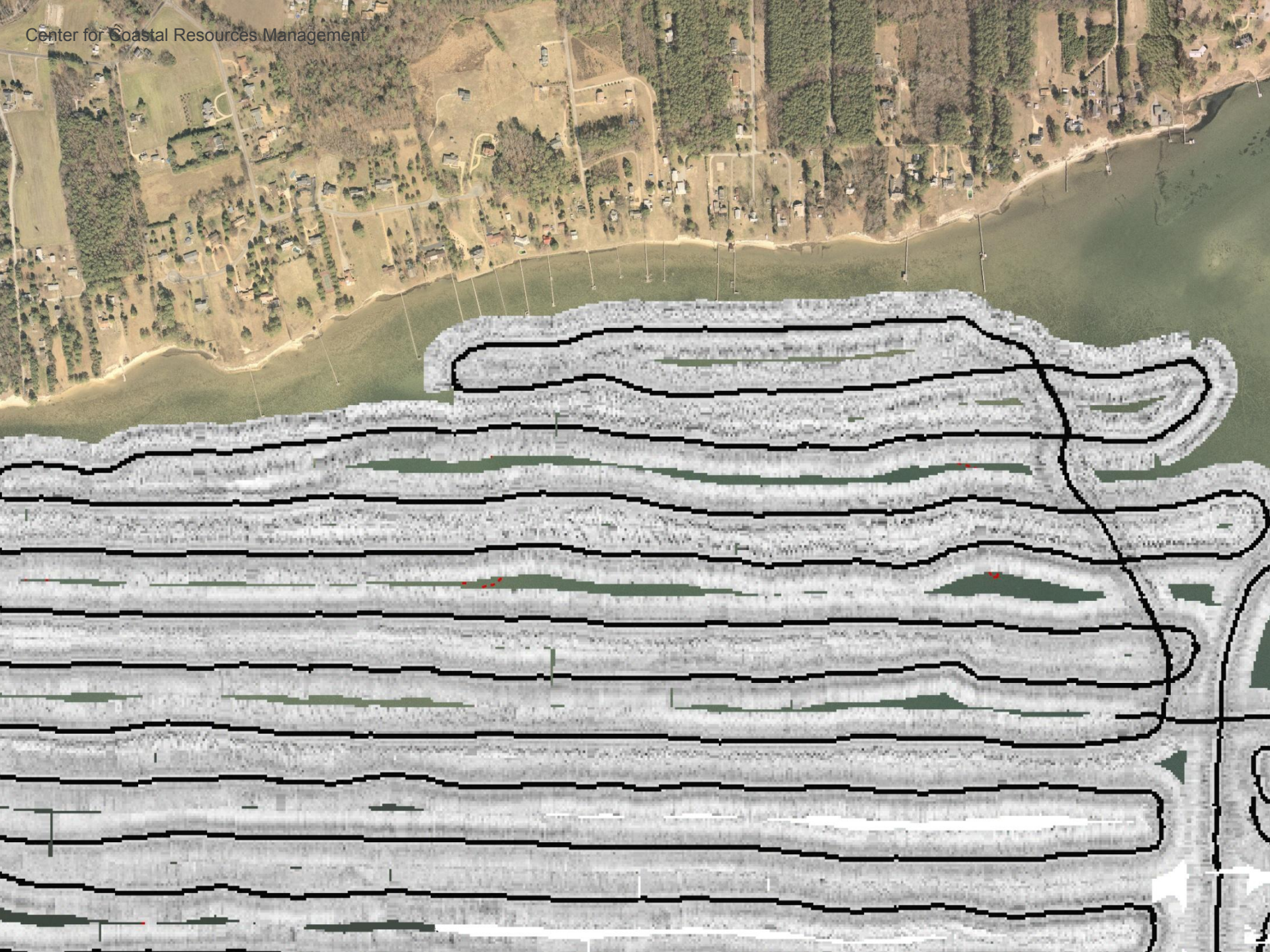
