

# USACE ASSET MANAGEMENT COASTAL SYSTEMS ASSET MANAGEMENT

CWG Briefing  
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# OUTLINE

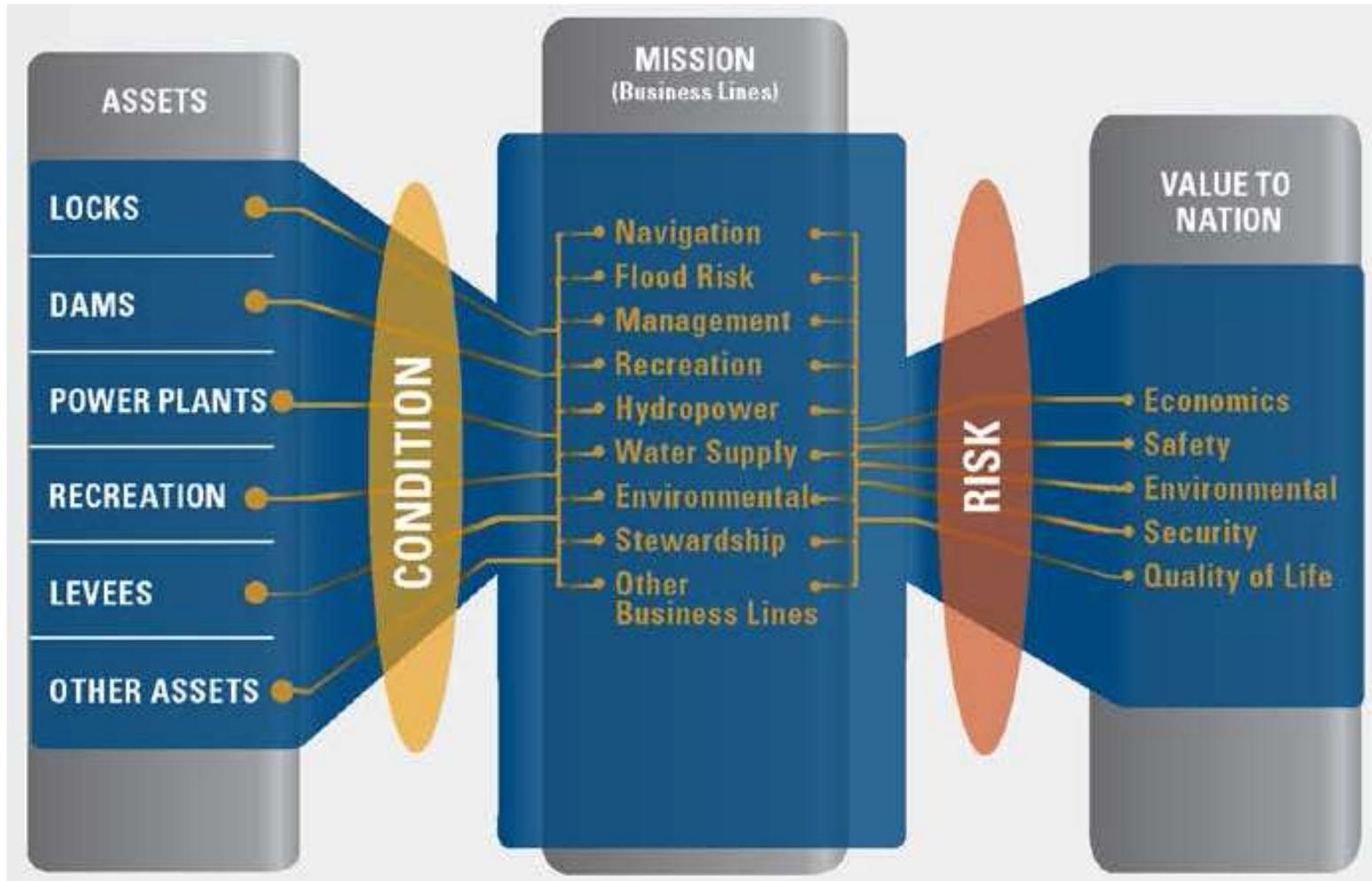
- USACE Asset Management approach
- Coastal Systems Asset Management



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# USACE CIVIL WORKS ASSET MANAGEMENT



