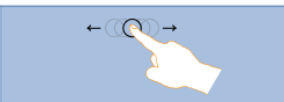
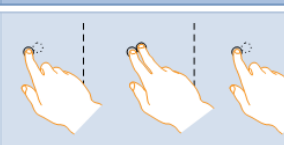

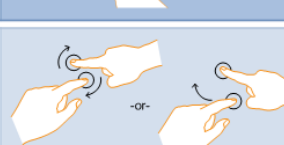
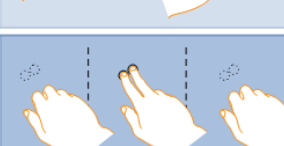
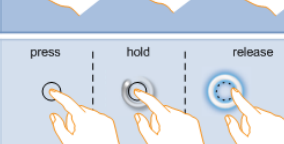
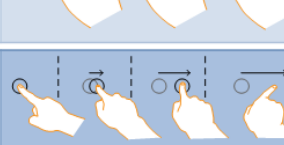
Waypoint 2:   
LAT: 53° 07' .49 N  
LON: 002° 14' .19 E 



# Touchscreen Gestures

<p><b>Tap</b></p>  <p>Briefly touch surface with fingertip</p>	<p><b>Double tap</b></p>  <p>Rapidly touch surface twice with fingertip</p>	<p><b>Drag</b></p>  <p>Move fingertip over surface without losing contact</p>	<p><b>Flick</b></p>  <p>Quickly brush surface with fingertip</p>
<p><b>Pinch</b></p>  <p>Touch surface with two fingers and bring them closer together</p>	<p><b>Spread</b></p>  <p>Touch surface with two fingers and move them apart</p>	<p><b>Press</b></p>  <p>Touch surface for extended period of time</p>	<p><b>Press and tap</b></p>  <p>Press surface with one finger and briefly touch surface with second finger</p> <p><b>Not supported in windows</b></p>
<p><b>Press and drag</b></p>  <p>Press surface with one finger and move second finger over surface without losing contact</p>	<p><b>Rotate</b></p>  <p>Touch surface with two fingers and move them in a clockwise or counterclockwise direction</p>		

# Windows Touchscreen Gestures

GESTURE	WINDOWS USAGE	GESTURE ACTION	ACTION (○= finger down   ◉= finger up)	Single Contact	Multi Contact
Tap / Double Tap	Click / Double Click			★	★
Panning with Inertia	Scrolling	Drag 1 or 2 fingers up and down			★
Selection / Drag (left to right with one finger)	Mouse Drag / Selection	Drag one finger left / right		★	★
Press and Tap	Right-click	Press on target and tap using a second finger			★
Zoom	Zoom (defaults to CTRL key + Scroll wheel)	Move two fingers apart / toward each other			★
Rotate	No system default unless handled by Application (using WM_GESTURE API)	Move two fingers in opposing directions -or- Use one finger to pivot around another			★
Two-Finger Tap	N/A – Exposed through Gesture API, used by Application discretion.	Tap two fingers at the same time (where the target is the midpoint between the fingers)			★
Press and Hold	Right-click	Press, wait for blue ring animation to complete, then release		★	★
Flicks	Default: Pan up/ Pan Down/ Back, and Forward	Make quick drag gestures in the desired direction		★	★

Create Mission

Load Mission

All Stop

Abort Mission

Deploy Mission

Hide Tools

Edit

Remove

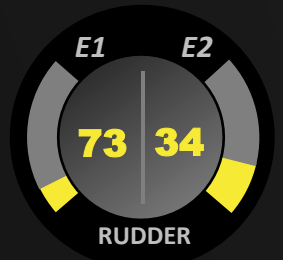
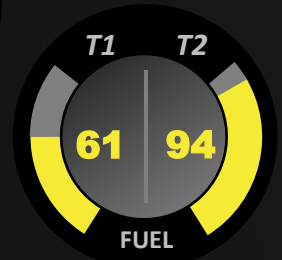
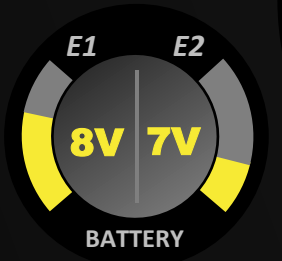
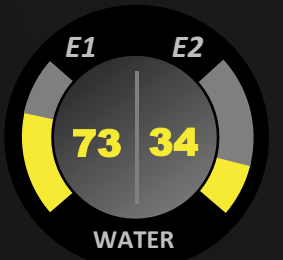
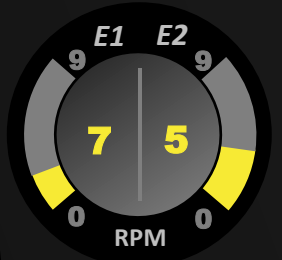
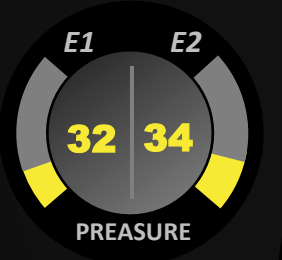
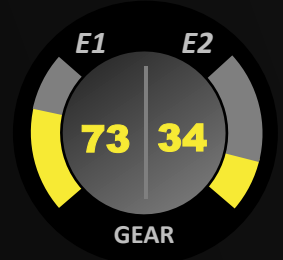
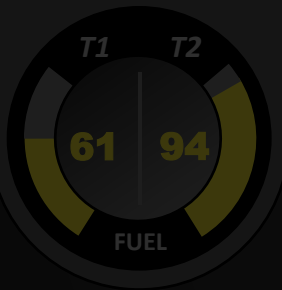
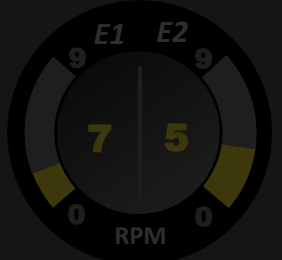
Save

Stored

Volume Control

AIS Show

Radar Hide



More Status...

Vessel Settings

Close