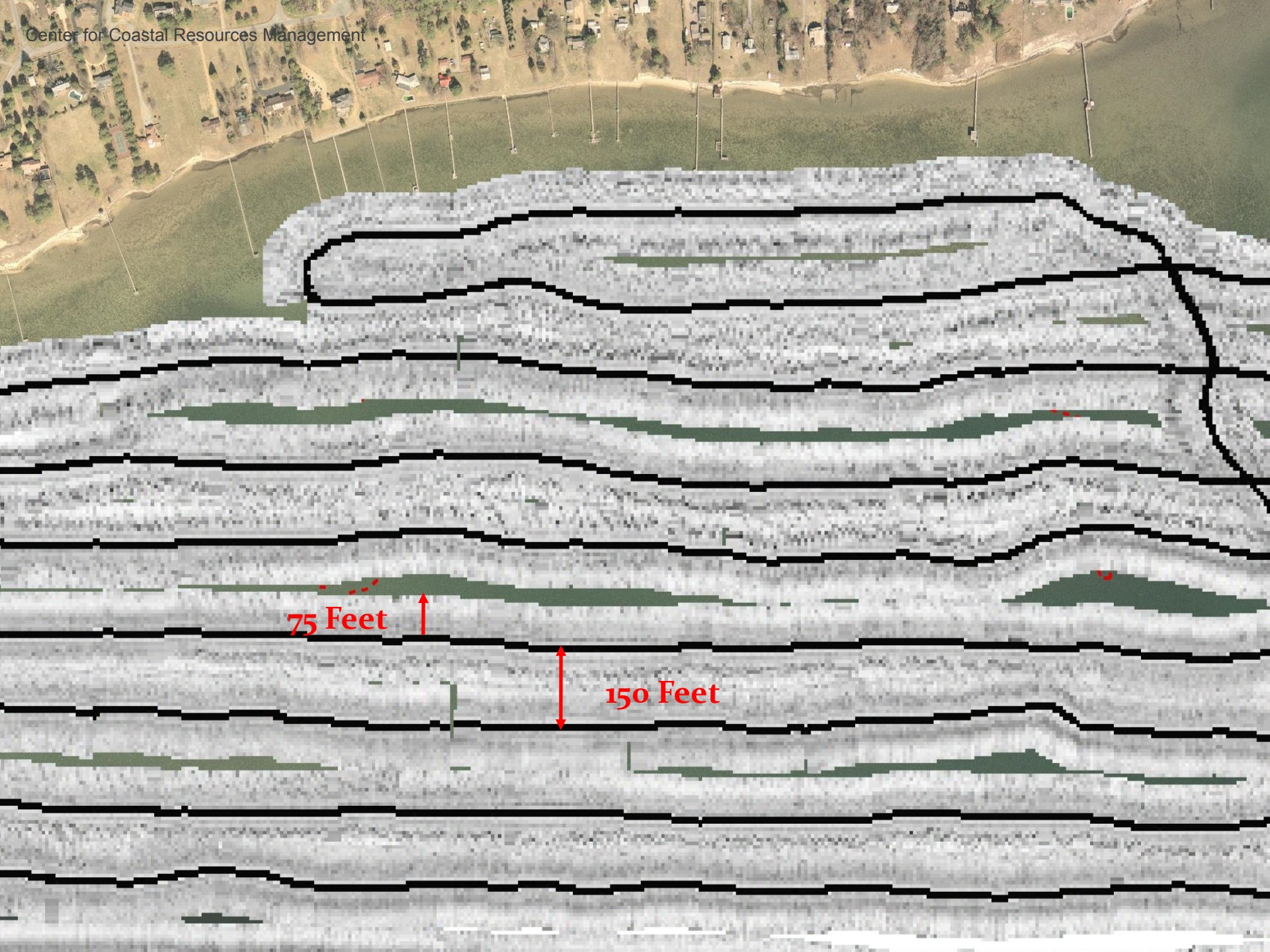