## 4 Focus Areas

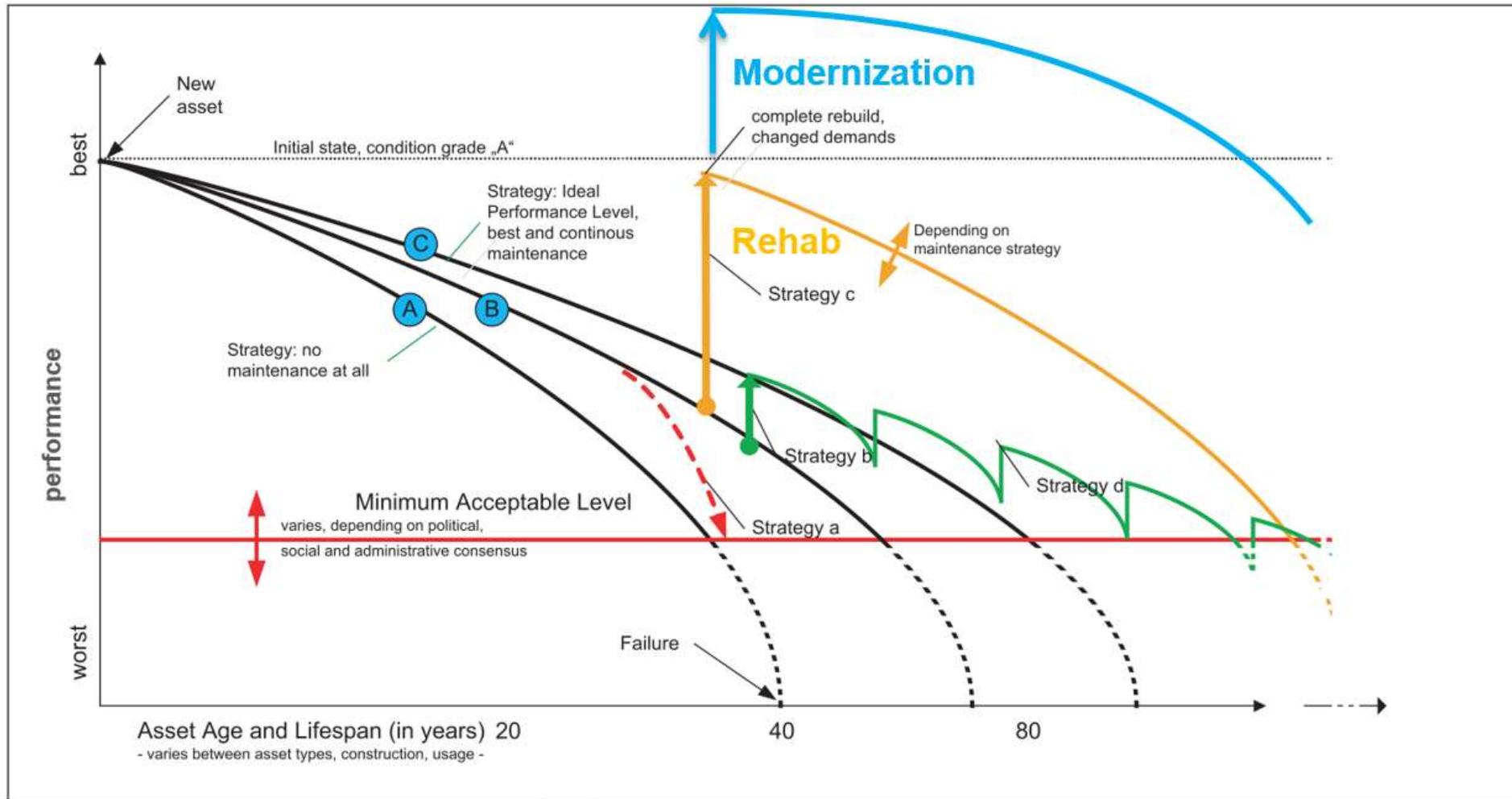
- Maintenance Management
- Operational Condition Assessments
- Operational Risk Assessment
- Portfolio Analytics



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# LIFECYCLE ASSET MANAGEMENT



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# COASTAL SYSTEMS ASSET MANAGEMENT

- Coastal Navigation Channels (CNC + Inland)
- Coastal Navigation Structures (CNS)
- Coastal Storm Damage Reduction Structures (CSDRS)
- Regional Sediment Management (RSM)

