

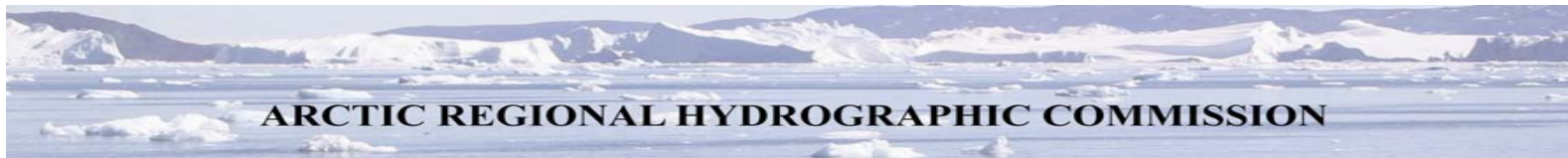


**ARHC2-04D INF1**

# **STATUS OF ARCTIC OCEAN NAUTICAL CHART COVERAGE**

**Produced by the  
ARCTIC REGIONAL HYDROGRAPHIC COMMISSION**

**Presented  
Copenhagen, Denmark, September 28-29, 2011**



## **Table of Content for ARHC Arctic Chart Coverage**

**Executive Summary** (objective, sources, level of confidence, observations)

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Paper Chart Coverage

1. Small Scale (Overview, General, Coastal scale)
2. Large Scale West (Berthing, Harbour, Approach scale)
3. Large Scale East

Raster Navigational Chart (RNC) Coverage

4. Small Scale (Overview, General, Coastal scale)
5. Large Scale (Berthing, Harbour, Approach scale)

Electronic Navigational Chart Coverage

6. Small Scale (Overview, General, Coastal scale)
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15. Large Scale (Central)

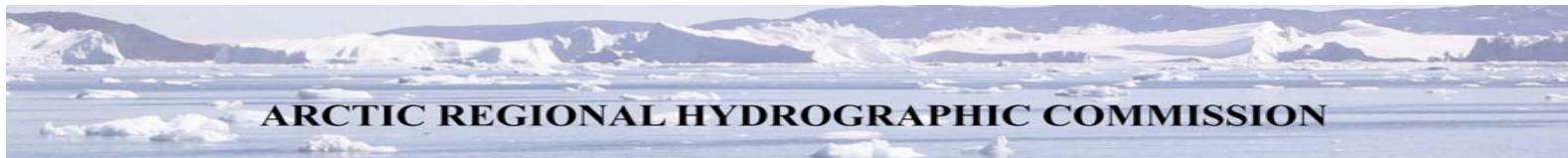
Electronic Navigational Chart Coverage

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### **Chapter 3: Norway Overview**

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- 31. Small Scale
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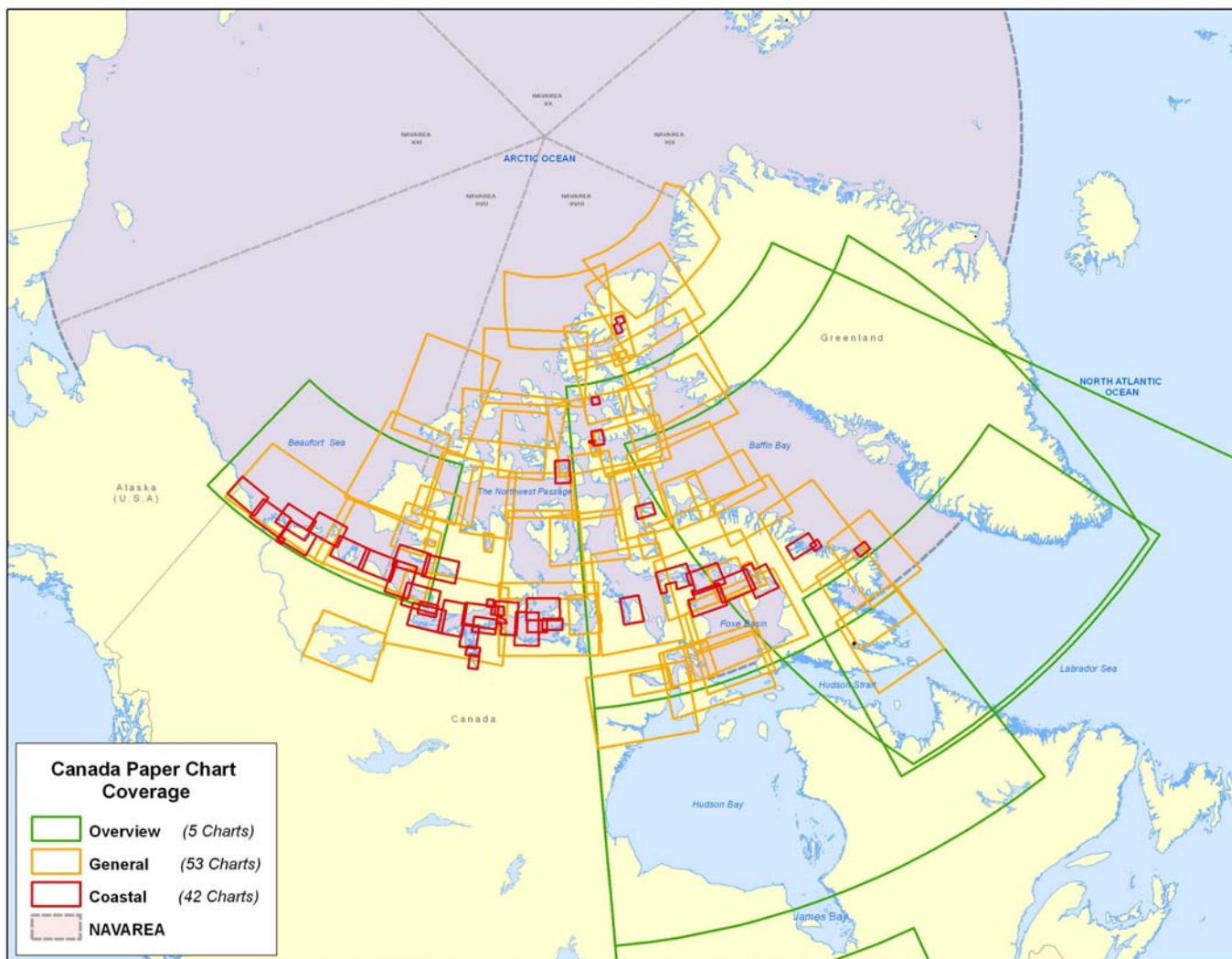
- 33. ARHC Overview Paper Charts – Small Scale (Overview, General, Coastal scale)
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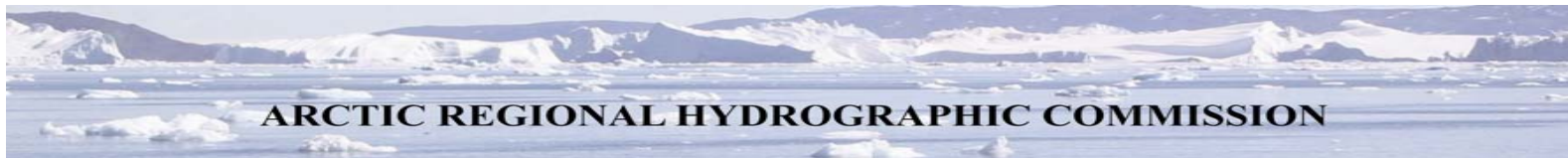
### **Chapter 7: References**

- 37. Scale Ranges by Country
- 38. Source References

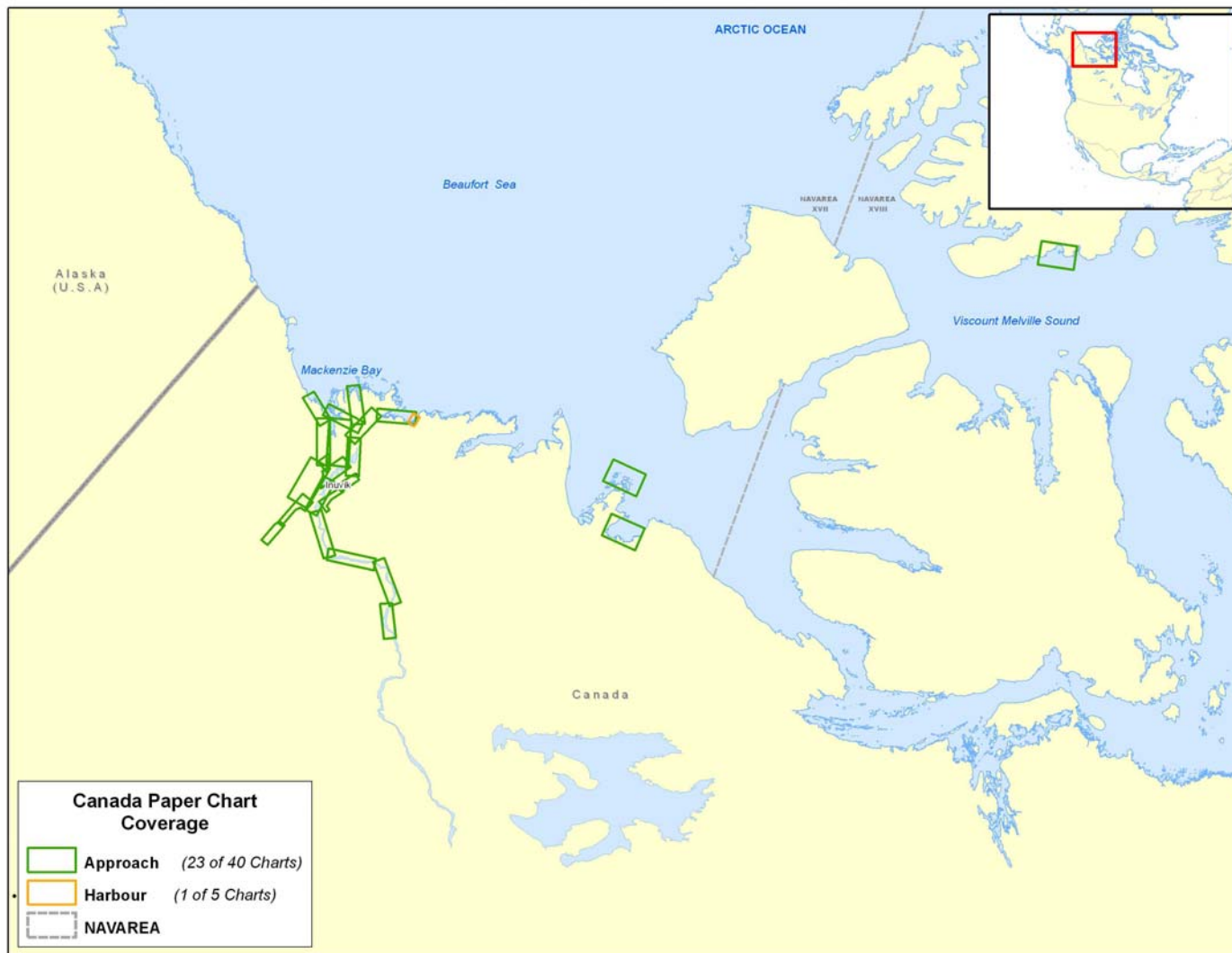


## CHAPTER 1: Canada Paper Chart Coverage – Small

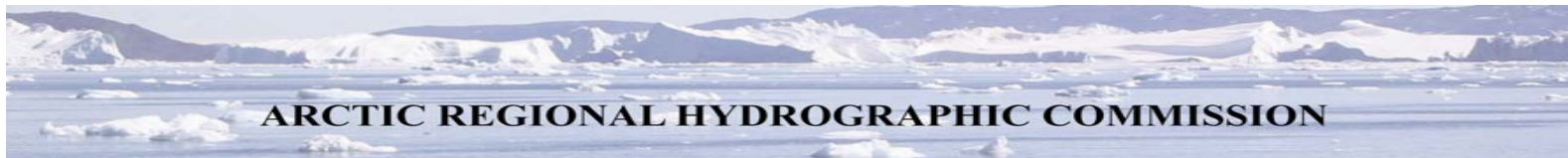




## Chapter 1: Canada Paper Chart Coverage – Large Scale (west)





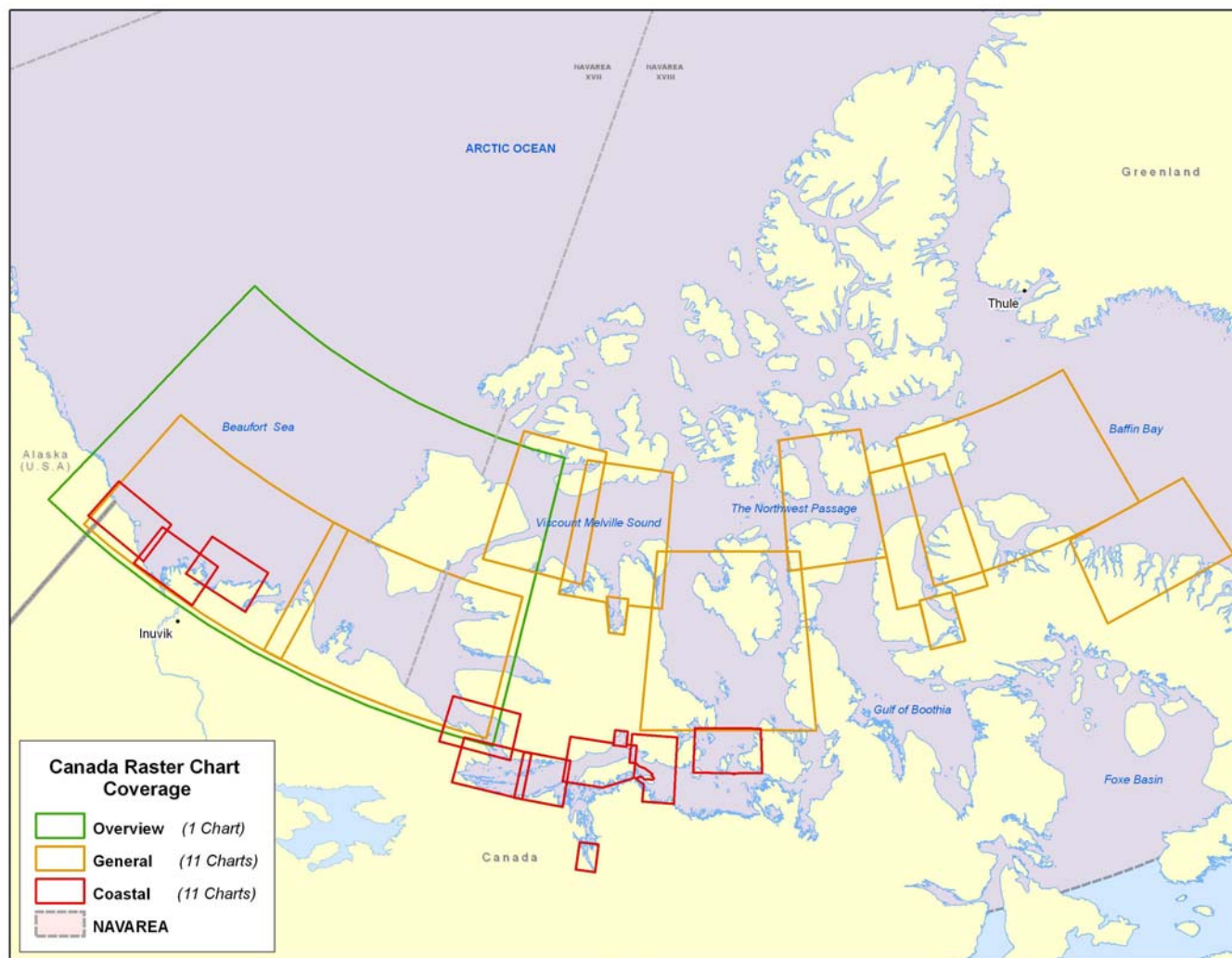


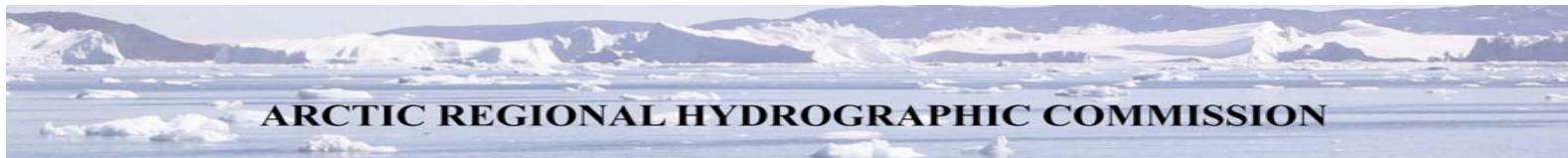
## CHAPTER 1: Canada Paper Chart Coverage – Large Scale (East)