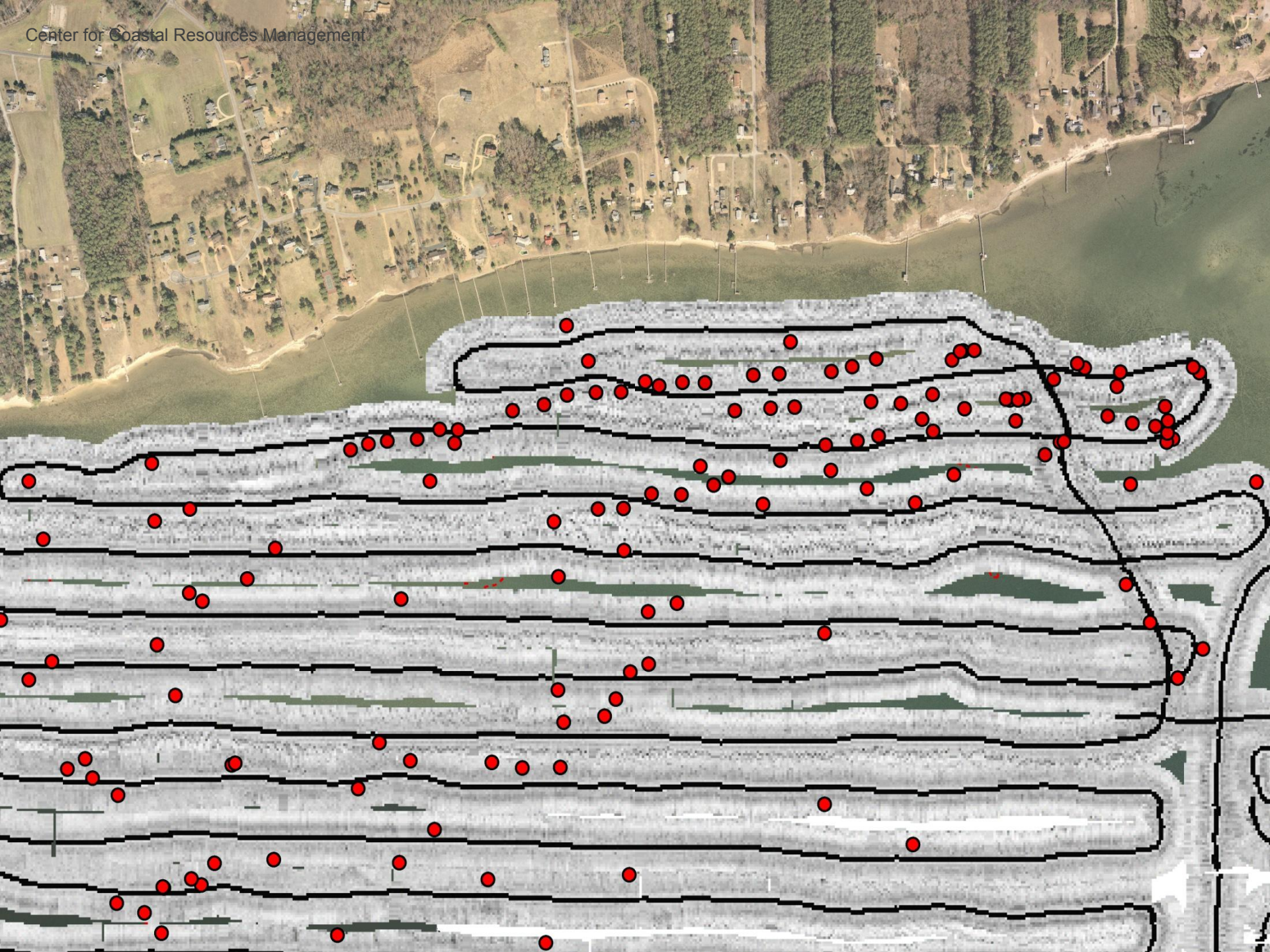