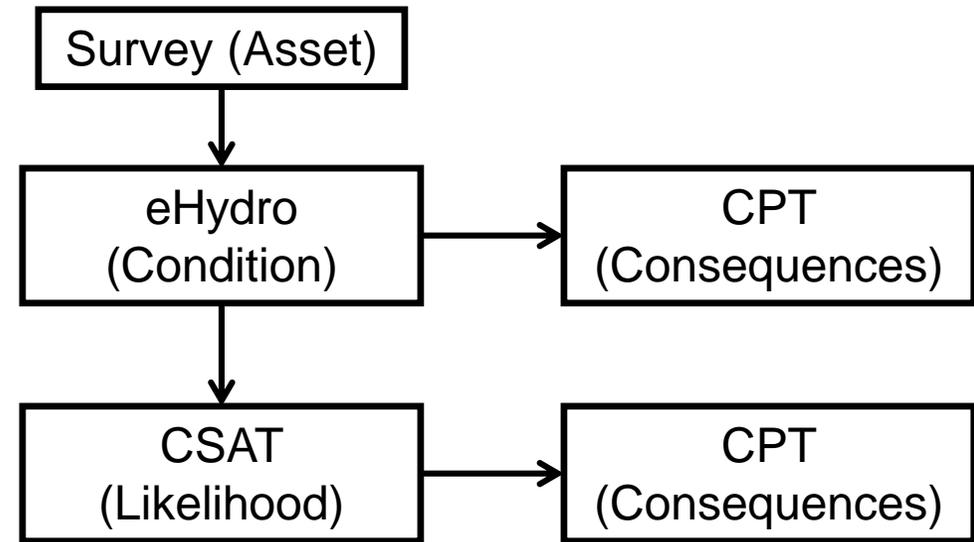


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	No. Channels	Channels Ready	CSAT final	CPT alignment	In CPT
LRB	9	0	0	1	0
LRC	4	4	4	0	0
LRE	20	3	3	5	3
LRD	33	7	7	6	3
MVN	12	2	2	1	1
NAB	4	0	0	0	0
NAE	8	0	0	0	0
NAN	11	0	0	0	0
NAO	7	3	3	0	0
NAP	4	0	0	0	0
NAD	34	3	3	0	0
NWP	3	3	3	3	3
NWS	6	4	3	4	4
NWD	9	7	6	7	7
POA	2	2	2	2	2
POH	6	0	0	0	0
POD	8	2	2	2	2
SAC	3	1	1	2	1
SAJ	8	7	7	1	1
SAM	7	0	1	0	0
SAS	2	2	2	1	1
SAW	2	0	0	0	0
SAD	22	10	11	4	3
SPK	2	2	2	2	2
SPL	3	3	3	3	3
SPN	7	7	7	7	7
SPD	12	12	12	12	12
SWG	18	6	6	18	6

# CNC Asset Management



CSAT: Corps Shoaling Assessment Tool

CPT: Channel Portfolio Tool



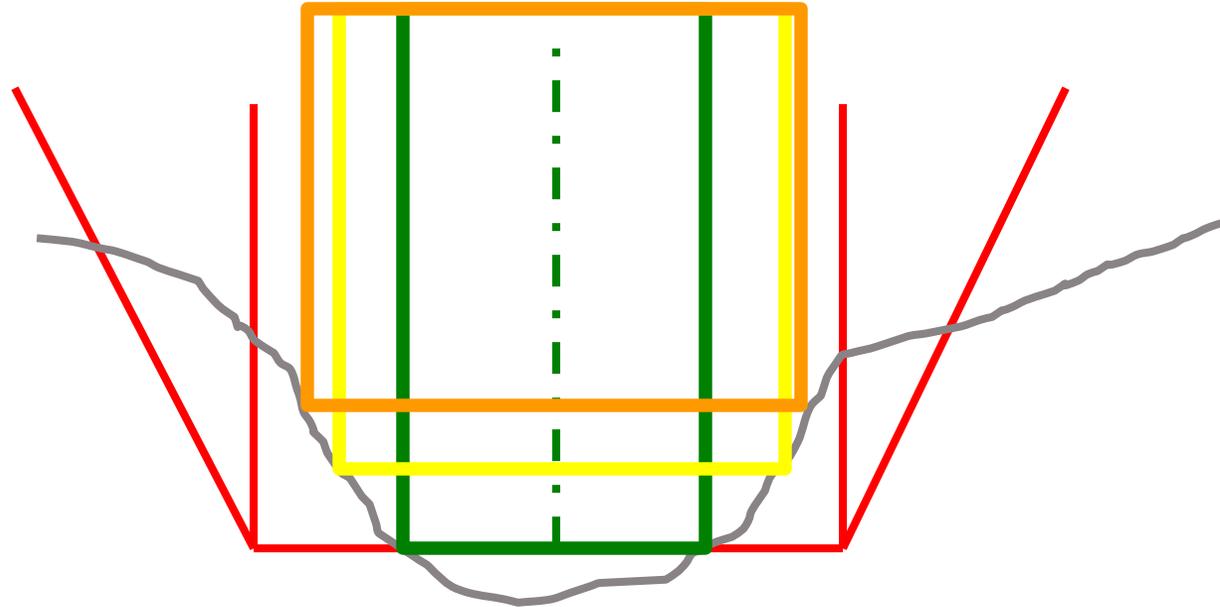
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# CNC CONDITION ASSESSMENT EXAMPLE

42' x 600' Channel



Old Condition – “A”; Middle Half of Channel @ 100%

New Condition (2 way Traffic) – “C”; 75% of width  
and 2' restriction

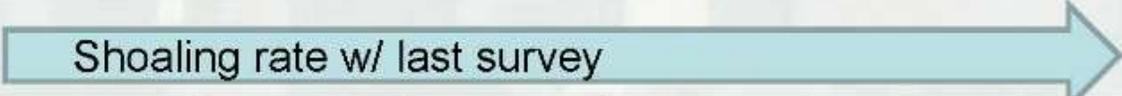
New Condition (1 way Traffic) – “D”; 90% of width  
and 3' restriction