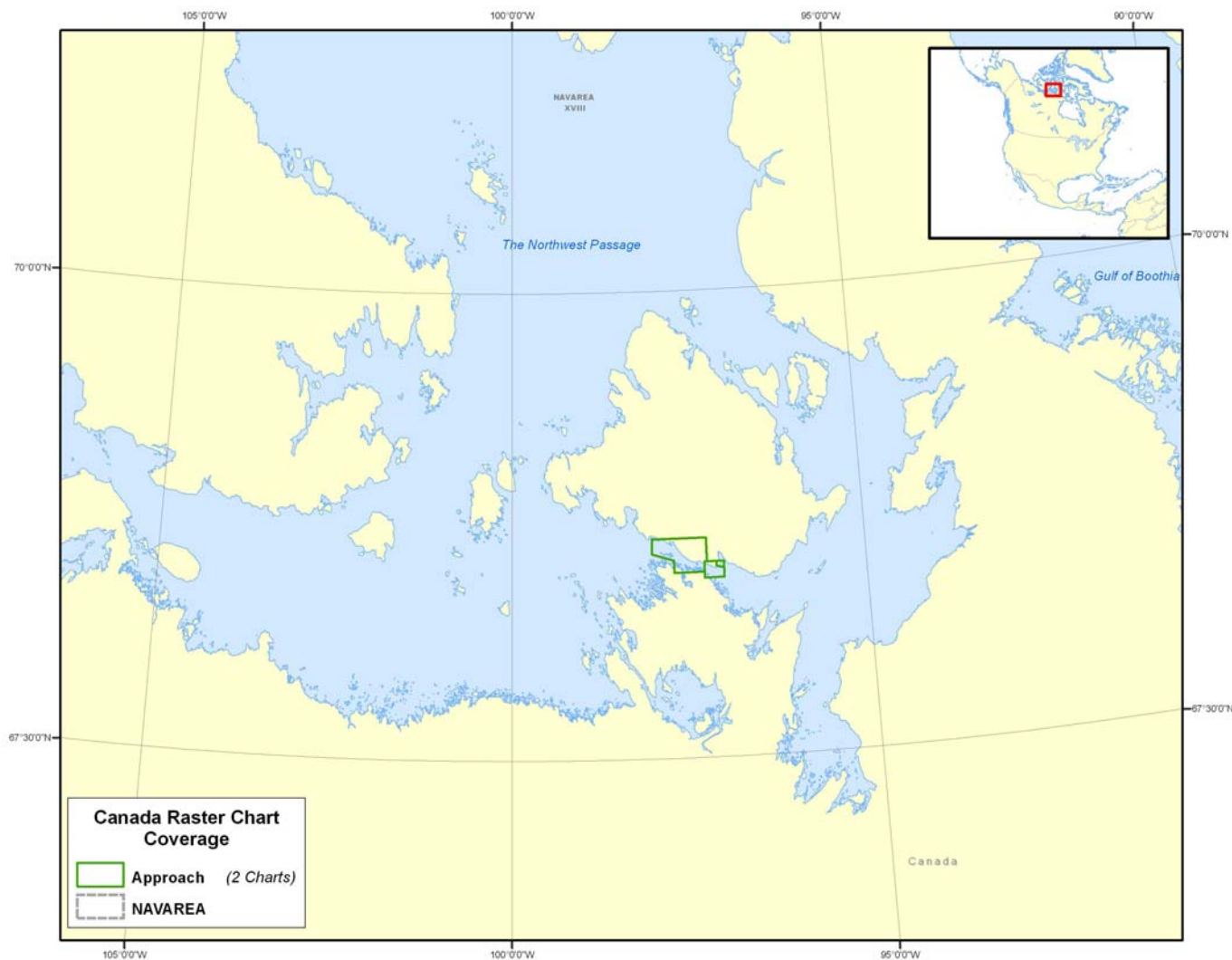


## CHAPTER 1: Canada Raster Navigational Chart Coverage – Small Scale





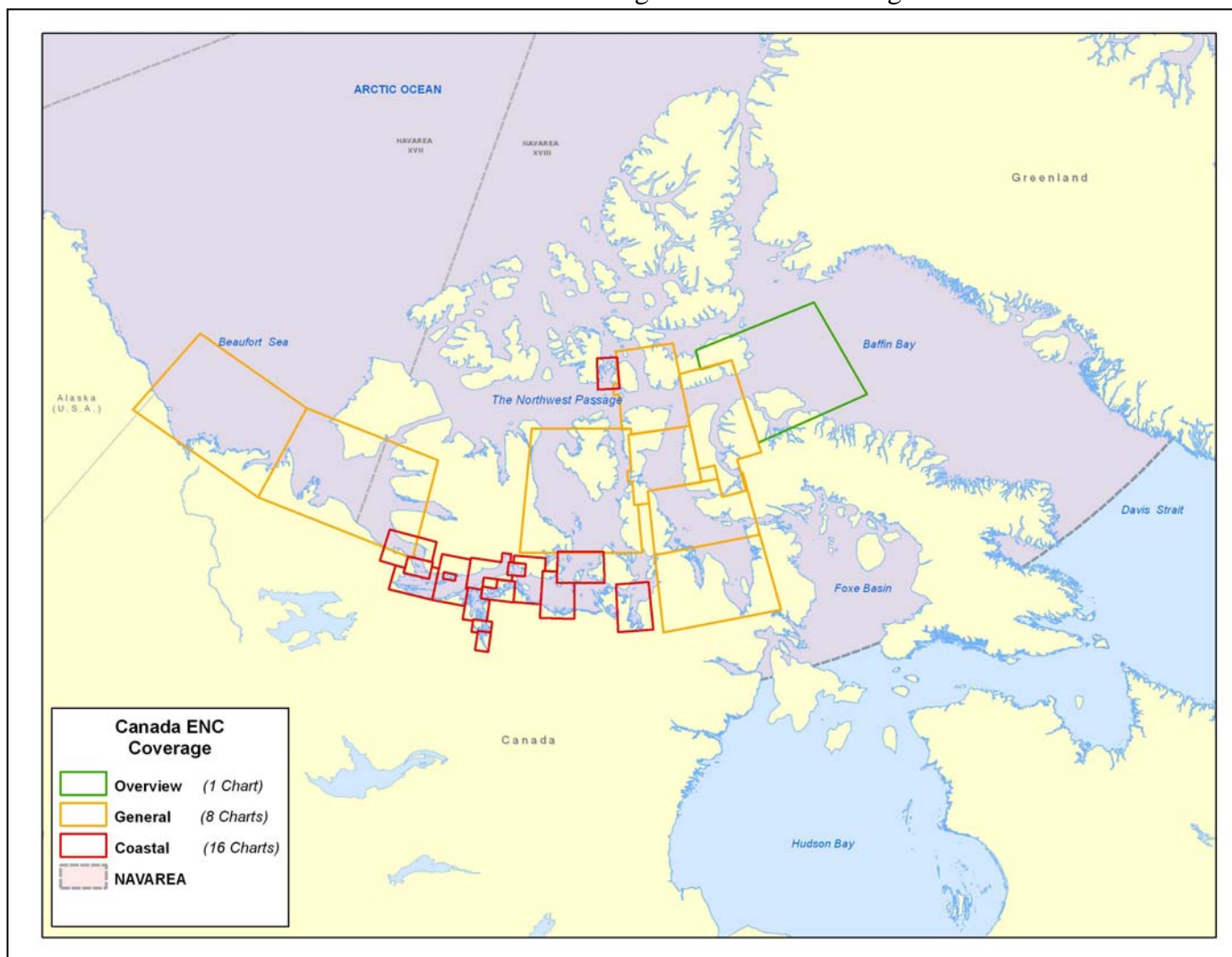
## CHAPTER 1: Canada Raster Navigational Chart Coverage – Large Scale