Overview of Techniques and Changes to the Program

- Survey Lines
- Zoom feature when marking debris
 - Changes to the Data Sheets
 - Protected Species Protocol







Overview of Techniques and Changes to the Program

- Survey Lines
- Zoom feature when marking debris
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Instruction for HUMMINBIRD

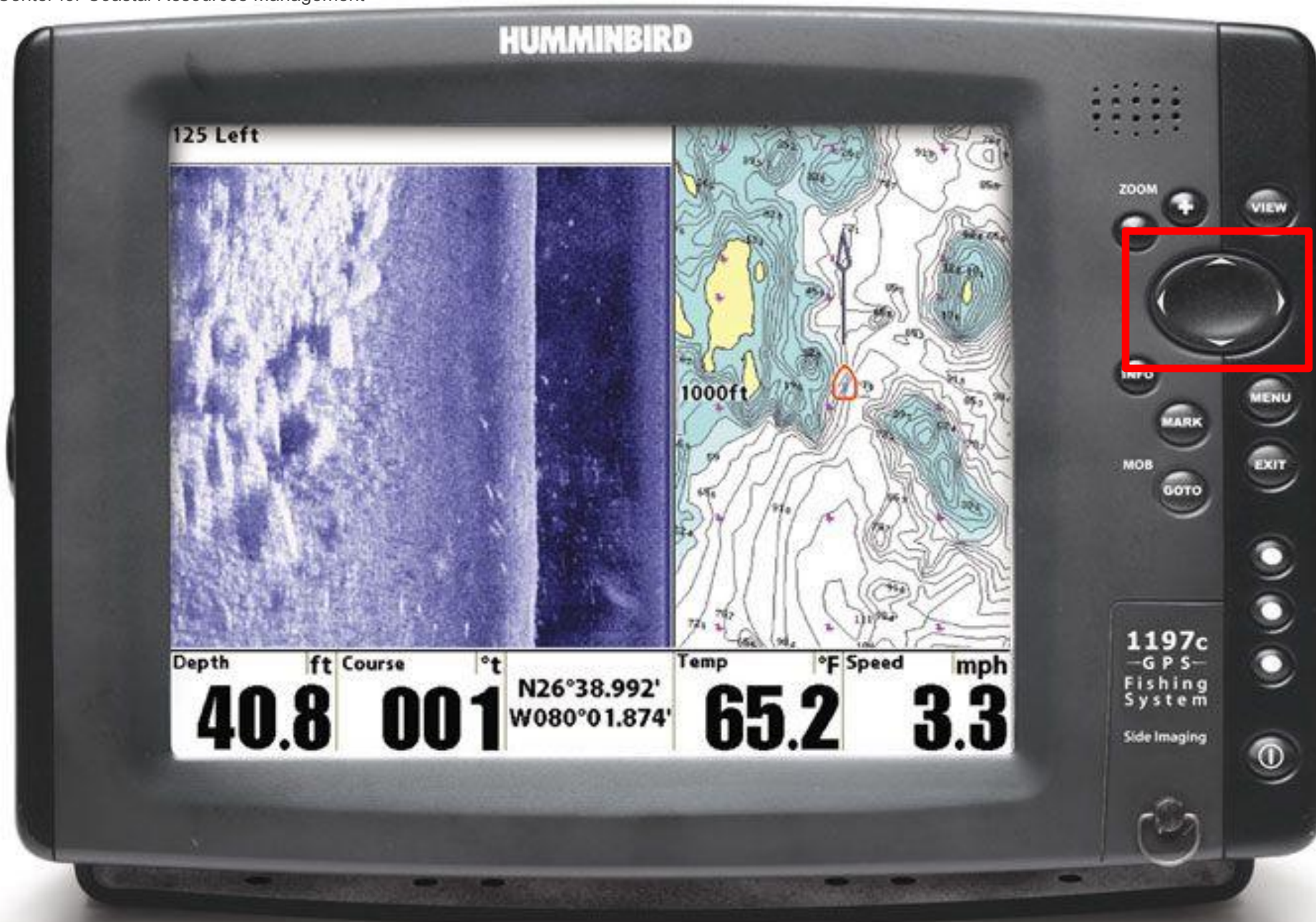
Marking Debris

1. Turn on HUMMINBIRD
2. press “exit” key
3. press quick key #1, to be in side view mode, to mark debris
4. when you see debris push the cursor so the bulls eye is over the object
5. Push the + key to zoom in
6. push the “**mark**” key
7. you must push exit to get back to the side view screen