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# Volume Tables

Shoaling rate w/ last survey 

Dredge Cut (ft)	Now (CY)	6 months (CY)	12 months (CY)	18 months (CY)	24 months (CY)	30 months (CY)	36 months (CY)
-45	195,320	271,020	373,070	492,200	624,890	771,020	931,220
-44	125,140	173,140	238,620	331,710	444,910	572,680	713,450
-43	76,249	109,860	153,260	210,570	293,080	399,730	522,310
-42	43,628	65,655	95,990	135,350	186,480	258,070	356,920
-41	24,409	37,093	56,313	83,402	119,100	165,270	227,370
-40	14,958	21,022	31,470	48,147	72,041	104,370	146,170
-39	10,060	13,343	18,250	26,832	41,017	61,922	91,020
-38	7,083	9,092	11,945	16,084	23,035	34,823	53,059
-37	5,194	6,480	8,241	10,728	14,312	19,888	29,576
-36	3,865	4,787	5,944	7,496	9,673	12,784	17,358
-35	2,806	3,555	4,412	5,465	6,843	8,751	11,457

# CNC Asset Management



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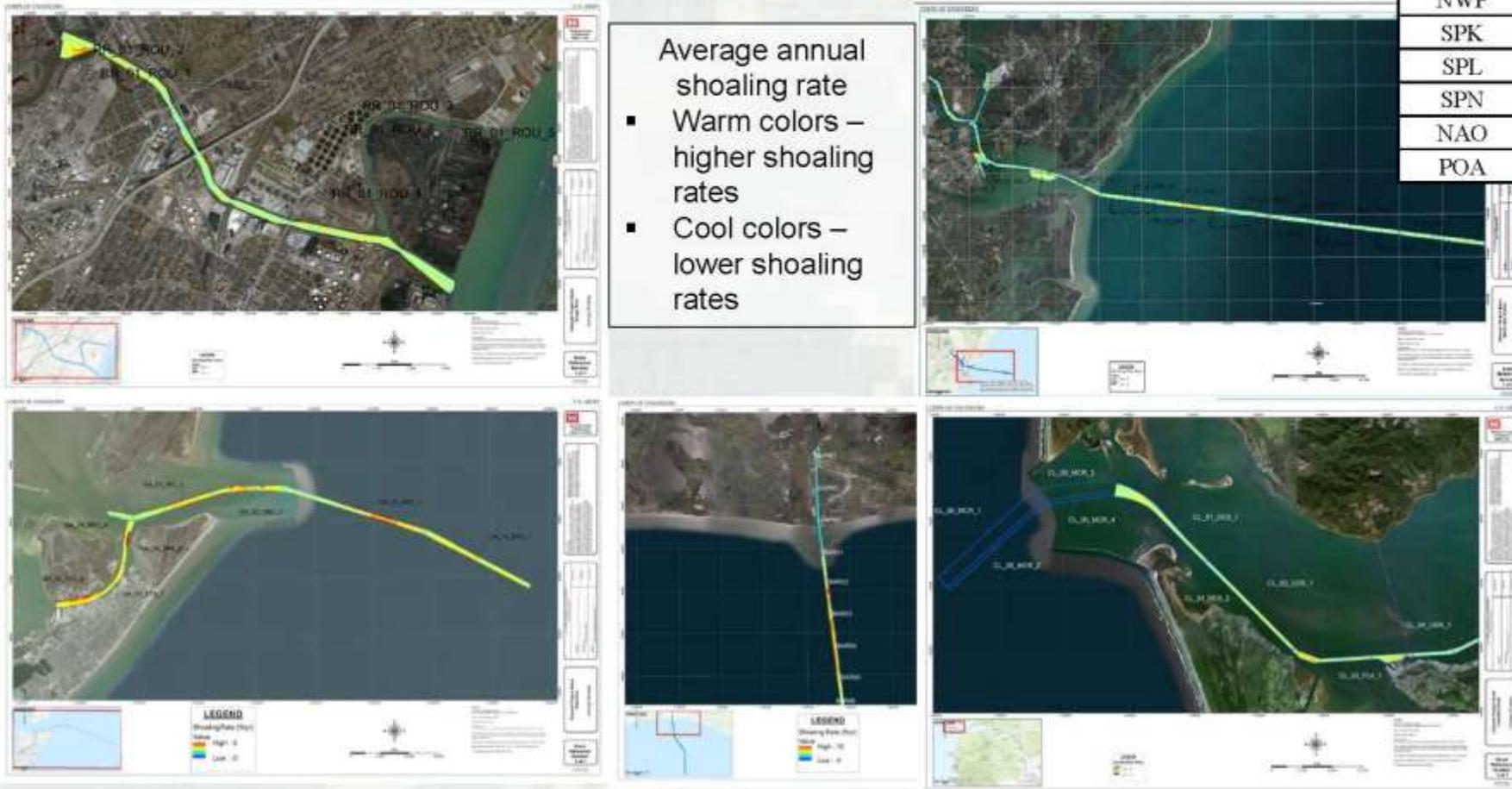
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# Corps Shoaling Analysis Tool (CSAT)

- *What will the channels look like in the future?*
- Use historical survey data from eHydro to generate difference grid sets between dredging events
- Predict average shoaling rates and dredging requirements per channel reach
- Report volumes at different depth/time intervals