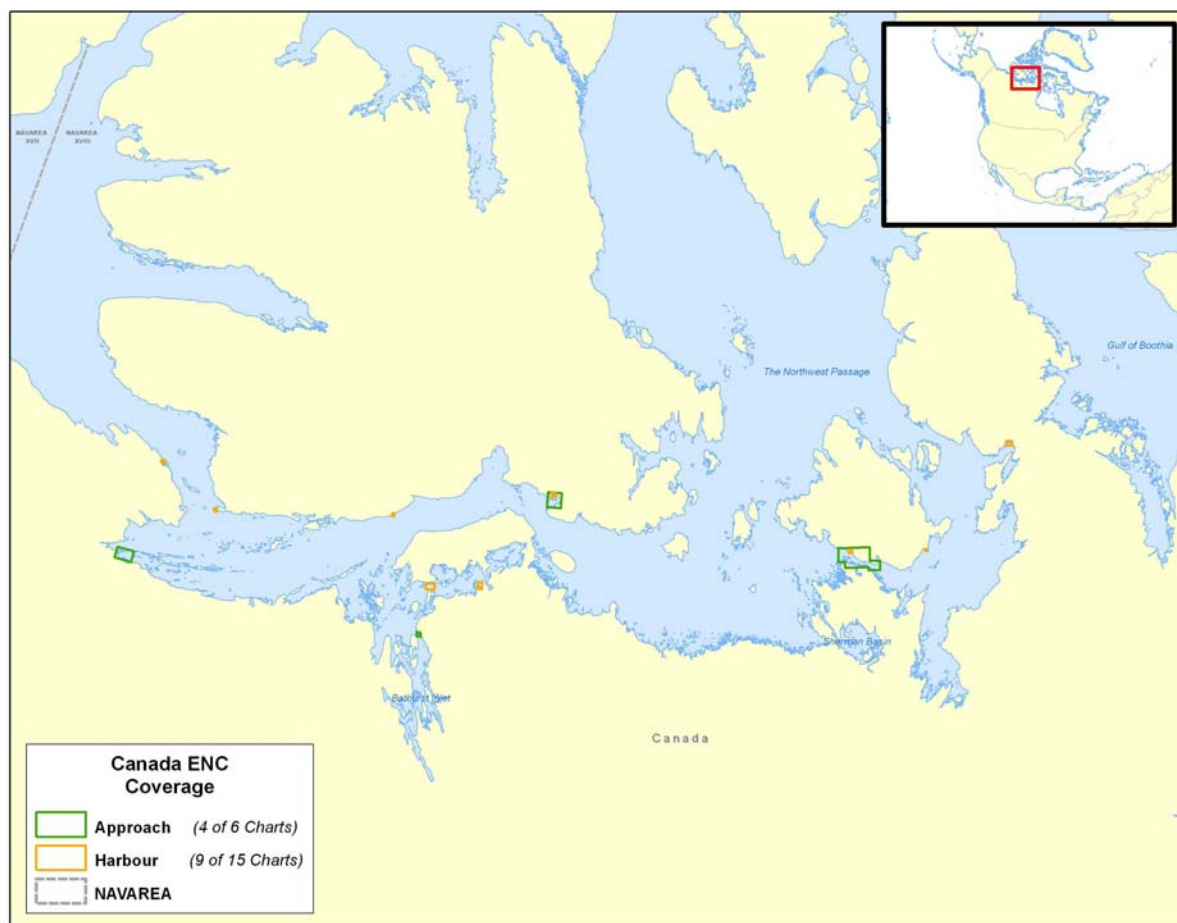


## CHAPTER 1: Canada Electronic Navigational Chart Coverage – Small Scale



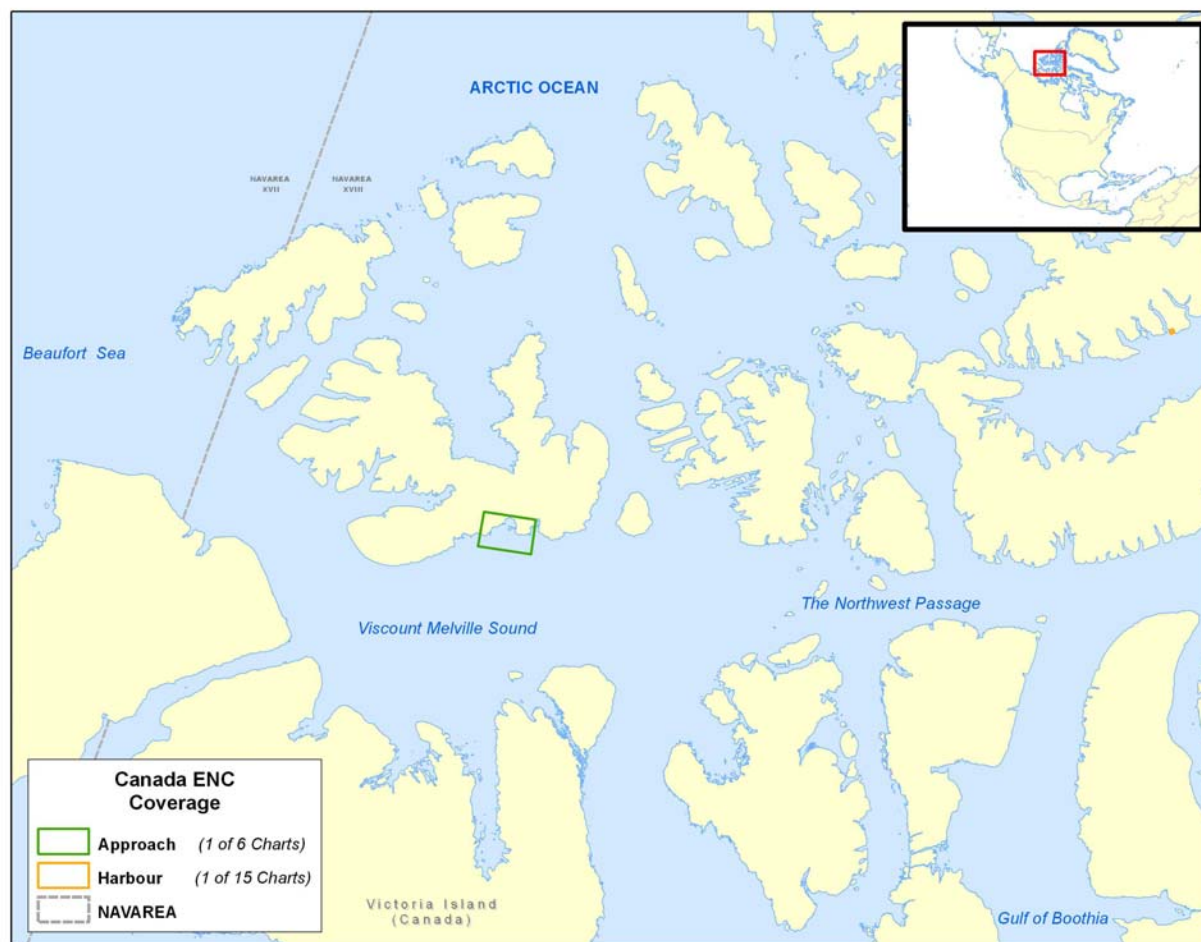


## CHAPTER 1: Canada Electronic Navigational Chart Coverage – Large Scale (South-West)



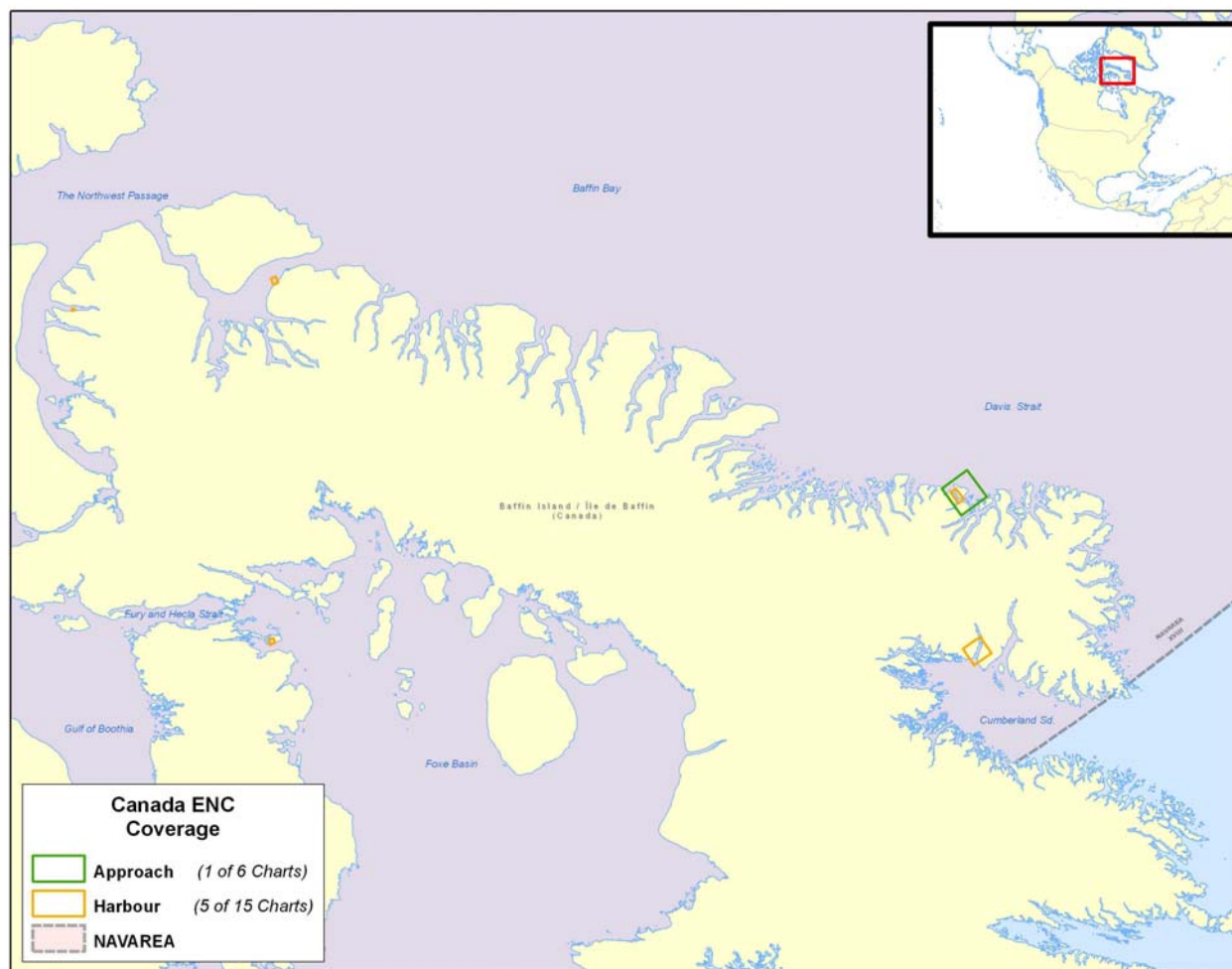


## CHAPTER 1: Canada Electronic Navigational Chart Coverage – Large Scale (West)





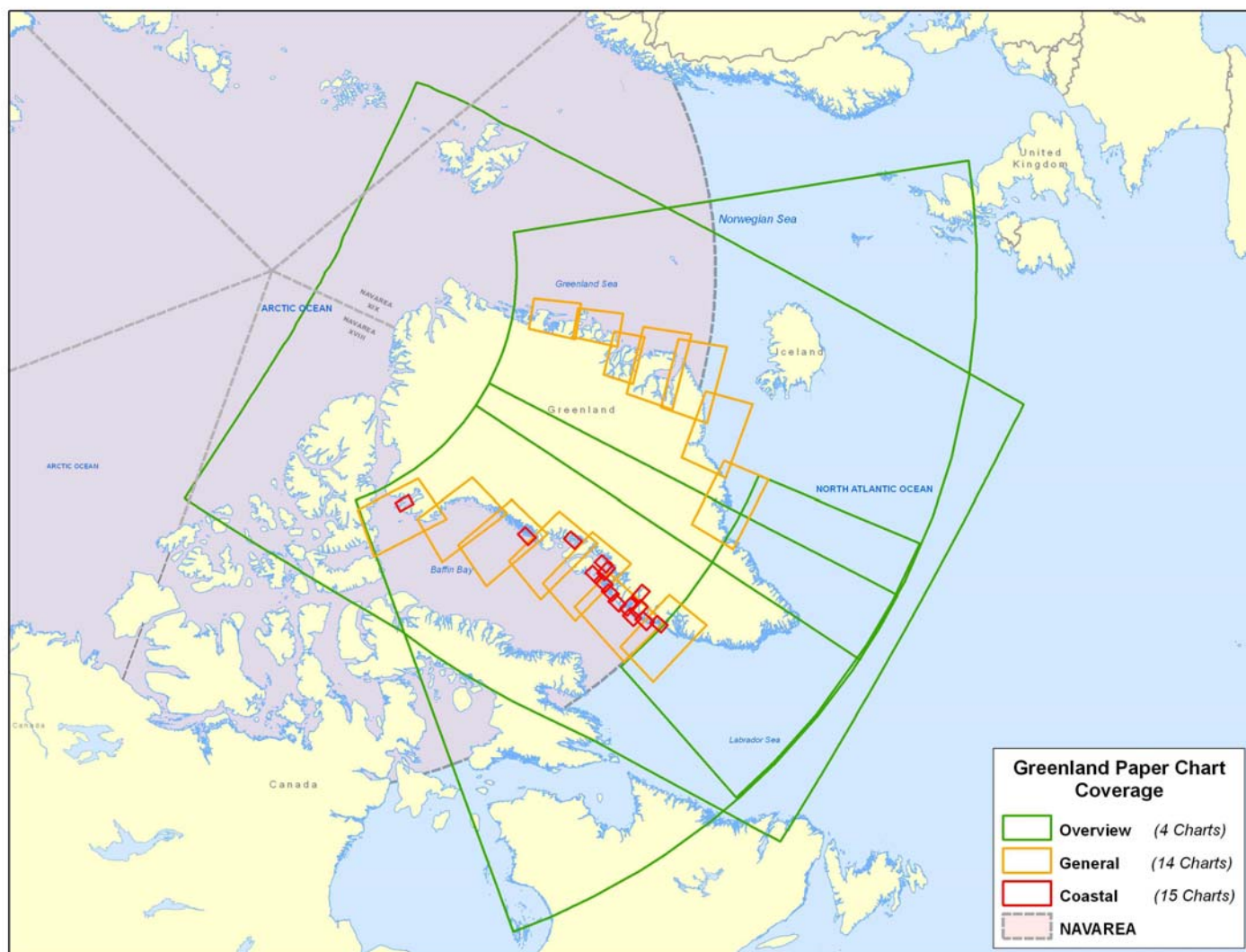
## CHAPTER 1: Canada Electronic Navigational Chart Coverage – Large Scale (East)