At the end of the day to save all data

1. Push the “**menu**” key twice
2. scroll across to the “**NAV**” tab
3. scroll down to “**current track**”
4. scroll across to “**save**”
5. scroll to the right to save and confirm
6. After saving scroll down to “**clear**” and scroll to the right to confirm
7. push the “**exit**” button three times to return to the side view screen
8. hold down the **power** key for two seconds to turn off the HUMMINBIRD

All your way points are automatically saved to the SD card

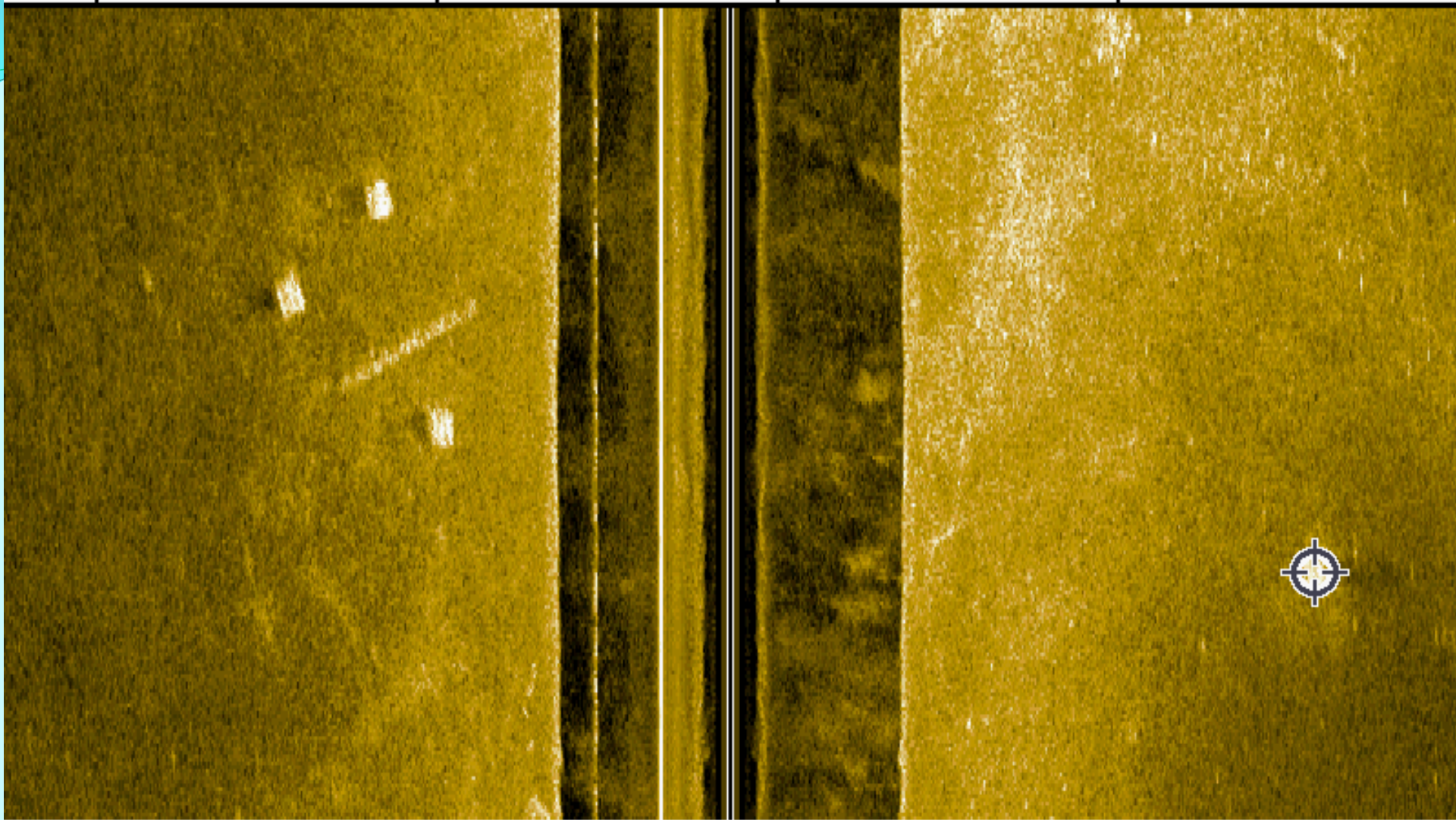


Center for Coastal Resources Management
Cursor
60.1 ft

Depth
336 ft

Distance
345 °t

Bearing



Depth | ft | Speed | kts | Course | °t
16.6 | **4.4** | **074**

N 37.82978°
W 076.28154°

12:21:45 PM
12/22/08

Instruction for HUMMINBIRD