Districts using CSAT
SAC
MVN
LRC
LRE
SWG
SAJ
SPN
NWS
NWP
SPK
SPL
SPN
NAO
POA

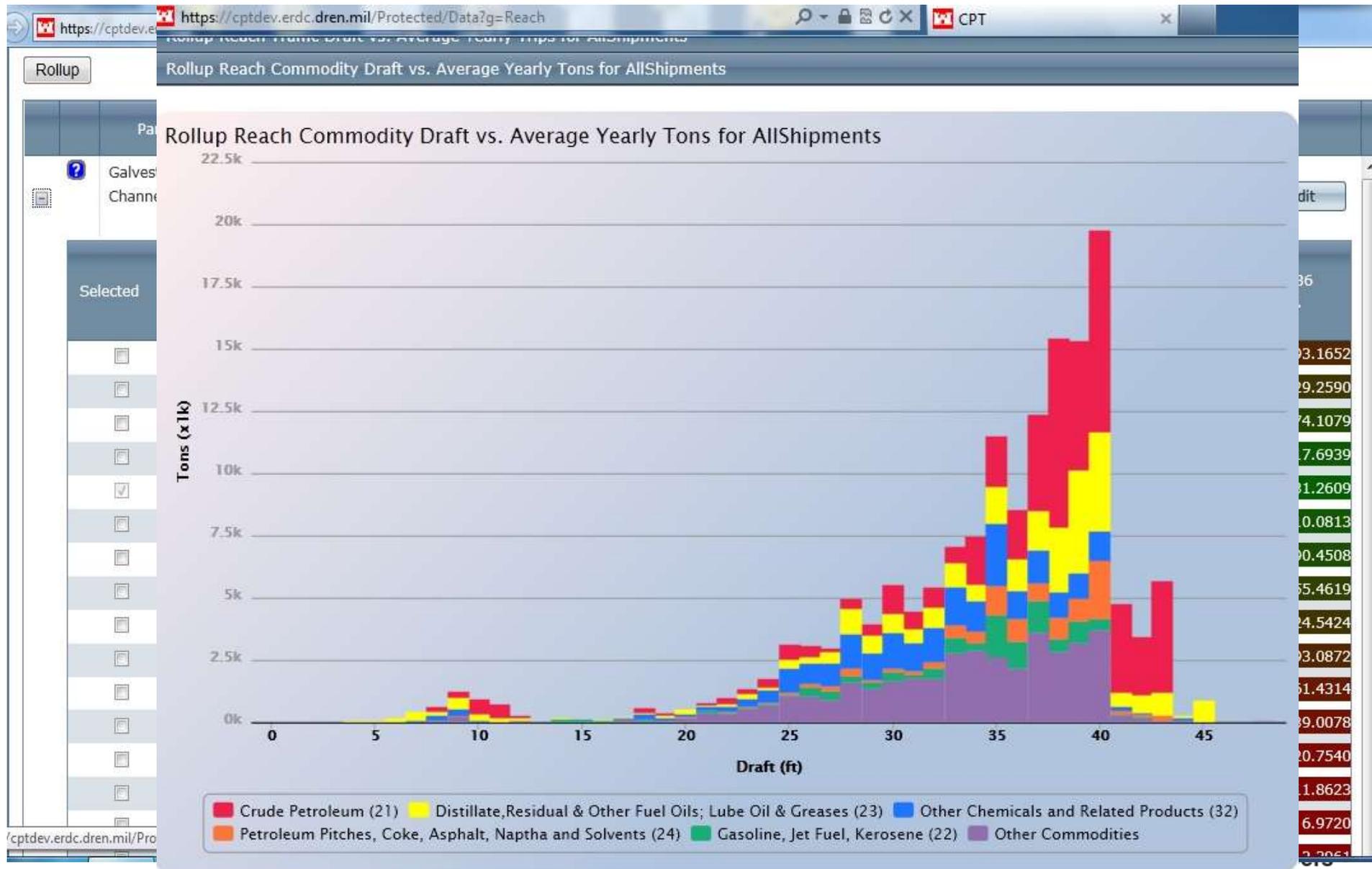
## CNC Asset Management



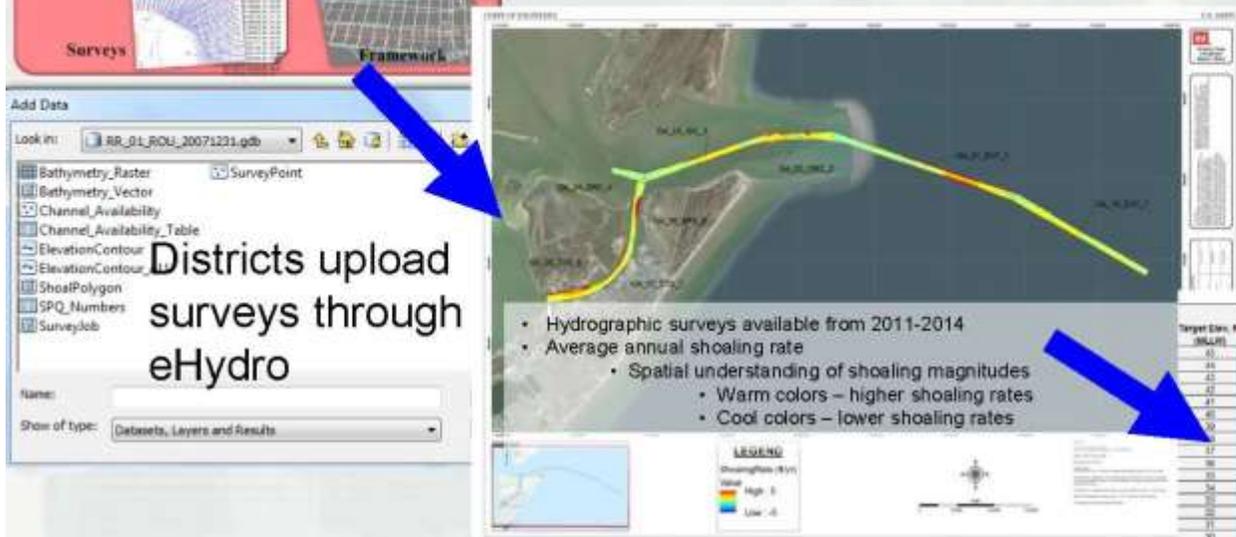
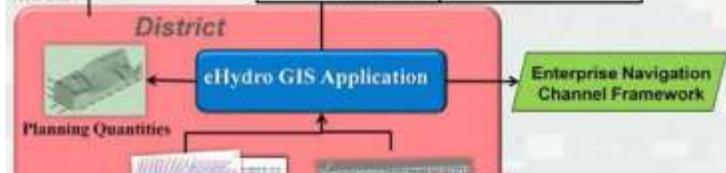
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# CHANNEL PORTFOLIO TOOL (CONSEQUENCES)



