



# **Redfish Cove Channel**

**A NAVIGATION SYSTEMS CASE STUDY IN  
USING GOOGLE EARTH AND AV ASSISTANT**

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## Introduction

This case study describes how Google Earth and AV Assistant work very well together to do aids verification and discrepancy reports. In this case, Redfish Cove Channel was a particularly egregious example of bad PATON channel data.

**AV Assistant (AVA)** is a phone app for aids reporting, developed by Clint O'Connor, that downloads the weekly Light List and Local Notices to Mariners (LNM), displays all the aids around your current location, generates a 7054 verification or discrepancy report based on user input, and emails it off. It is often called the “1 minute aids verifier” as a complete 7054 verification report can be generated in 1 minute on the water. Currently AVA is only available for Apple iPhones and iPads.

**Google Earth Pro (GE)** is a geographical information display program produced by Google that can display rich information on any geographical area in the world. It is free to download and use, and it can import and export GIS datasets. GE is available for PC, Mac, and Linux. Dan Meigs in District 5 has been doing a lot of work with GE to display not only the entire Light List but also specific channels and routes for post-storm surveys and SAR field work.

The **Light List** and **Local Notices to Mariners (LNM)** are published by the U.S. Coast Guard Navigation Center in PDF and XML formats through the [navcen.uscg.gov](http://navcen.uscg.gov) website. These lists, together, describe the location, characteristics, and condition of every aid to navigation in navigable U.S. waters and a few outside U.S. territorial limits.

## Redfish Cove Channel



Redfish Cove Channel is just south of Cape Coral, Florida, in Flotilla 9-10's area of responsibility (AOR). Shown in AVA, the channel (highlighted in yellow) is ill-defined and actually has more aids than appear here.

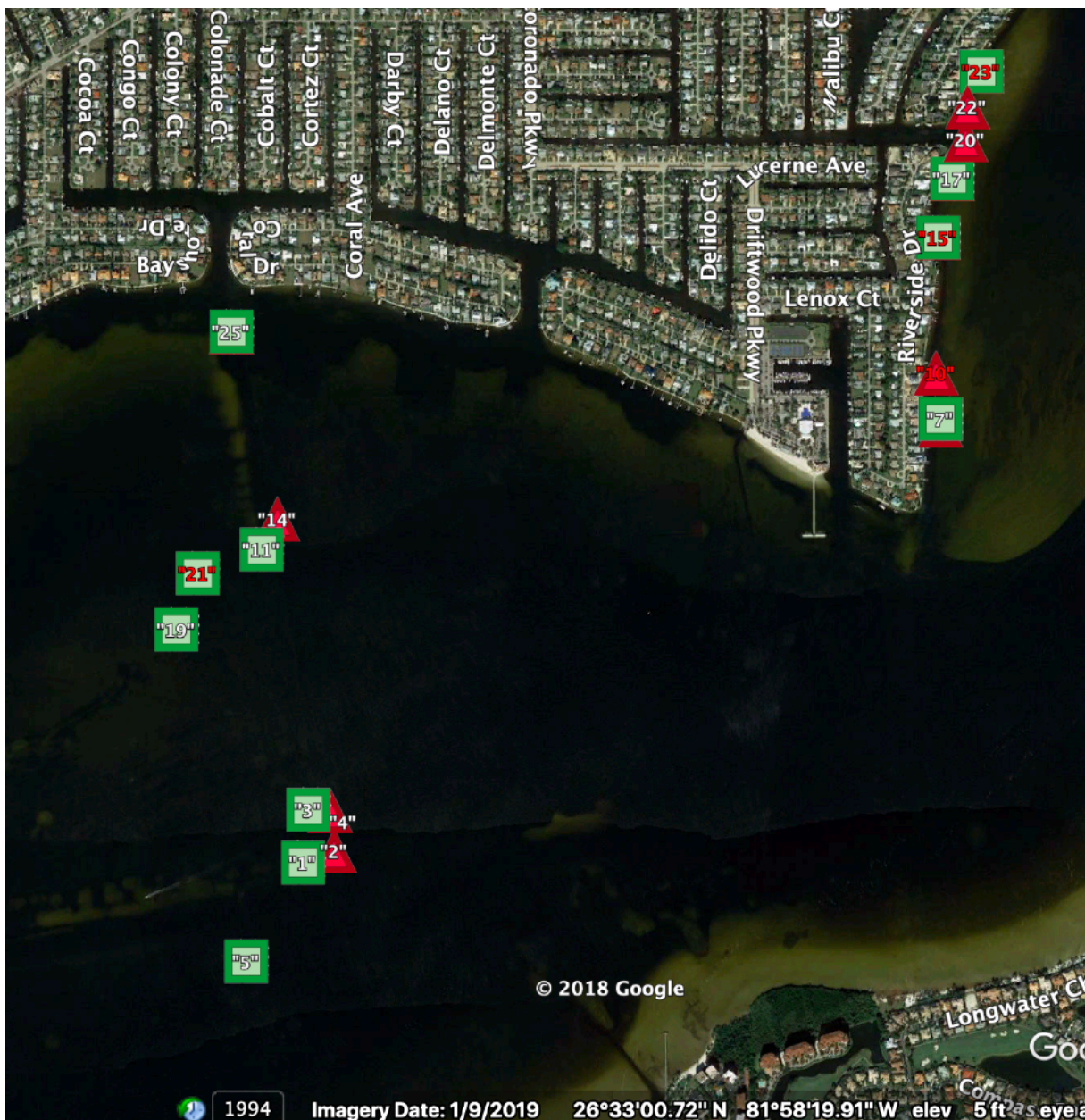
Going solely by AVA, the extra aids would be reported as Unauthorized Aids since there are no apparent aids in those locations. However, a quick check of the Light List below shows there ARE aids and in AVA, you want to start from those aids and then do a GPS Fix to show they are off station - not declare unauthorized aids.