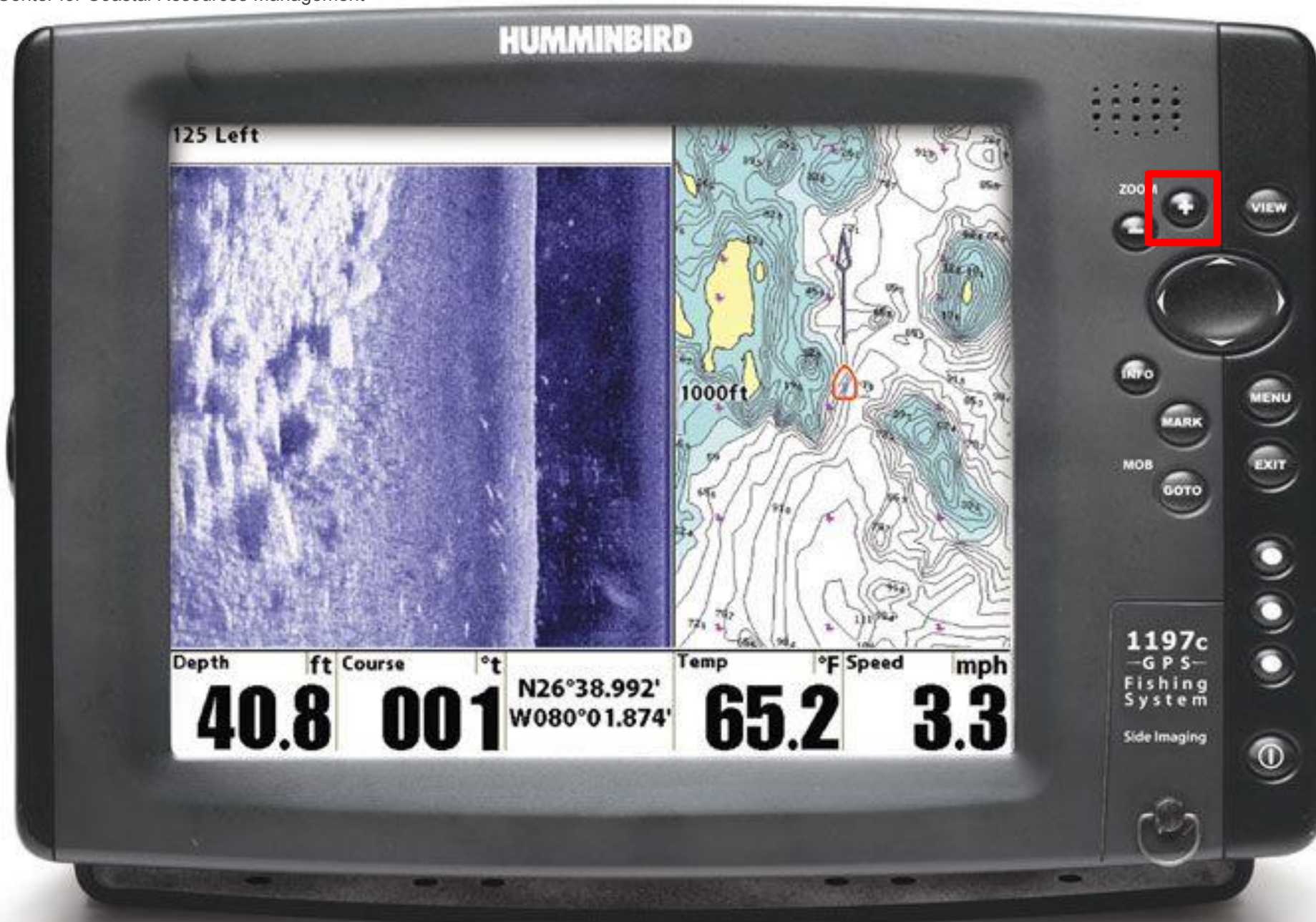
Marking Debris

1. Turn on HUMMINBIRD
2. press “exit” key
3. press quick key #1, to be in side view mode, to mark debris
4. when you see debris push the cursor so the bulls eye is over the object
5. Push the + key to zoom in
6. push the “mark” key
7. you must push exit to get back to the side view screen

At the end of the day to save all data

1. Push the “menu” key twice
2. scroll across to the “NAV” tab
3. scroll down to “current track”
4. scroll across to “save”
5. scroll to the right to save and confirm
6. After saving scroll down to “clear” and scroll to the right to confirm
7. push the “exit” button three times to return to the side view screen
8. hold down the power key for two seconds to turn off the HUMMINBIRD

All your way points are automatically saved to the SD card