# Next Steps



Districts upload surveys through eHydro

CSAT pulls new surveys and generates shoaling rate predictions and volume tables



CPT uploads volume tables with shoaling predictions for use in work package



# CNC Asset Management



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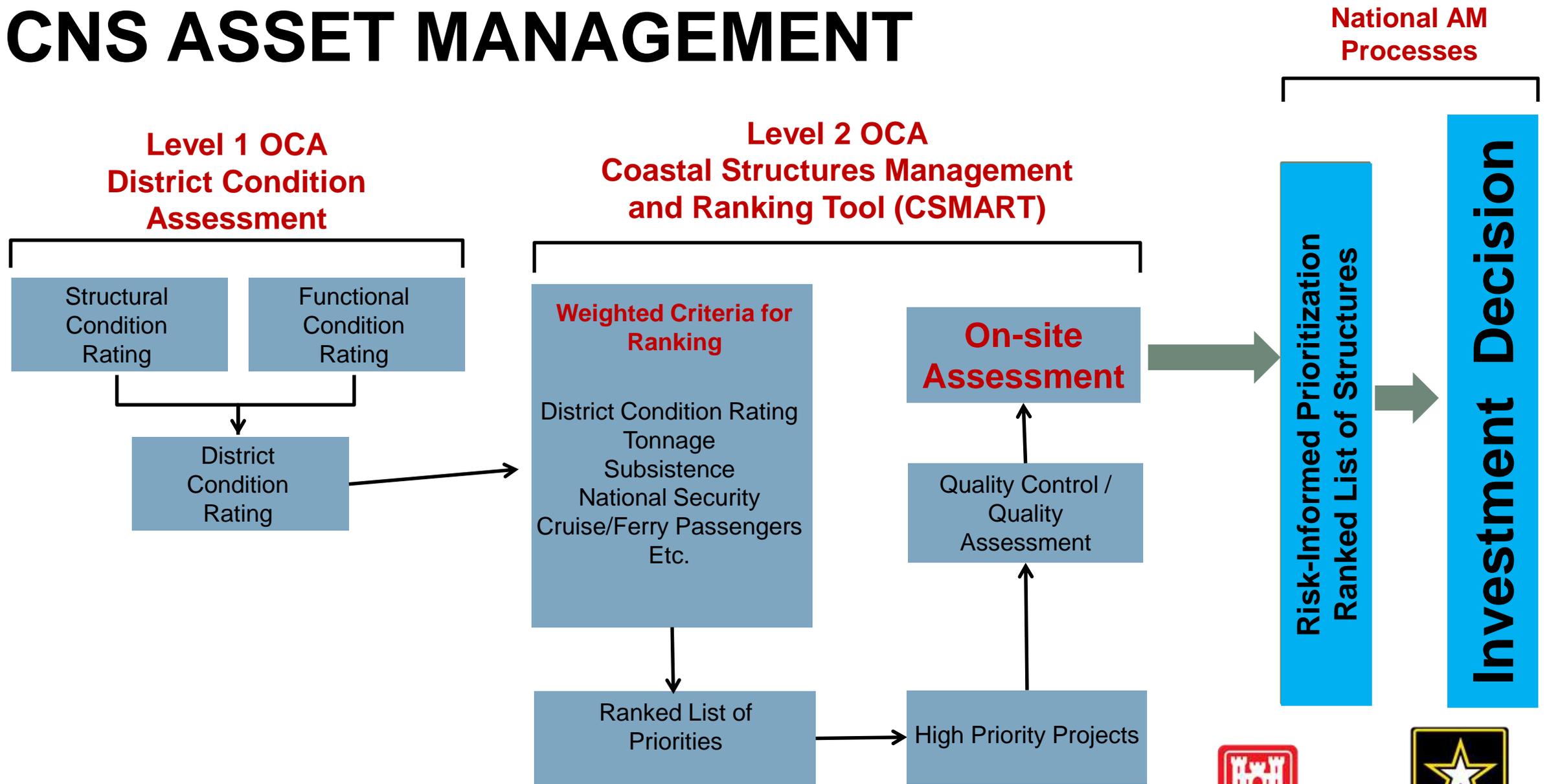