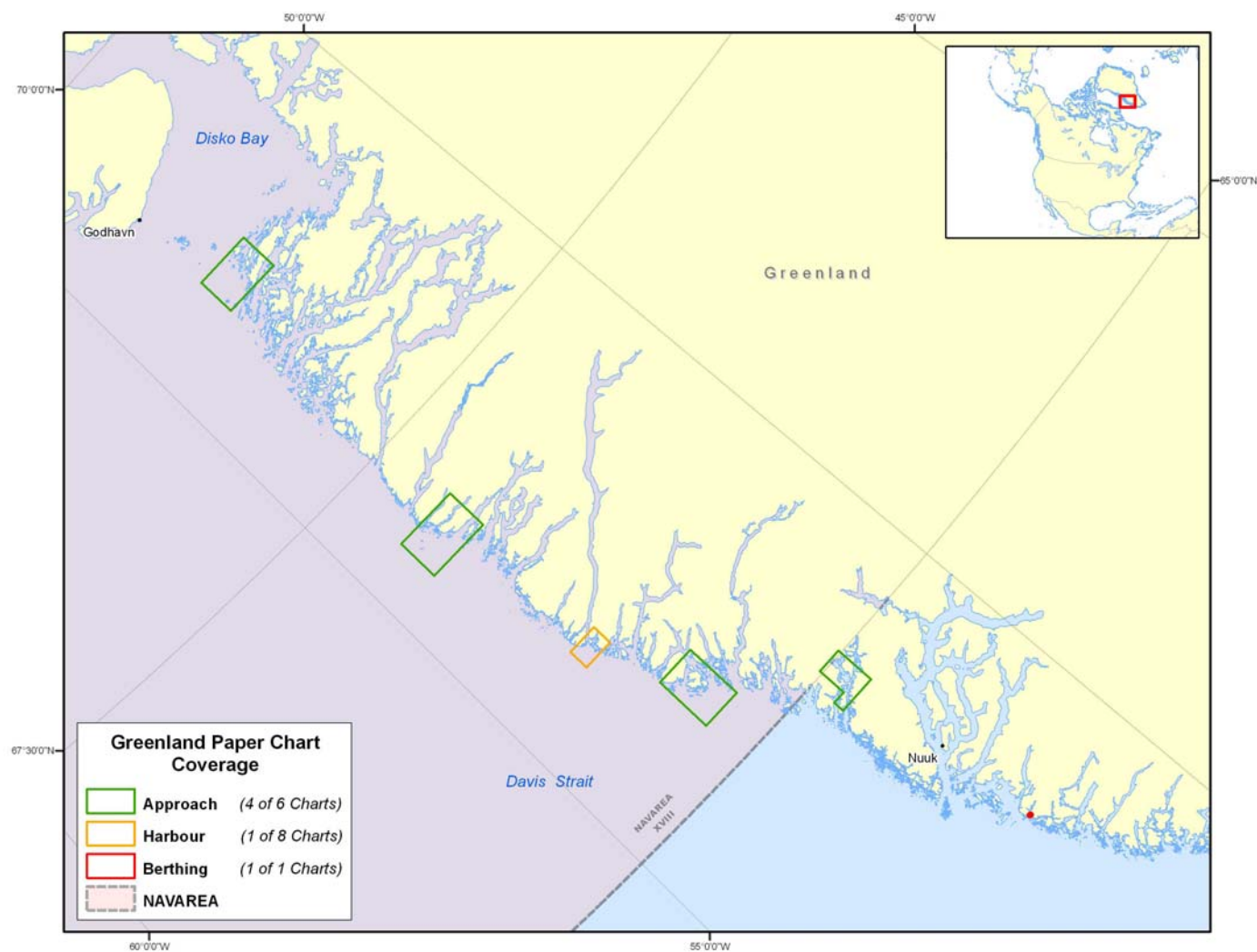


## Chapter 2: Denmark Paper Chart Coverage – Small Scale



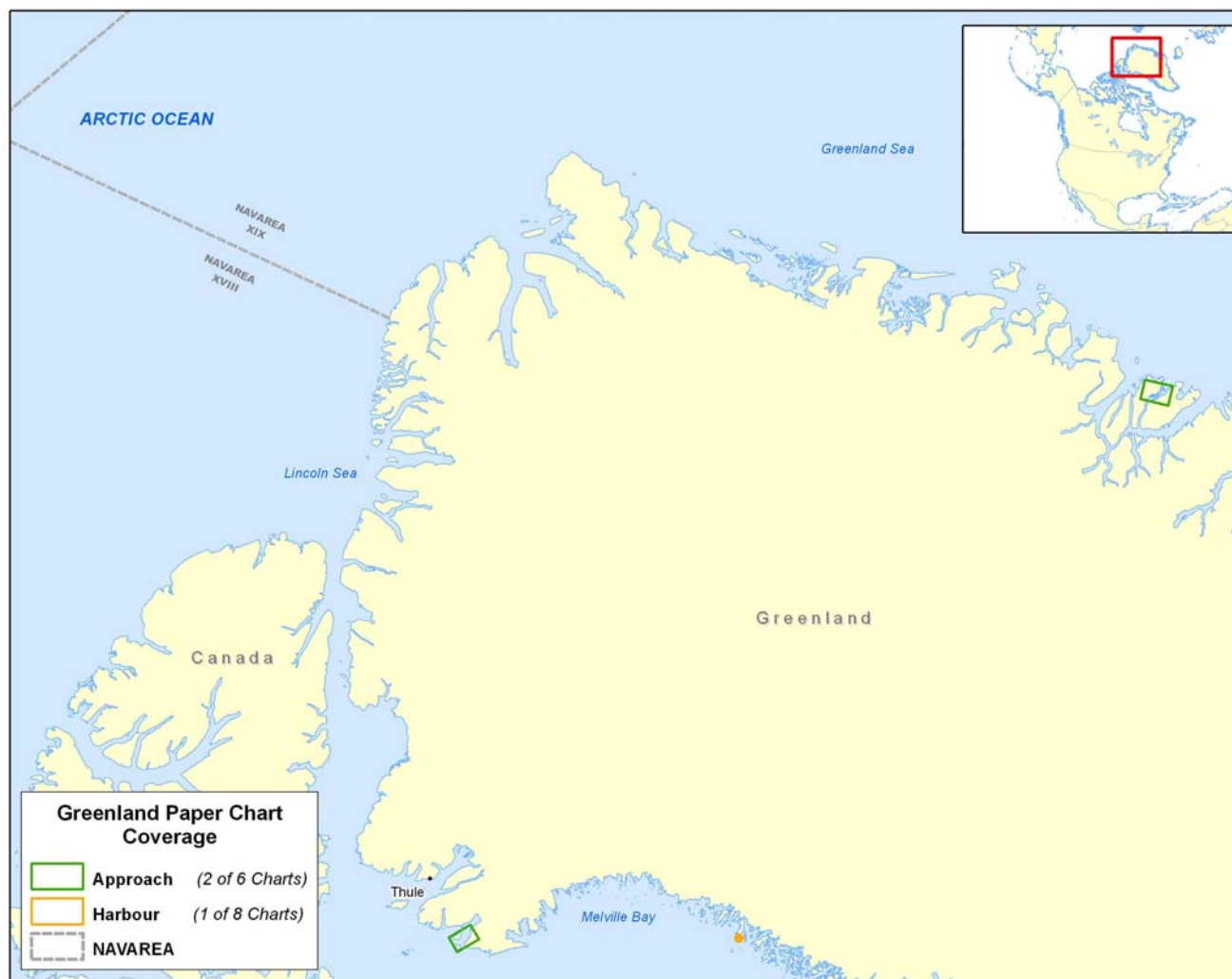


## Chapter 2: Denmark Paper Chart Coverage – Large Scale (South)





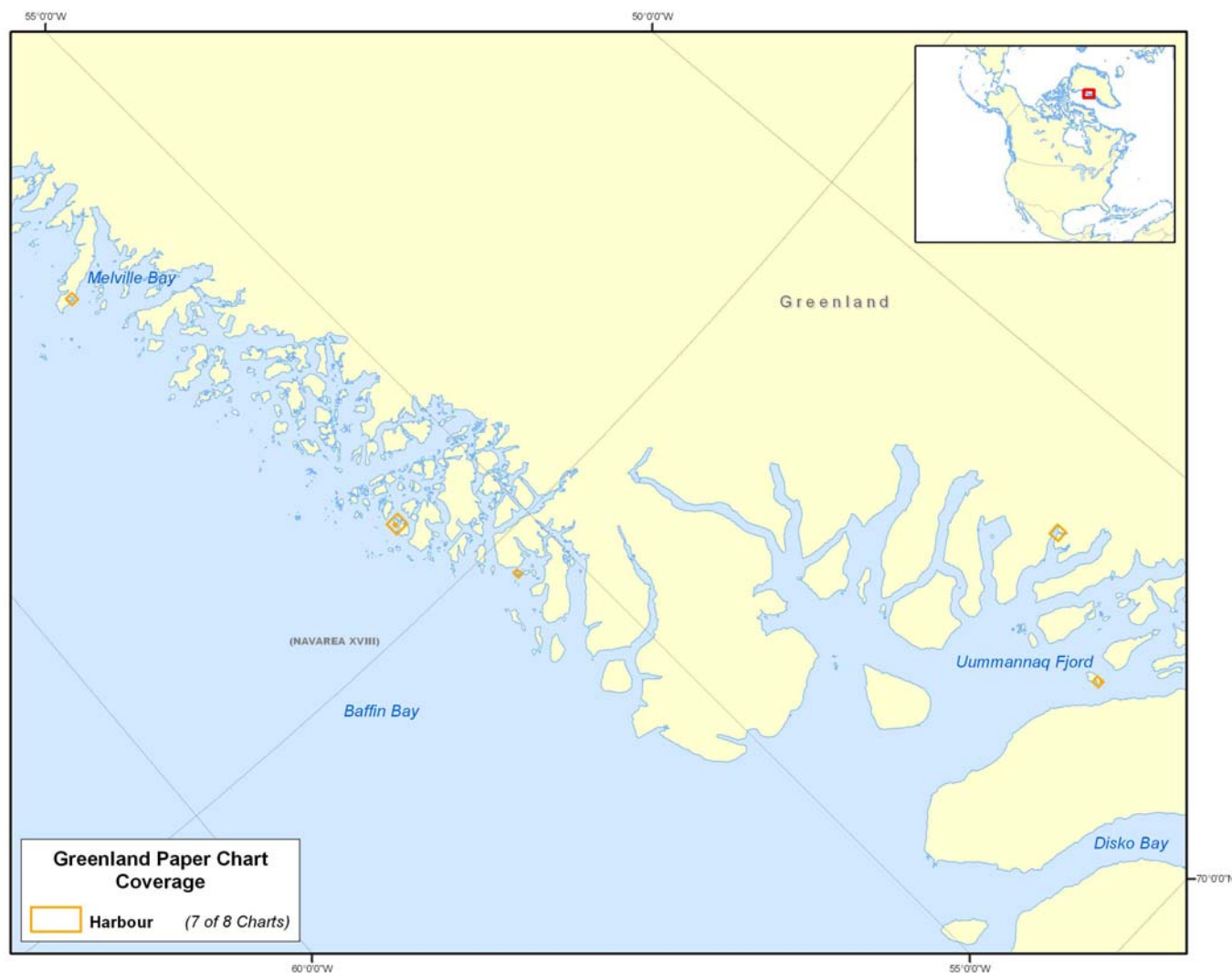
## Chapter 2: Denmark Paper Chart Coverage – Large Scale (North)