Center for Coastal Resources Management
35.9 ft

Cursor

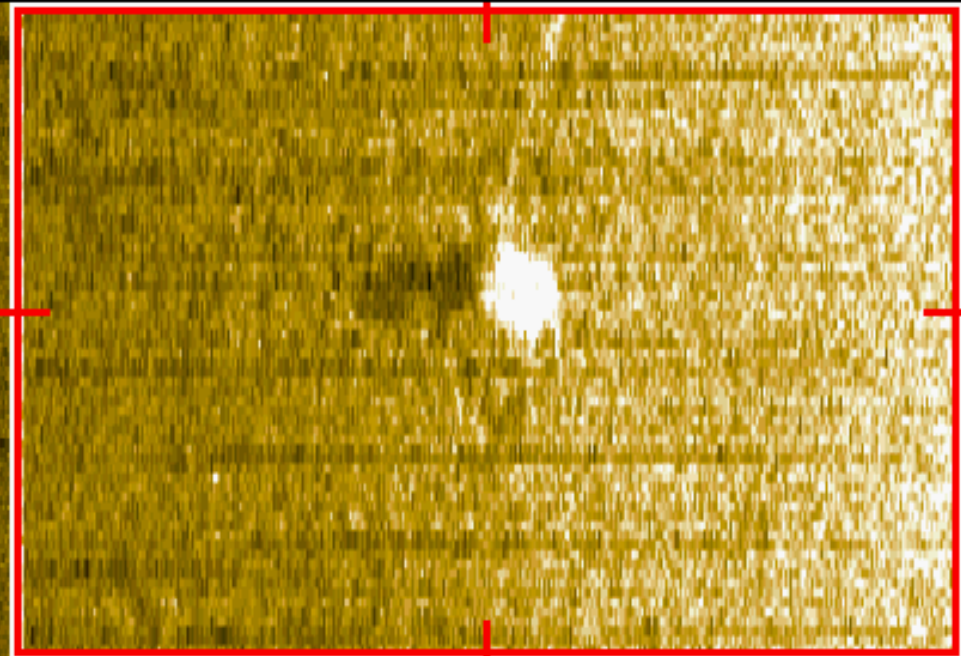
Depth

162 ft

Distance

BRG 151°t

Zoom 2x



Depth	ft	Speed	kts	Course	°t	
13.2		6.5		331		
						N 37.31065°
						W 076.60654°
						8:07:36 AM
						12/30/08

Instruction for HUMMINBIRD

Marking Debris

1. Turn on HUMMINBIRD
2. press “exit” key
3. press quick key #1, to be in side view mode, to mark debris
4. when you see debris push the cursor so the bulls eye is over the object
5. Push the + key to zoom in
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Overview of Techniques and Changes to the Program

- Survey Lines
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Use one sheet for each item you pick up

DATE _____

NAME _____

**Waypoint # on
screen** _____

(NO lat./ long.)