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# CNS ASSET MANAGEMENT



# DISTRICT CONDITION ASSESSMENT TOOL - CNS

http://asemmanagement.usace.army.mil/coastal/oca/basicinspection/MainPage.htm - Windows Internet Explorer

File Edit View Favorites Tools Help

https://asemmanagement.usace.army.mil/coastal/oca/basicinspection/MainPage.htm

https://asemmanagement.usace.army.mil/coastal/oca/basicinspection/MainPage.htm

Tier 1 Condition Assessment

Add Project Add Structure Delete Save Changes View Help Show/Modify Physical Remarks Show/Modify Functional Remarks View Structures in Google Earth Print to Excel

District	Project	Structure	Structure Type	Structural Conditon	Functional Conditon	District Conditon	Subjective Risk	Consequence	Primary Authorized Function
Alaska	Juneau-Harris Basin	Juneau Harbor, Harris Basin North Breakwat...	Breakwater	B	A	A	Unlikely	IV	NAV
Alaska	Juneau-Harris Basin	Juneau Harbor, Harris Basin South Breakwat...	Breakwater	B	A	A	Unlikely	IV	NAV
Alaska	Kake Harbor	Kake Detached Breakwater, Alaska	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	Ketchikan - Bar Point	Ketchikan Bar Point Southeast Rubblemound ...	Breakwater	C	A	B	Unlikely	IV	NAV
Alaska	Ketchikan - Bar Point	Ketchikan Bar Point West Rubblemound Brea...	Breakwater	C	A	B	Unlikely	IV	NAV
Alaska	Ketchikan - Bar Point	Ketchikan Bar Point Long Floating Breakwate...	Breakwater	D	A	B	Highly Likely	I	NAV
Alaska	Ketchikan - Bar Point	Ketchikan Bar Point Short Floating Breakwater, Alaska	Breakwater	D	A	B	Highly Likely	IV	NAV
Alaska	Ketchikan-Inomas Basin	Ketchikan Harbor, Inomas Basin Breakwater,...	Breakwater	B	A	A	Unlikely	IV	NAV
Alaska	King Cove Babe Newman	King Cove Babe Newman Breakwater, Alaska	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	King Cove Harbor (Original)	King Cove Original Training Dike, Alaska	Dike	B	A	A	Unlikely	IV	NAV
Alaska	King Cove Harbor (Original)	King Cove Original Rock Groin, Alaska	Groin	B	A	A	Unlikely	IV	NAV
Alaska	Kodiak - St. Herman's Har...	Kodiak St. Herman's Main Breakwater, Alaska	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	Kodiak - St. Herman's Har...	Kodiak St. Herman's Stub Breakwater, Alaska	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	Kodiak - St. Herman's Har...	Kodiak St. Herman's North Breakwater, Alaska	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	Kodiak - St. Paul Harbor	Kodiak St. Paul Southeast Breakwater	Breakwater	B	A	A	Unlikely	IV	NAV
Alaska	Kodiak - St. Paul Harbor	Kodiak St. Paul Southwest Breakwater	Breakwater	B	A	A	Unlikely	IV	NAV
Alaska	Larsen Bay Harbor	Larsen Bay, Northeast Dike, Alaska	Dike	A	A	A	Unlikely	IV	NAV
Alaska	Larsen Bay Harbor	Larsen Bay, Northwest Dike, Alaska	Dike	A	A	A	Unlikely	IV	NAV
Alaska	Larsen Bay Harbor	Larsen Bay, Southwest Dike, Alaska	Dike	A	A	A	Unlikely	IV	NAV
Alaska	Mekoryuk Harbor	Mekoryuk Breakwater, Alaska	Breakwater	B	A	A	Unlikely	IV	NAV
Alaska	Metlakatla New Harbor	Metlakatla New Harbor South East Breakwater, Ala...	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	Metlakatla New Harbor	Metlakatla New Harbor West Breakwater, Al...	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	Metlakatla New Harbor- P...	Metlakatla New Harbor (Port Chester) Dispos...	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	Metlakatla Old Harbor	Metlakatla Old Harbor Breakwater, Alaska	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	Mountain Point Harbor	Mountain Point Breakwater, Alaska	Breakwater	A	A	A	Unlikely	IV	NAV
Alaska	Ninichik Harbor	Ninichik Harbor North Jetty, Alaska	Jetty	B	A	A	Unlikely	IV	NAV
Alaska	Ninichik Harbor	Ninichik Harbor Rock Sill, Alaska	Sill	B	A	A	Unlikely	IV	NAV
Alaska	Ninichik Harbor	Ninichik Harbor South Jetty, Alaska	Jetty	B	A	A	Unlikely	IV	NAV