## Chapter 2: Denmark Paper Chart Coverage – Large Scale (Central)





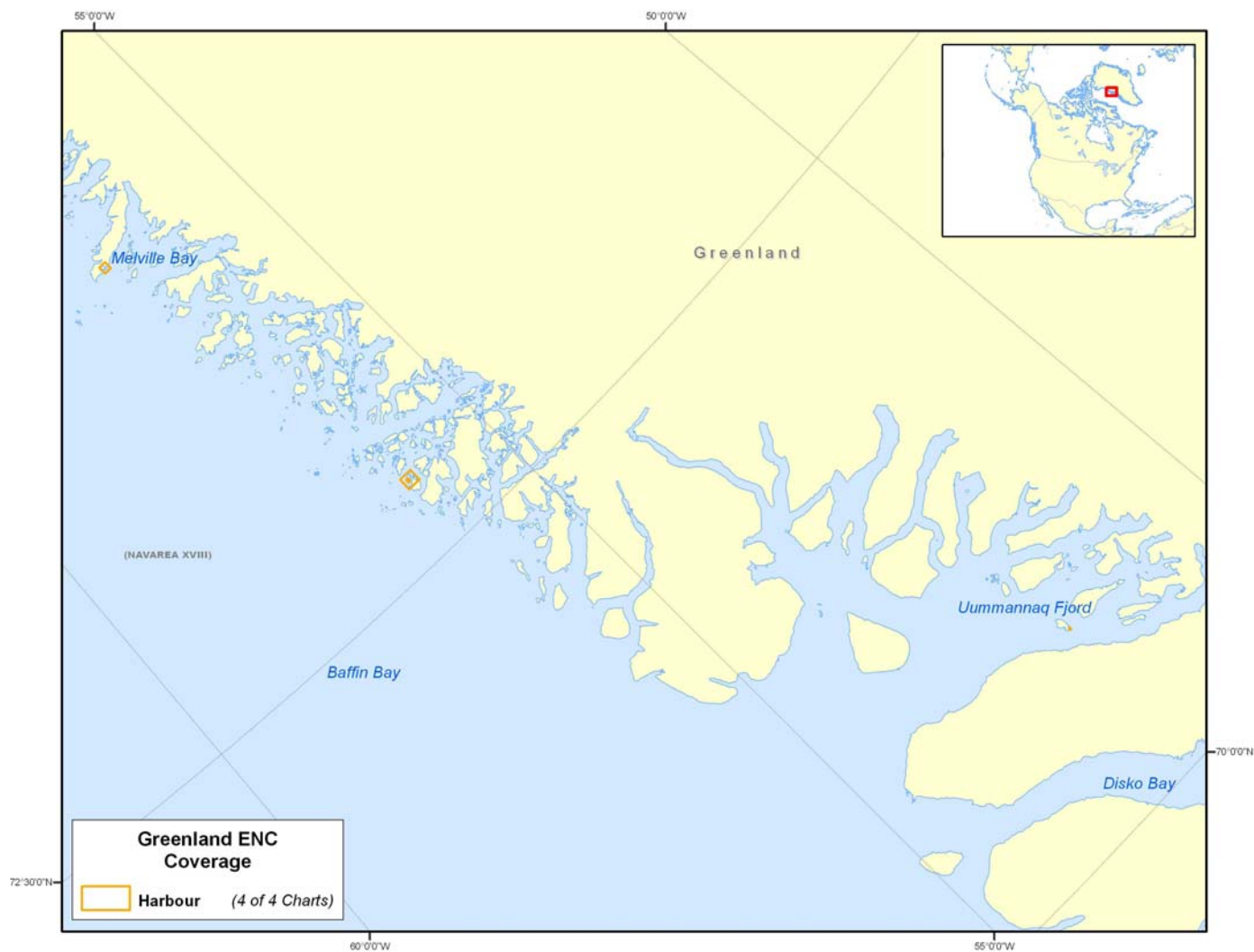


## Chapter 2: Denmark Electronic Navigational Chart Coverage – Small Scale



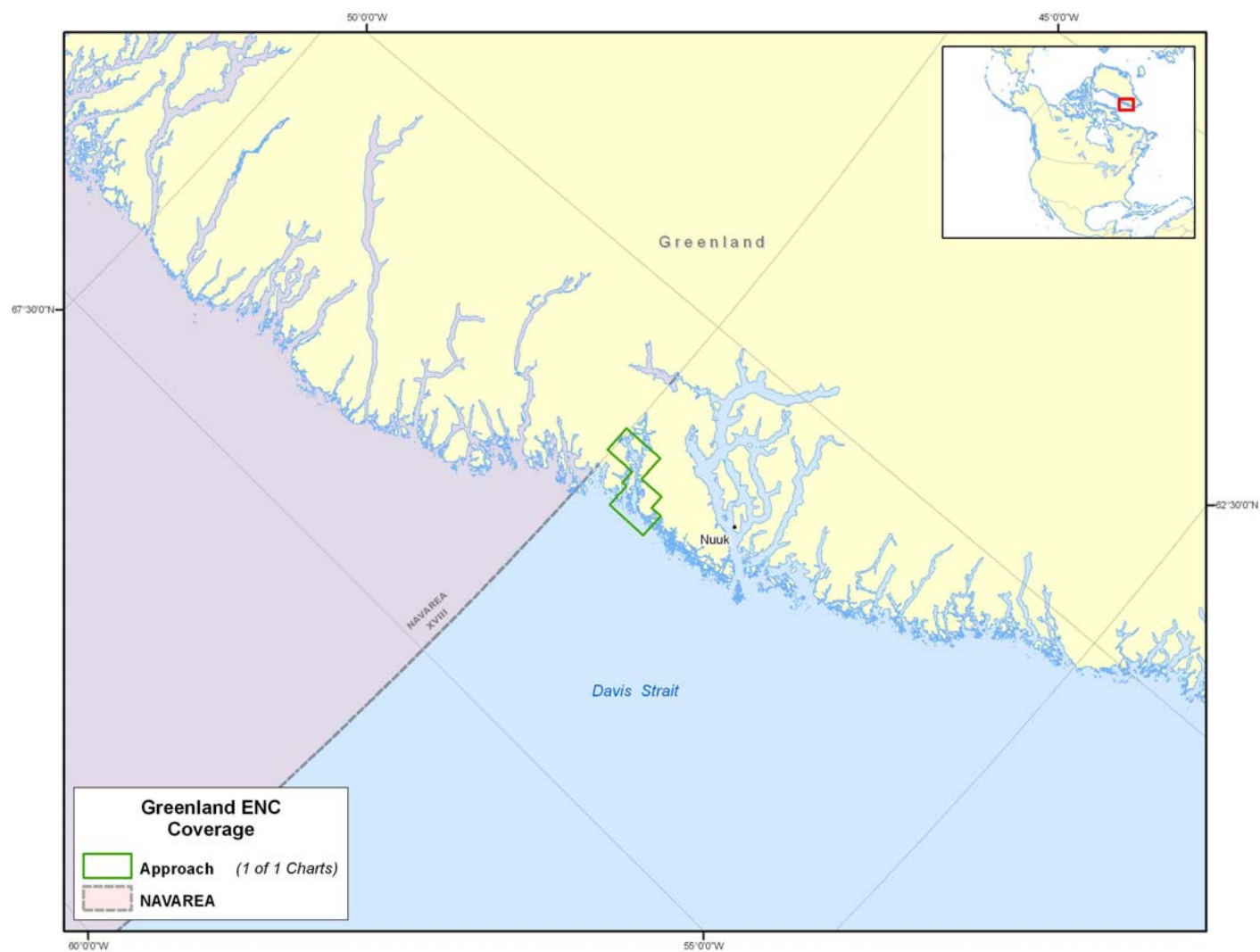


## Chapter 2: Denmark Electronic Navigational Chart Coverage – Large Scale (Central)





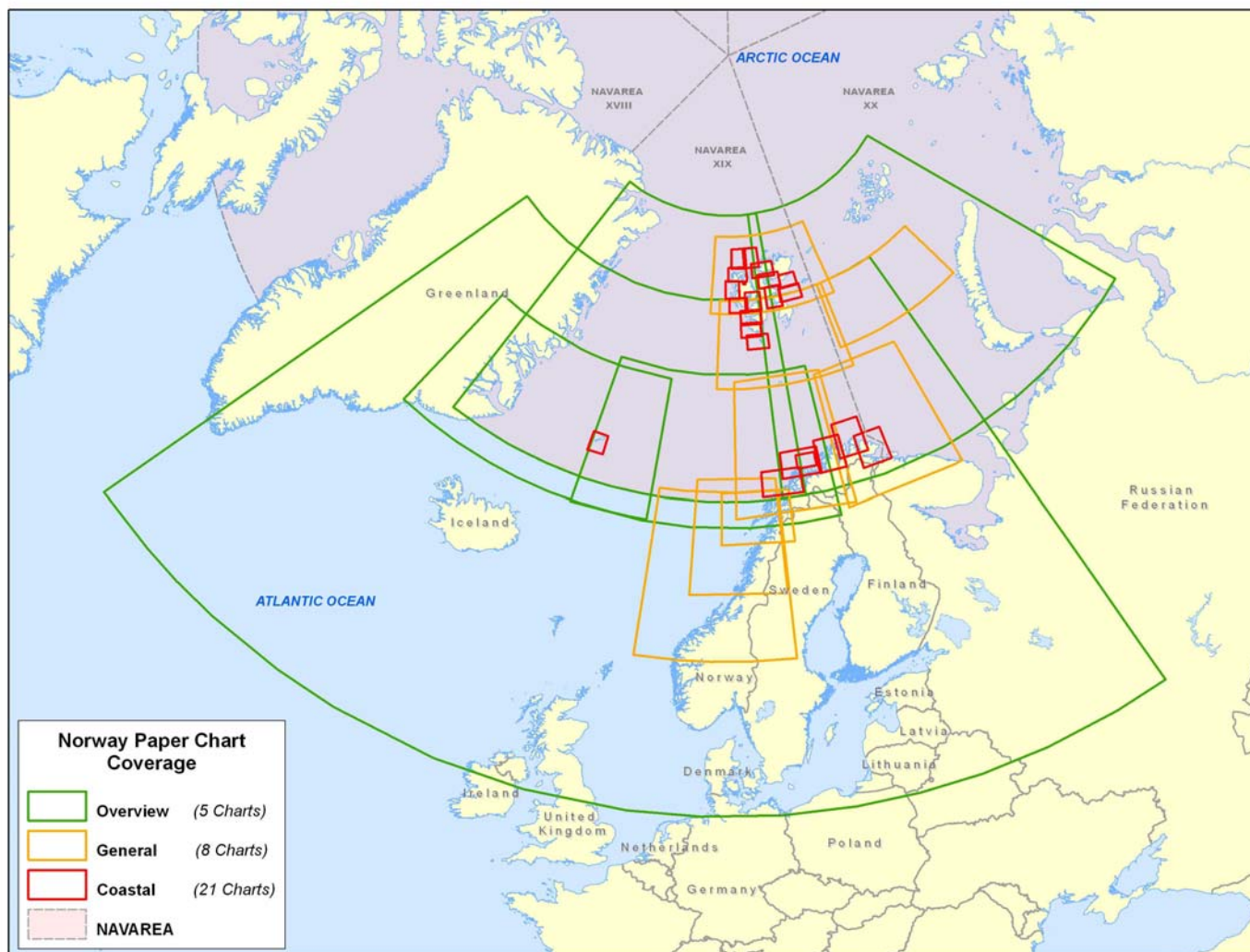
## Chapter 2: Denmark Electronic Navigational Chart Coverage – Large Scale (South)







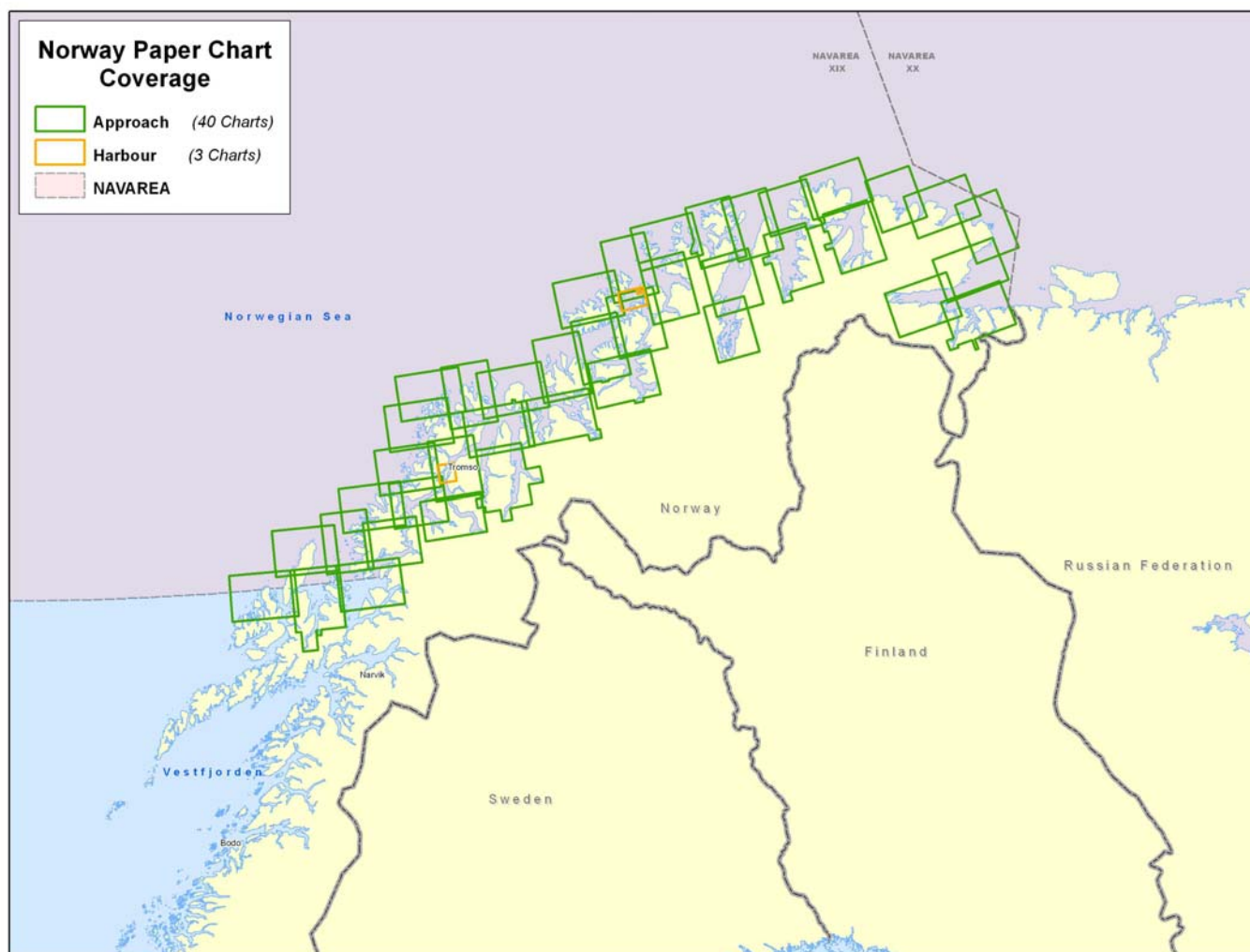
### Chapter 3: Norway Paper Chart Coverage – Small Scale