<b>Redfish Cove Channel</b>		
54375	- Day beacon 1	26-31-56.478N 081-57-50.321W
54380	- Day beacon 2	26-31-57.478N 081-57-47.321W
54385	- Day beacon 3	26-32-00.978N 081-57-49.821W
54390	- Day beacon 4	26-32-00.900N 081-57-47.721W
54395	- Day beacon 5	26-31-48.078N 081-57-55.721W
54400	- Day beacon 7	26-32-34.176N 081-56-49.719W
54405	- Day beacon 8	26-32-33.676N 081-56-49.719W
54410	- Day beacon 9	26-32-34.176N 081-56-49.719W
54415	- Day beacon 10	26-32-38.076N 081-56-50.119W
54420	- Day beacon 11	26-32-23.077N 081-57-54.221W
54425	- Day beacon 14	26-32-25.676N 081-57-52.721W
54430	- Day beacon 15	26-32-49.575N 081-56-49.919W
54435	- Day beacon 16	26-32-49.575N 081-56-49.919W
54440	- Day beacon 17	26-32-54.575N 081-56-48.619W
54445	- Day beacon 18	26-32-54.575N 081-56-48.619W
54450	- Day beacon 19	26-32-16.277N 081-58-02.321W
54455	- Day beacon 20	26-32-57.875N 081-56-47.319W
54460	- Day beacon 21	26-32-21.077N 081-58-00.321W
54465	- Day beacon 22	26-33-00.675N 081-56-47.119W
54470	- Day beacon 23	26-33-03.675N 081-56-45.819W
54475	- Day beacon 24	26-33-03.675N 081-56-45.819W
54480	- Day beacon 25	26-32-41.576N 081-57-57.121W
54485	- Day beacon 26	26-32-41.576N 081-57-57.121W
<b>St. Charles Harbour Channel</b>		

Looking just at the channel lat/lon coordinates, you can see that "15" & "16" have identical coordinates. So do "17" & "18", "23" & "24", and "25" & "26".