Photo # _____

Time _____

Use one sheet for each item you pick up

DATE 12/2/09

NAME Kory Angstadt

Waypoint # on screen S00095

(NO lat./ long.)

Photo # 815

Time 10:34

TYPE OF MARINE DEBRIS

CHOOSE ONLY ONE

CRAB POT

PEELER POT

EEL POT

FRAME ONLY

PIECE OF
CRABPOT WIRE

Buoyed

Unbuoyed

Buoy in Pot

Pot Condition

GOOD

Still able to fish

BAD

Unable to fish

Line Attached

Cull Rings

2 rings

4 rings

No cull ring

NET

Type of net

Gill	<input type="text"/>
Seine	<input type="text"/>

Length

0 -100 feet	<input type="text"/>
100+ feet	<input type="text"/>

OTHER

Type _____

(appliance, tire, oyster cage)

TYPE OF MARINE DEBRIS

CHOOSE ONLY ONE

CRAB POT

PEELER POT

EEL POT

FRAME ONLY

PIECE OF
CRABPOT WIRE

Buoyed

Unbuoyed

Buoy in Pot

Pot Condition

GOOD

Still able to fish

BAD

Unable to fish

Line Attached

Cull Rings

2 rings

4 rings

No cull ring

NET

Type of net

Gill	<input type="checkbox"/>
Seine	<input type="checkbox"/>

Length

0 -100 feet

100+ feet

OTHER

Type _____

(appliance, tire, oyster cage)

BYCATCH

BLUE CRABS

Number of Males	How many male crabs are dead?	Number of Females	How many female crabs are dead?

FISH

Species	# of fish	Comments	Photo #

LIVE OYSTERS

1-10

11+

Photo # _____

(market size)

OTHER (turtle,
muskrat) Type

BYCATCH

BLUE CRABS

Number of Males	How many male crabs are dead?	Number of Females	How many female crabs are dead?
4	1	1	

FISH

Species	# of fish	Comments	Photo #
Oyster Toadfish	1	Dead	814

LIVE OYSTERS 1-10 11+ Photo # **813**

(market size)

OTHER (turtle, muskrat) Type _____

Overview of Techniques and Changes to the Program

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Sea grass

1. Do not attempt to retrieve material in areas of known submerged aquatic vegetation (SAV).
2. When retrieving material, if grappling device pulls up any submerged aquatic vegetation, cease attempts in that area.
3. Do not attempt retrieval in areas where vessel prop will disturb bottom.





Protected Animals



You should be on the lookout for any whales, sea turtles, seals and sturgeon.

- In the event that any of the protected animals are observed entrapped in a crab trap or net, that information must be reported to NMFS within 24 hours.
- All vessels participating must maintain a lookout for protected animals and reduce speeds to 10 knots or less should one be sighted.
- All scanning should be done at 4 knots
- No grappling may occur if they are in the area of the project vessel.
- All grappling should be done at speeds less than one knot.



Protected Animals



- All protected animal sightings should be recorded and reported to NMFS.
You should:
 - Take a complete description of the type and condition of the animal.
 - Take a digital photograph
 - Record the Lat./ Long.
 - Record any marine debris gear
- **The 24-hour NMFS Stranding & Entanglement Hotline can be reached at 978-281- 9351**



Questions ?

Tangier Island

Exporting Data

On the afternoon before transport to Reedville

1. Push the “**menu**” key twice
2. Scroll across to the “**NAV**” tab
3. Scroll down to the “**export all nav. data**”
4. scroll to the right to save and confirm
5. push the “**exit**” button
6. Remove the card and replace with a new one
7. Give card and camera to Mark.