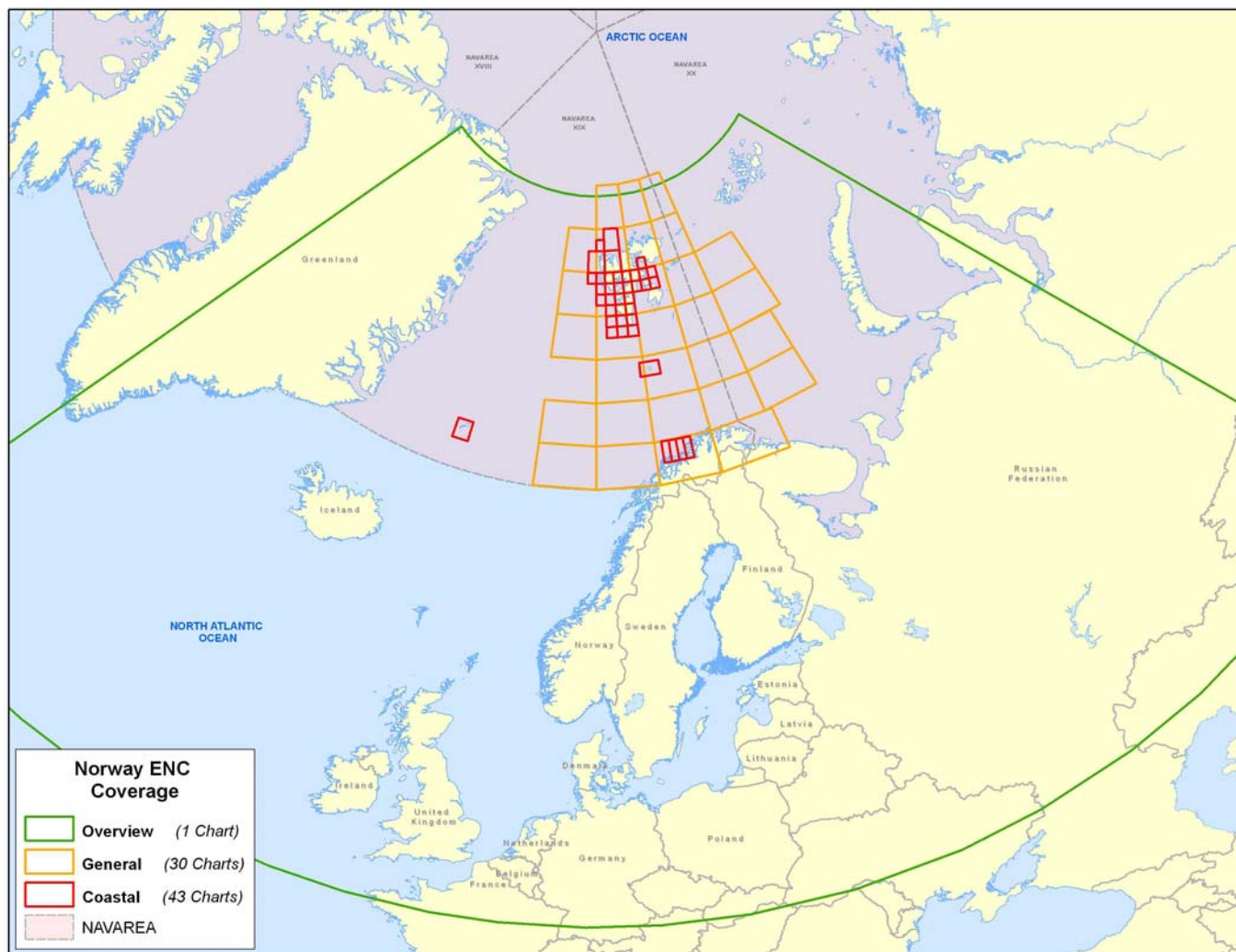


### Chapter 3: Norway Paper Chart Coverage – Large Scale



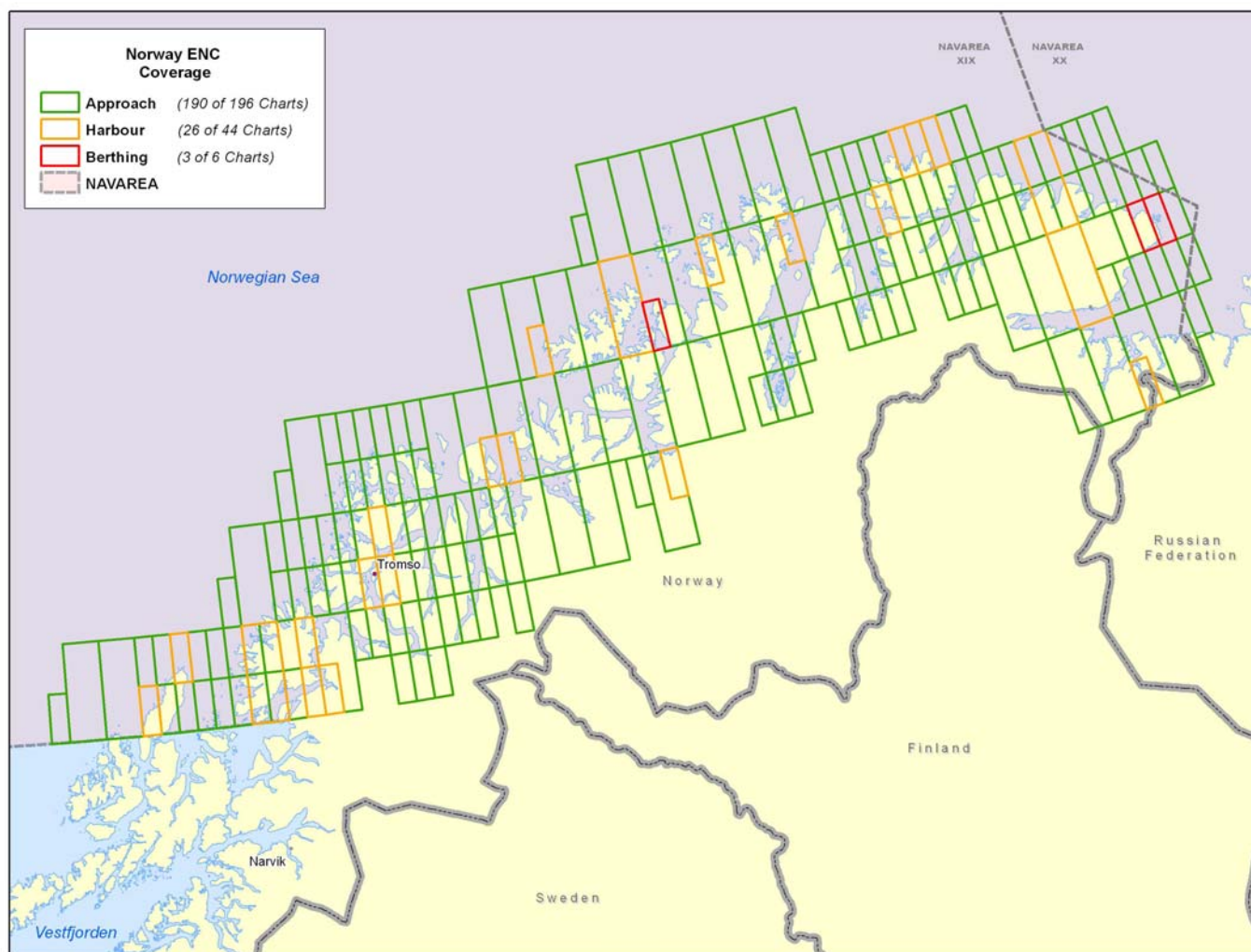


### Chapter 3: Norway Electronic Navigational Chart Coverage – Small Scale





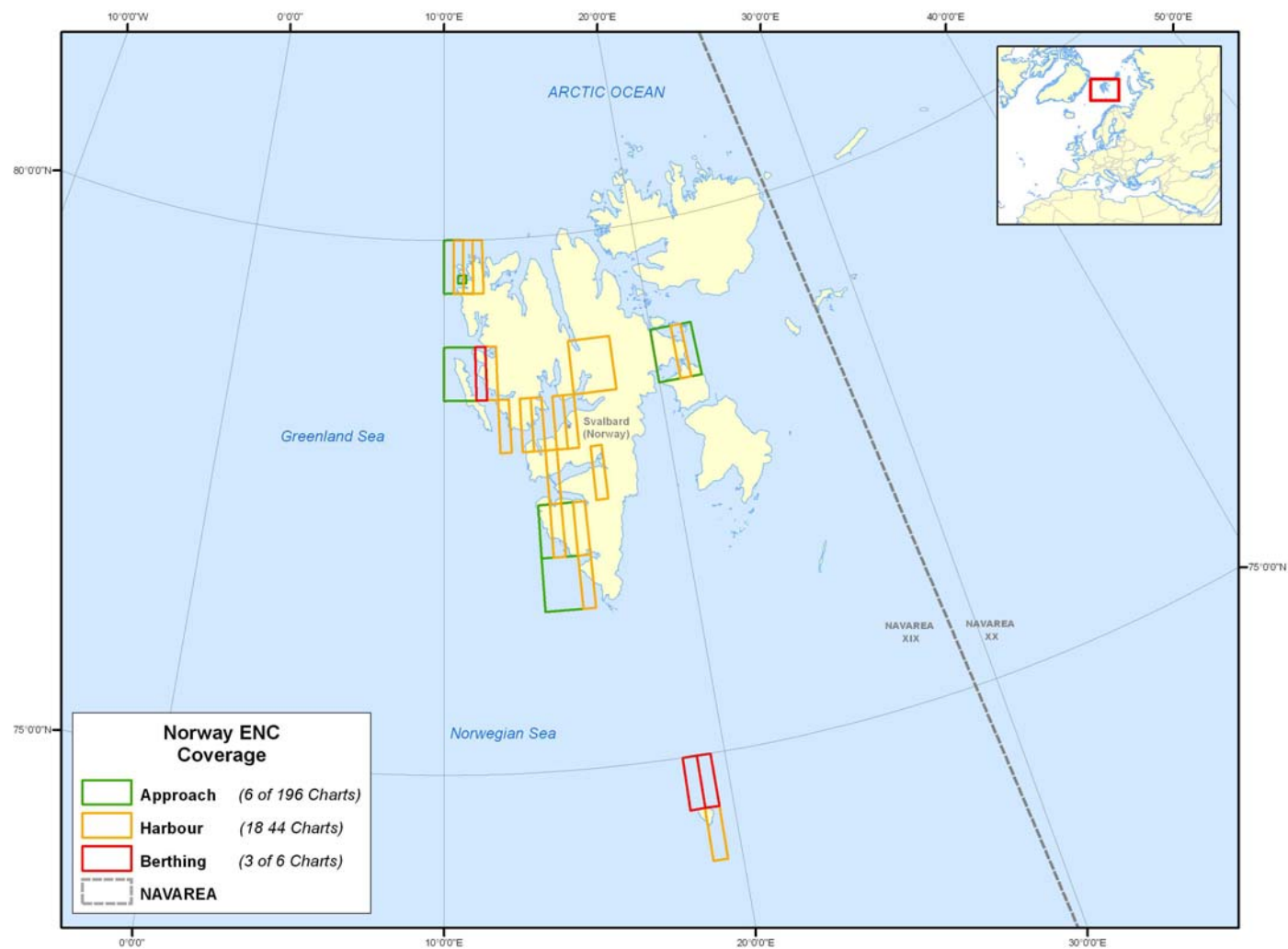
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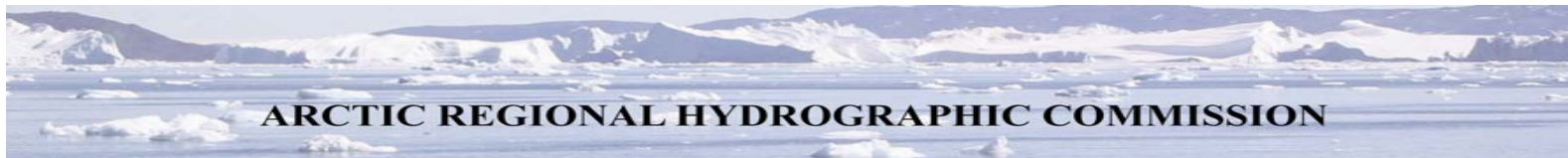




### Chapter 3: Norway Electronic Navigational Chart Coverage – Large Scale (Svalbard)

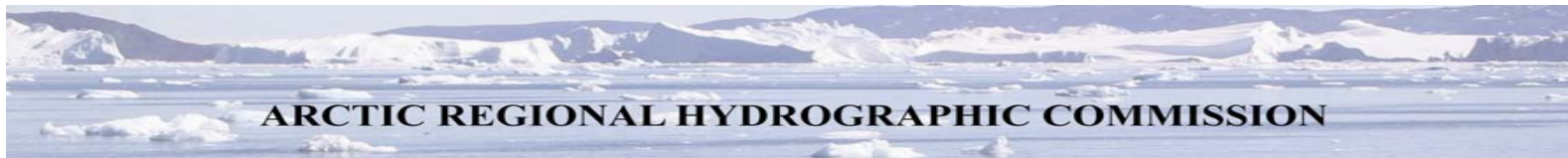






#### Chapter 4: Russian Federation Paper Chart Coverage – Small Scale

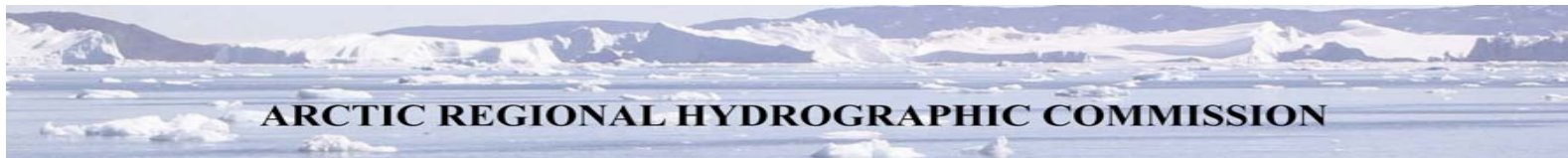
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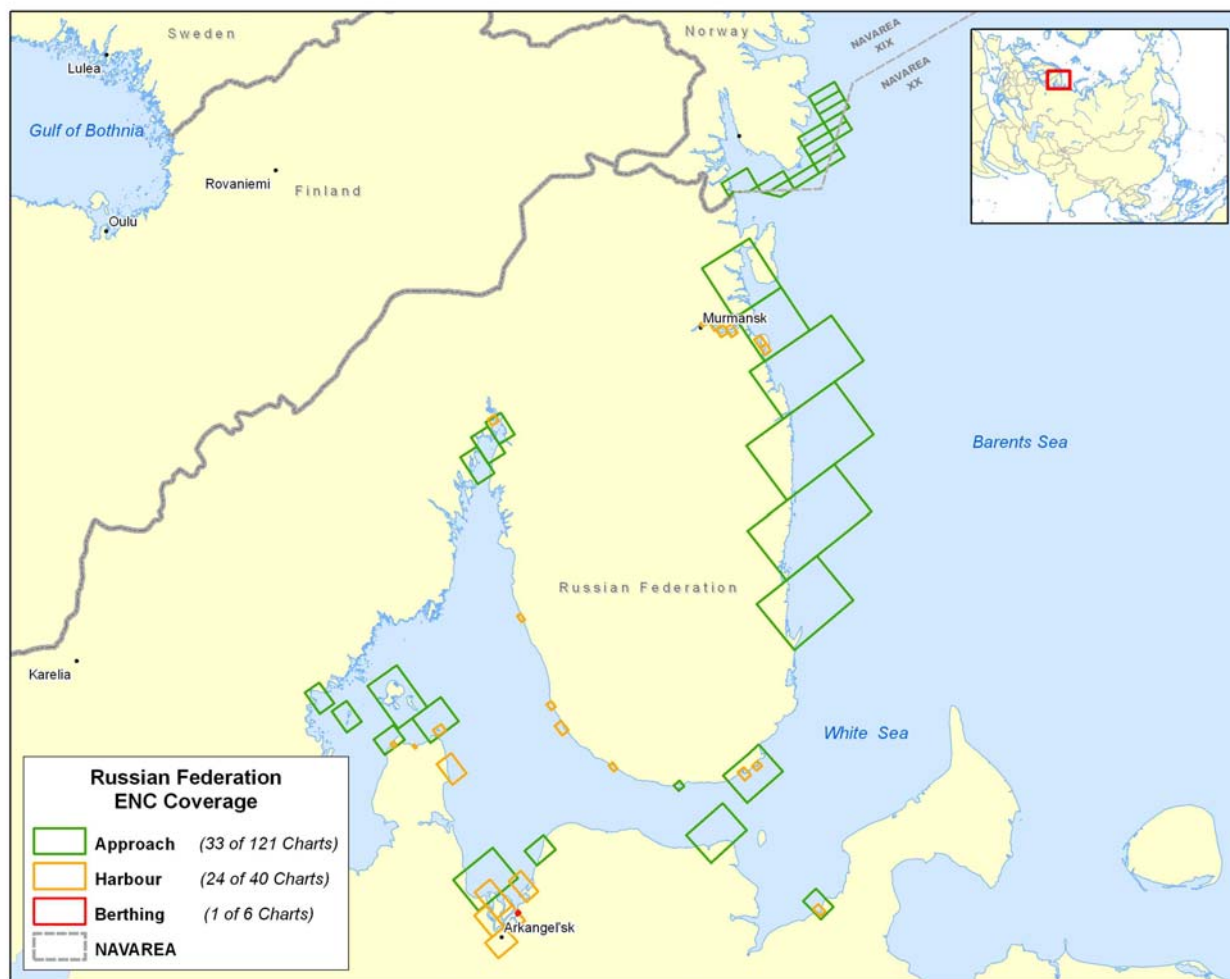
#### Chapter 4: Russian Federation Paper Chart Coverage – Large Scale

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Chapter 4: Russian Federation Electronic Navigational Chart Coverage – Large Scale (West)  
*(data obtained via the WENDWG)*





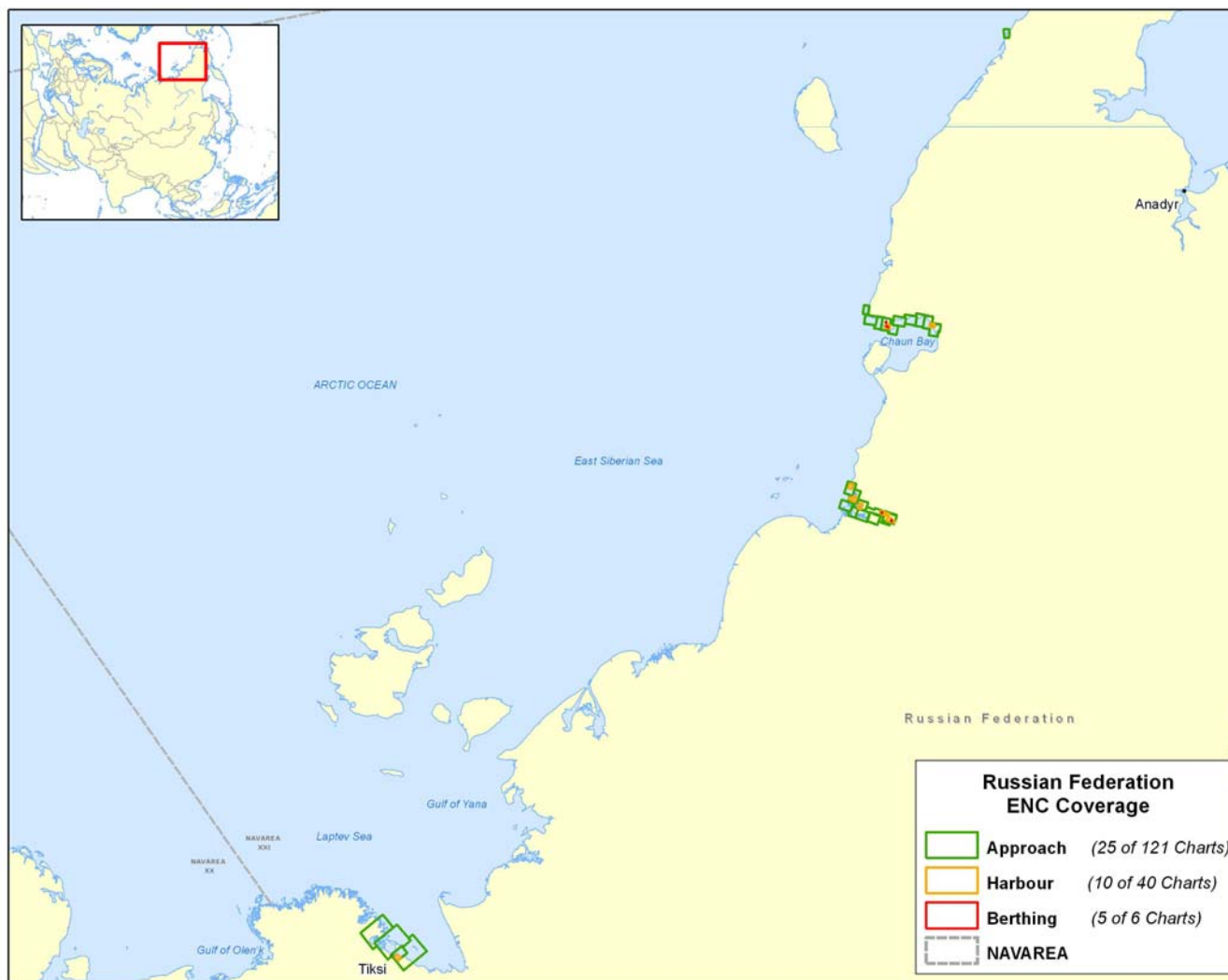


Chapter 4: Russian Federation Electronic Navigational Chart Coverage – Large Scale (Central)  
(data obtained via the WENDWG)