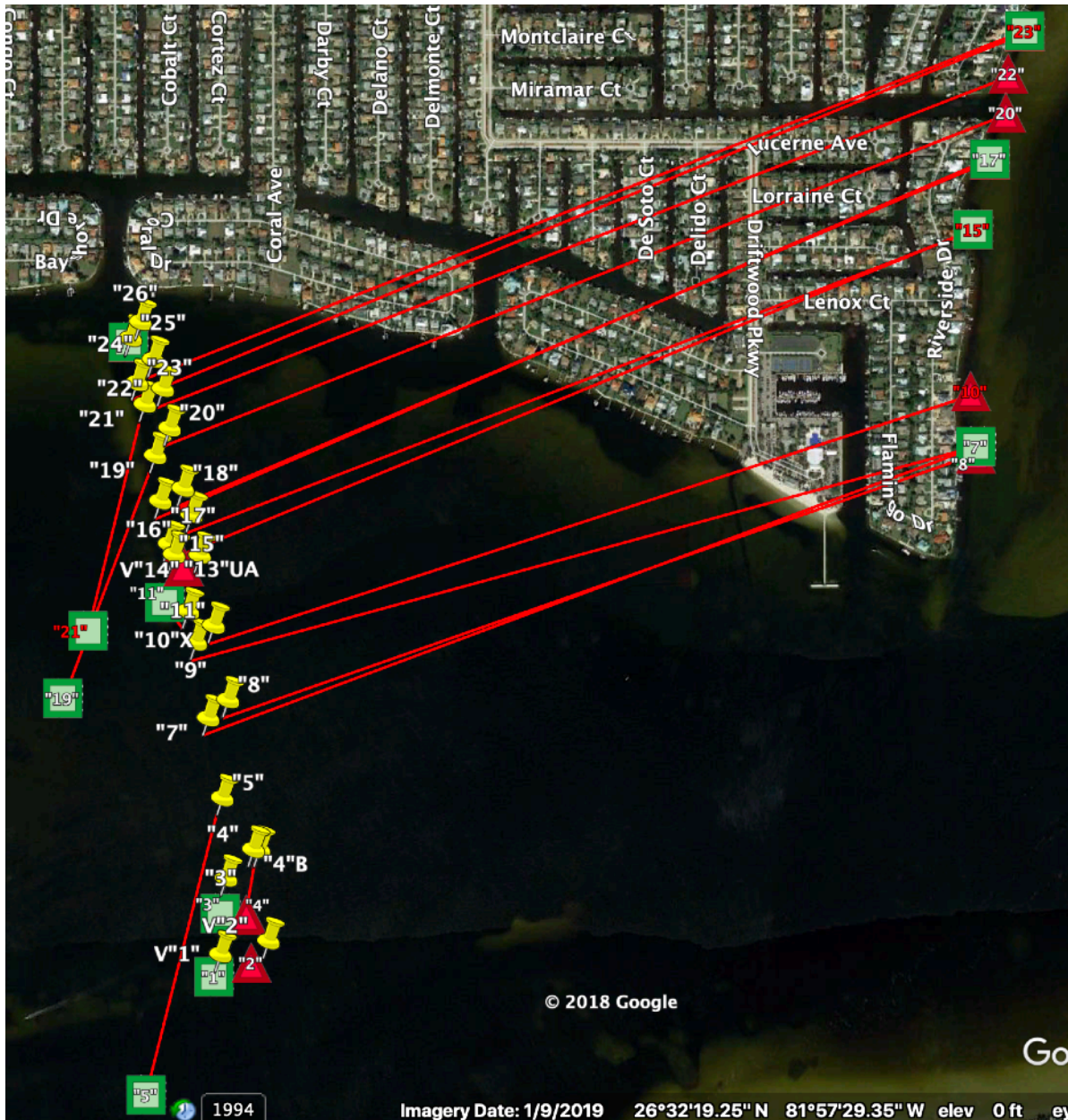
However, looking at AVA and at the Light List entries, it is not at all apparent where the missing aids are. This is why we also need to use Google Earth. Dan Meigs in District 5 has pioneered the use of GE for planning missions and SAR in District 5 (my thanks to Dan for quickly generating a GE kmz file for the Redfish Cove Channel survey).

Using Google Earth, and showing just the aids in this channel, you can quickly see why using only AVA and the Light List can be confusing in a survey where really bad PATON data exists. All the missing aids are over there to the right in another channel. Running AVA down this channel was downright confusing because I was finding aids that weren't there. Mystery solved.





After placing yellow pins at each of my survey coordinates and using Measure to draw a line from the LL aid position to the real position, I ended up with the following:



## Conclusion

Running an aids survey using only AVA is likely to result in unauthorized aids reports, particularly where a channel has many misplaced aids.

Every AV should determine beforehand, if possible, what channels will be surveyed and bring a printed copy of that section of the Light List to scribble on.

If the aid exists but is not seen in the area with AVA, then use AVA's search function to enter the aid's LLNR from the Light List, and then start the report for that aid using GPS Fix to establish the new location. This works well and there is undoubtedly work I can do later in AVA to highlight the current channel marks.

For the most accurate planning, use Google Earth to display the lights in the channel and plot your run on that basis.

AV Assistant and Google Earth together can quickly untangle even a messy channel like Redfish Cove Channel.