Structural Condition Definitions Functional Condition Definitions DCR Rating Matrix Consequence Definitions Tool Help

Done

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Comment

## Entry Fields

- District
- Project
- Structure
- Structure Type
- SCR w/ Remarks
- FCR w/ Remarks
- DCR (calculated)
- SRA
- Consequence Rating
- Primary Auth. Function
- CWIS
- P2
- FEM
- Lat / Long
- District Comments
- QA/QC Comments

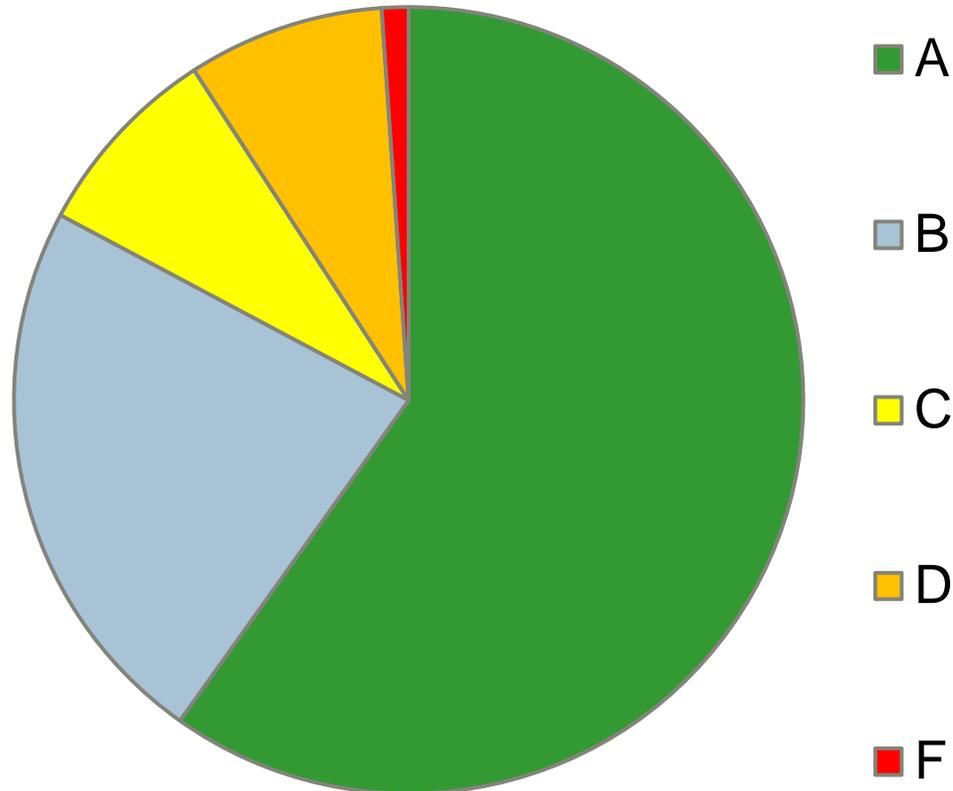
## Features

- Links to Google Earth
- Direct linkage to CSMART for data sharing
- Print to Excel



# CNS ASSET MANAGEMENT SNAPSHOT

## Coastal Nav Structures Condition



- ~1000 Coastal Structures (Level 1 OCA completed)
- 8 prototype Level 2 OCAs completed
- 3 formal Level 2 OCAs completed, 1 planned
- Level 2 OCAs validated Level 1 conclusions
- 83% in A & B condition



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# CONGRESSIONAL GUIDANCE – WIIN ACT

## SEC. 1104. FEDERAL BREAKWATERS AND JETTIES.

(a) IN GENERAL.—The Secretary, at Federal expense, shall establish an inventory and conduct an assessment of the general structural condition of all Federal breakwaters and jetties protecting harbors and inland harbors within the United States.

(b) CONTENTS.—The inventory and assessment carried out under subsection (a) shall include—

(1) compiling location information for all Federal breakwaters and jetties protecting harbors and inland harbors within the United States;

(2) determining the general structural condition of each breakwater and jetty;

(3) analyzing the potential risks to navigational safety, and the impact on the periodic maintenance dredging needs of protected harbors and inland harbors, resulting from the general structural condition of each breakwater and jetty; and

(4) estimating the costs, for each breakwater and jetty, to restore or maintain the breakwater or jetty to authorized levels and the total of all such costs.

(c) REPORT TO CONGRESS.—Not later than 1 year after the date of enactment of this Act, the Secretary shall submit to Congress a report on the results of the inventory and assessment carried out under subsection (a).