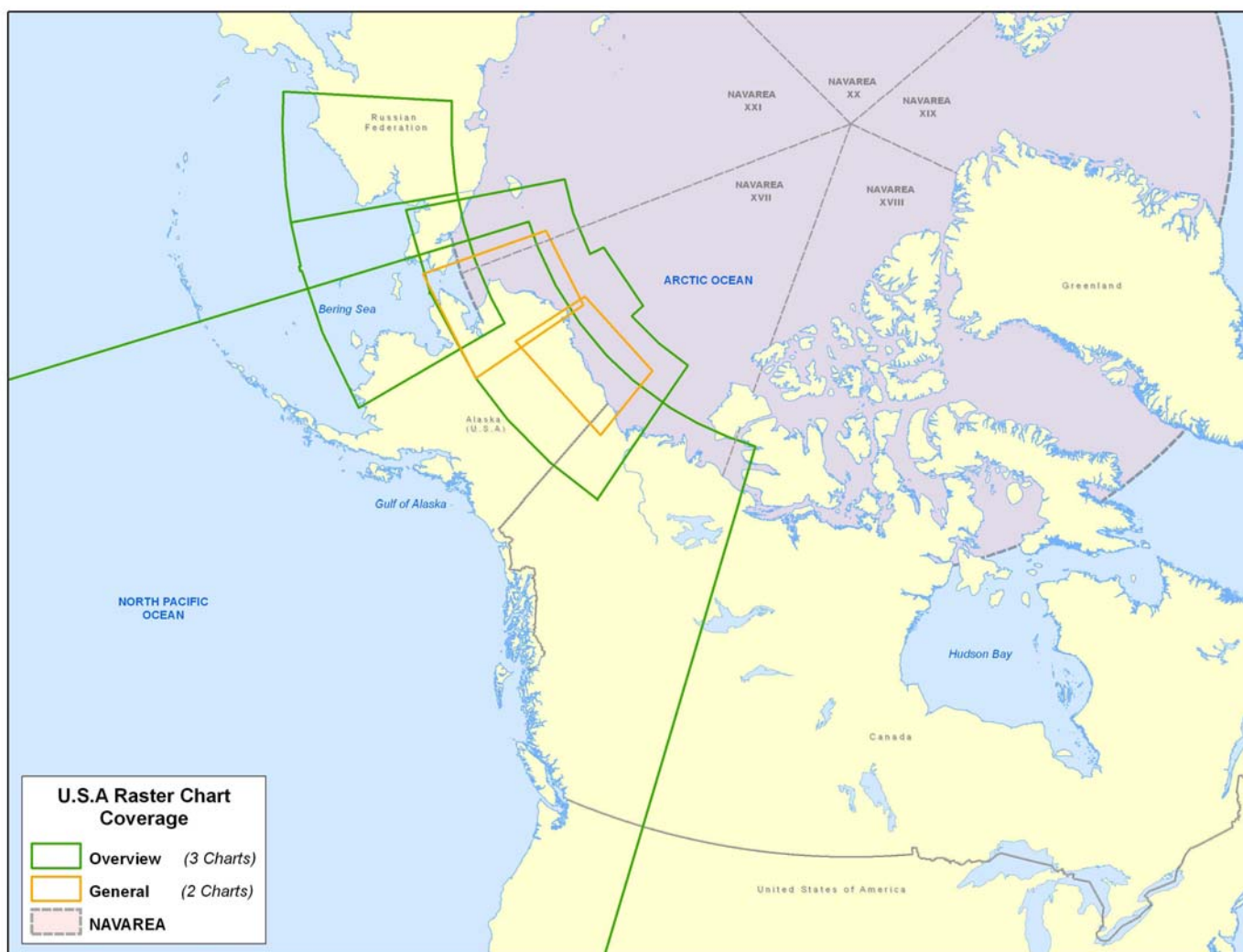


## Chapter 4: Russian Federation Electronic Navigational Chart Coverage – Large Scale (East)



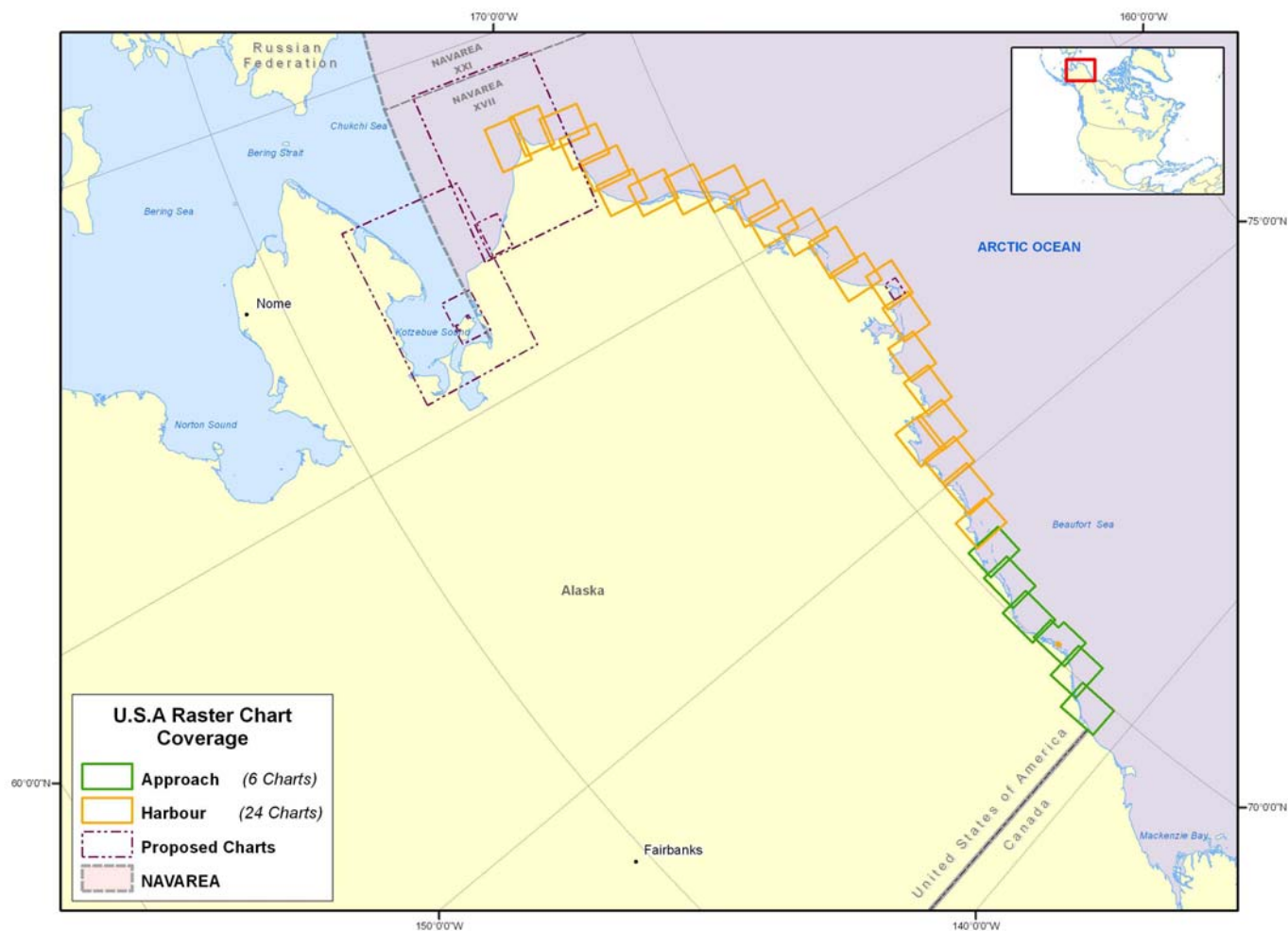


## Chapter 5: United States Paper Chart and Raster Navigational Chart Coverage Small Scale





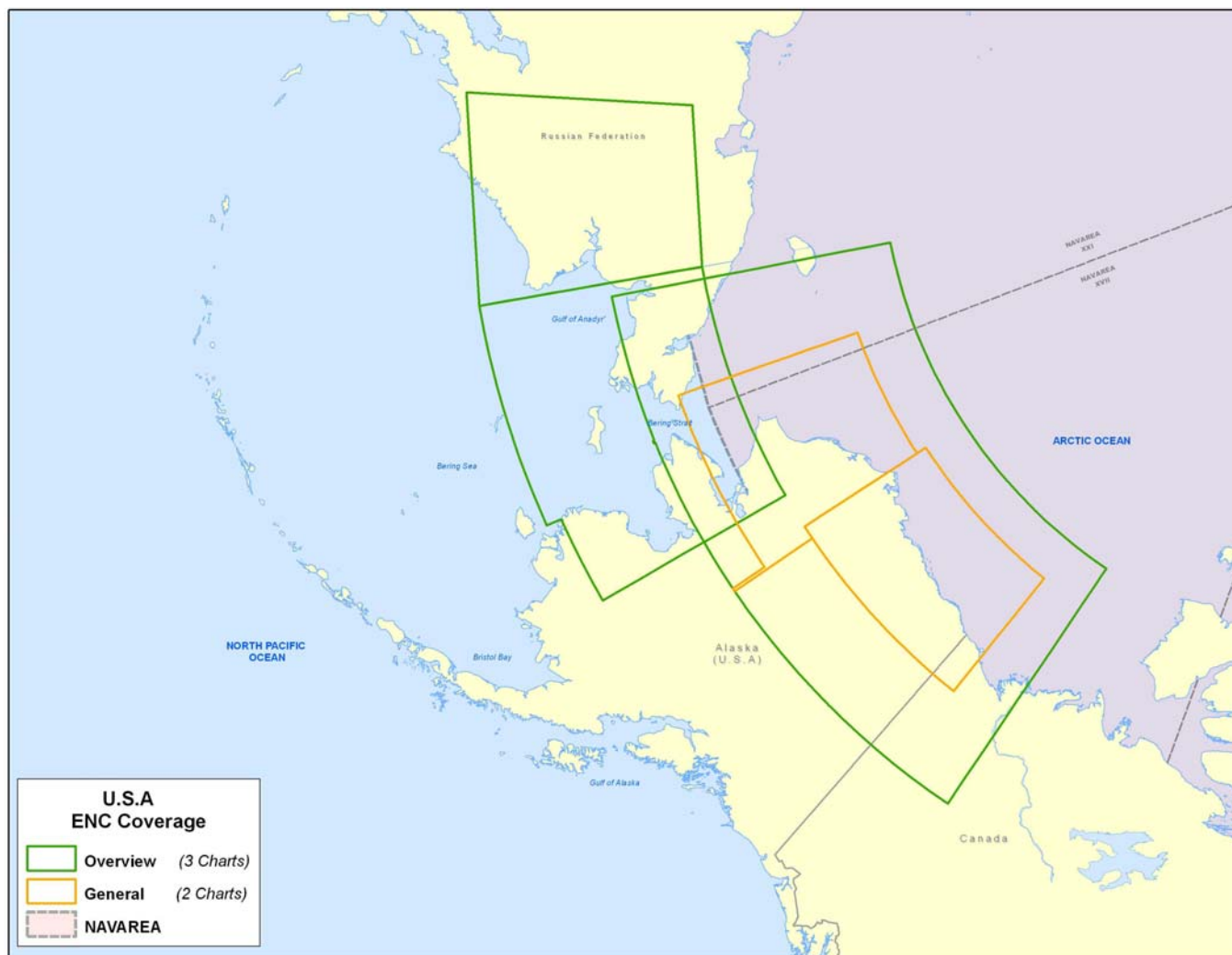
## Chapter 5: United States Paper Chart and Raster Navigational Chart Coverage Large Scale

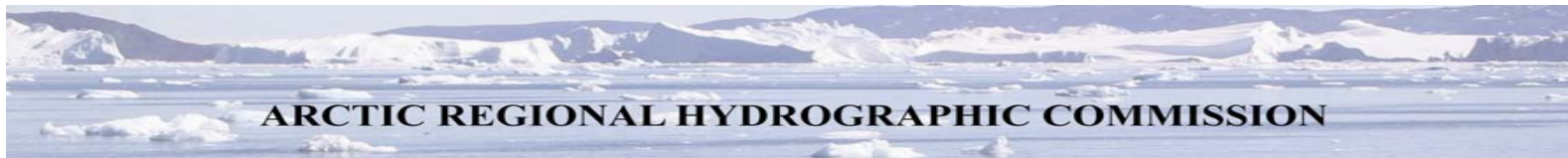




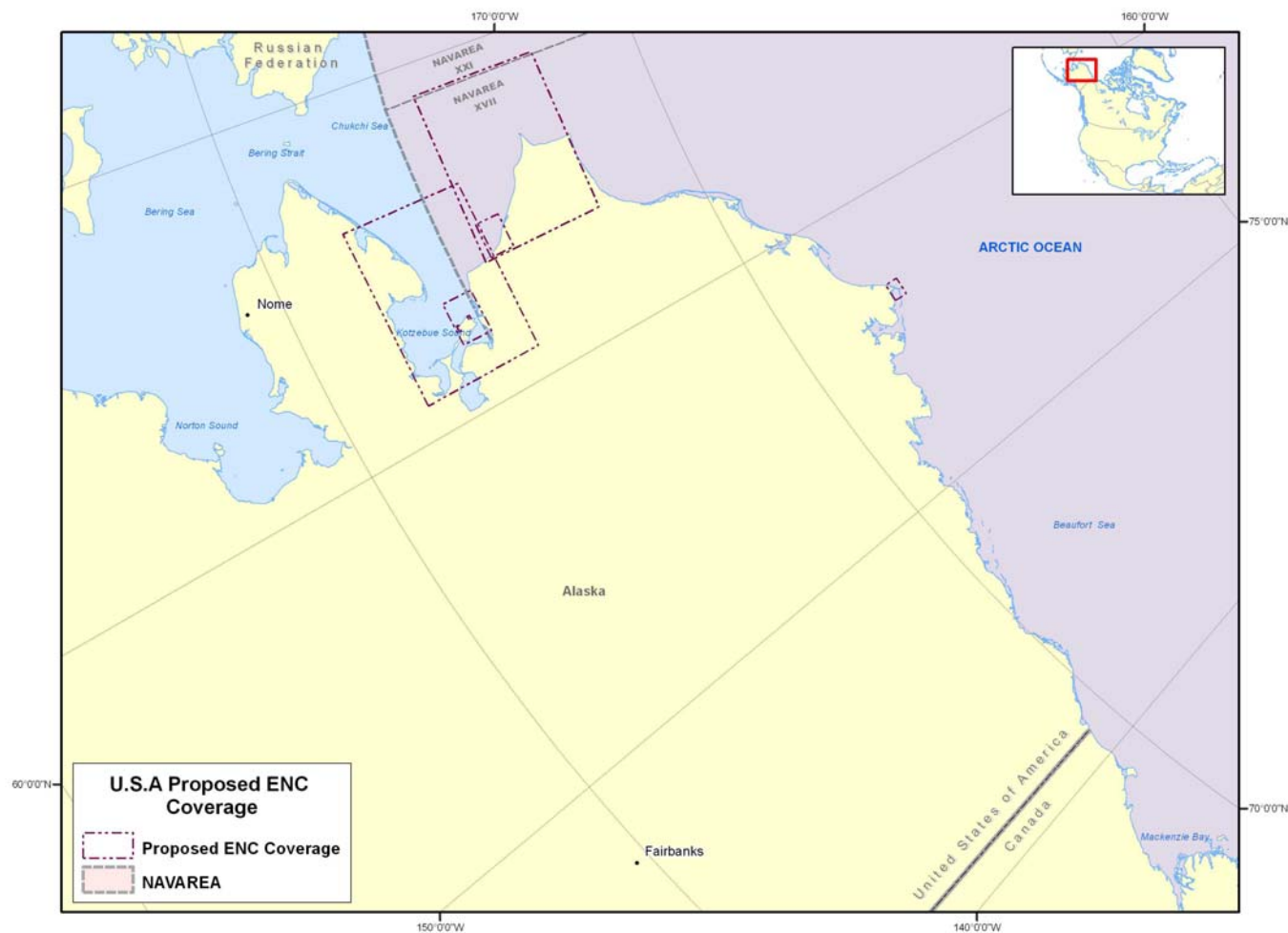


## Chapter 5: United States Electronic Navigational Chart Coverage - Small Scale



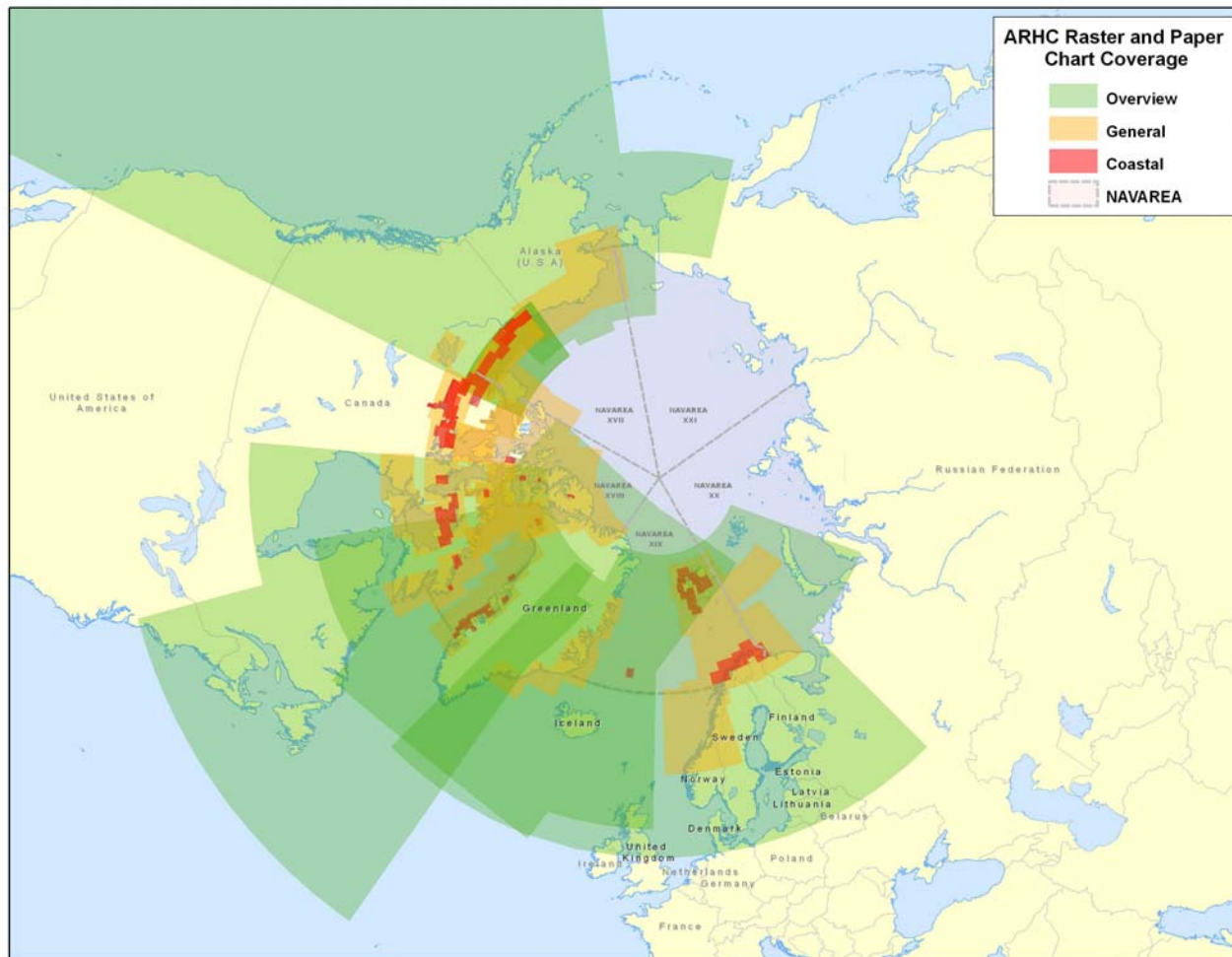


## Chapter 5: United States Electronic Navigational Chart Coverage - Large Scale





Chapter 6: Arctic Regional Hydrographic Commission Overview  
Small Scale Paper Chart Coverage  
(includes Raster Navigational Charts where available)





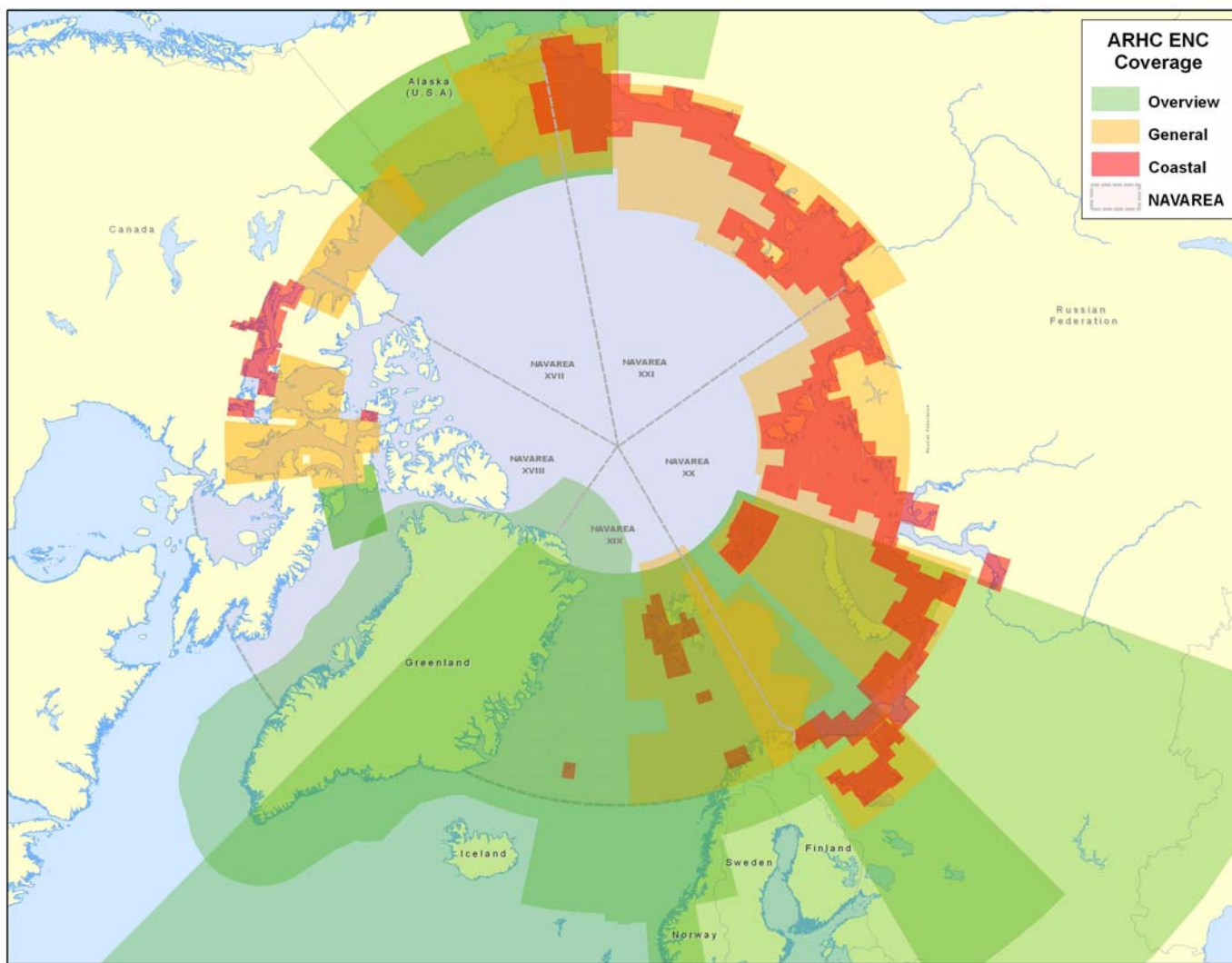
Chapter 6: Arctic Regional Hydrographic Commission Overview  
Large Scale Paper Chart Coverage  
(includes Raster Navigational Charts where available)





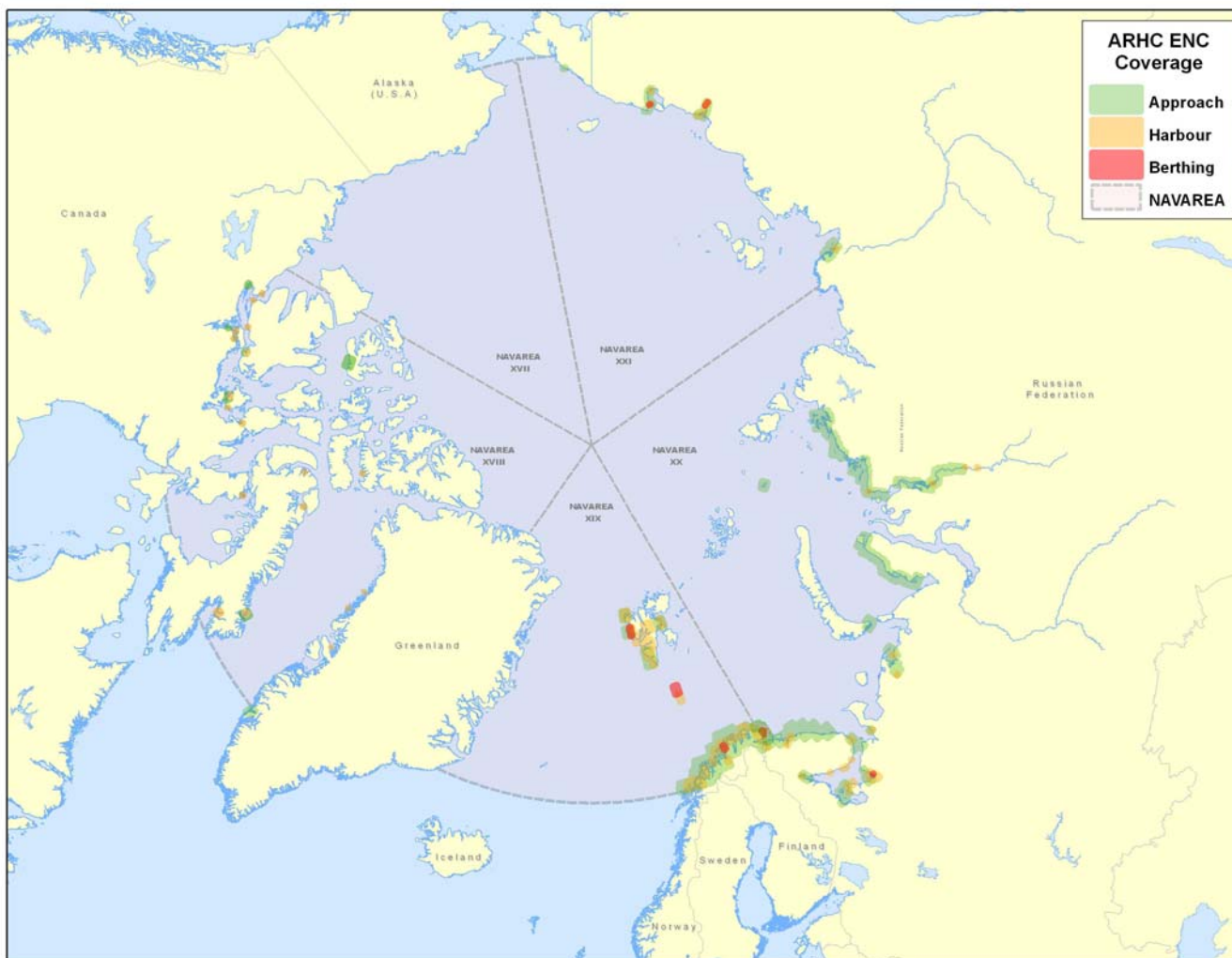


## Chapter 6: Arctic Regional Hydrographic Commission Overview Small Scale Electronic Navigational Chart Coverage





## Chapter 6: Arctic Regional Hydrographic Commission Overview Large Scale Electronic Navigational Chart Coverage





## Chapter 7: Scale Ranges As Applied By Member States

| <b>RANGES/USAGE BAND</b> | <b>CANADA</b>         | <b>DENMARK</b> | <b>NORWAY</b>          |
|--------------------------|-----------------------|----------------|------------------------|
| Berthing/ Band 6         | 1:2,000 and larger    | tbd            | 1:2,000 and larger     |
| Harbour/Band 5           | 1:2,001 – 1:20,000    | tbd            | 1:2,001 – 1:20,000     |
| Approach/Band 4          | 1:20,001 – 1:50,000   | tbd            | 1:20,001 – 1:50,000    |
| Coastal/Band 3           | 1:50,001 – 1:150,000  | tbd            | 1:50,001 – 1:150,000   |
| General/Band 2           | 1:150,001 – 1:500,000 | tbd            | 1:150,001 – 1:500,000  |
| Overview/Band 1          | 1:500,001 and smaller | tbd            | 1: 500,000 and smaller |

| <b>RANGES/USAGE BAND</b> | <b>RUSSIAN FEDERATION</b> | <b>UNITED STATES</b>    | <b>IHO (Usage Bands recommended)</b> |
|--------------------------|---------------------------|-------------------------|--------------------------------------|
| Berthing/ Band 6         | tbd                       | 1:5,000 and larger      | 1:4,000 and larger                   |
| Harbour/Band 5           | tbd                       | 1:5,001 – 1:50,000      | 1:4,001 – 1:21,999                   |
| Approach/Band 4          | tbd                       | 1:50,001 – 1:150,000    | 1:22,000 – 1:89,999                  |
| Coastal/Band 3           | tbd                       | 1:150,001 – 1:600,000   | 1:90,000 – 1:349,999                 |
| General/Band 2           | tbd                       | 1:600,001 – 1:1,500,000 | 1:350,000 – 1:1,499,999              |
| Overview/Band 1          | tbd                       | 1:1,500,000 and smaller | 1: 1,500,000 and smaller             |



### Source References

- Providers of Chart Limit Data (to date)
  - Canada, Denmark, Norway, United States, WENDWG
- Shorelines and Major Water Bodies
  - NOAA – National Geophysical Data Center
    - GSHHS Version 2.2.0 (July 15, 2011) - A Global Self-Consistent, Hierarchical, High Resolution Shoreline Database.
- Bathymetry
  - GEBCO
    - The GEBCO\_08 Grid
- Administrative Boundaries
  - CIA World DataBank
    - WDBII Version 2.2.0
- Country Names (toponyms)
  - ArcGIS.com – source: ESRI, DeLorme Publishing Company, Inc.
- World Cities (toponyms)
  - ArcGIS.com – source: DeLorme Publishing Company, Inc.
- Marine Toponyms
  - Natural Earth (naturalearthdata.com)
    - Marine Areas

### Software

- ArcGIS 10.0
- PCI Geomatica V10.3
- GridViewer (GEBCO)