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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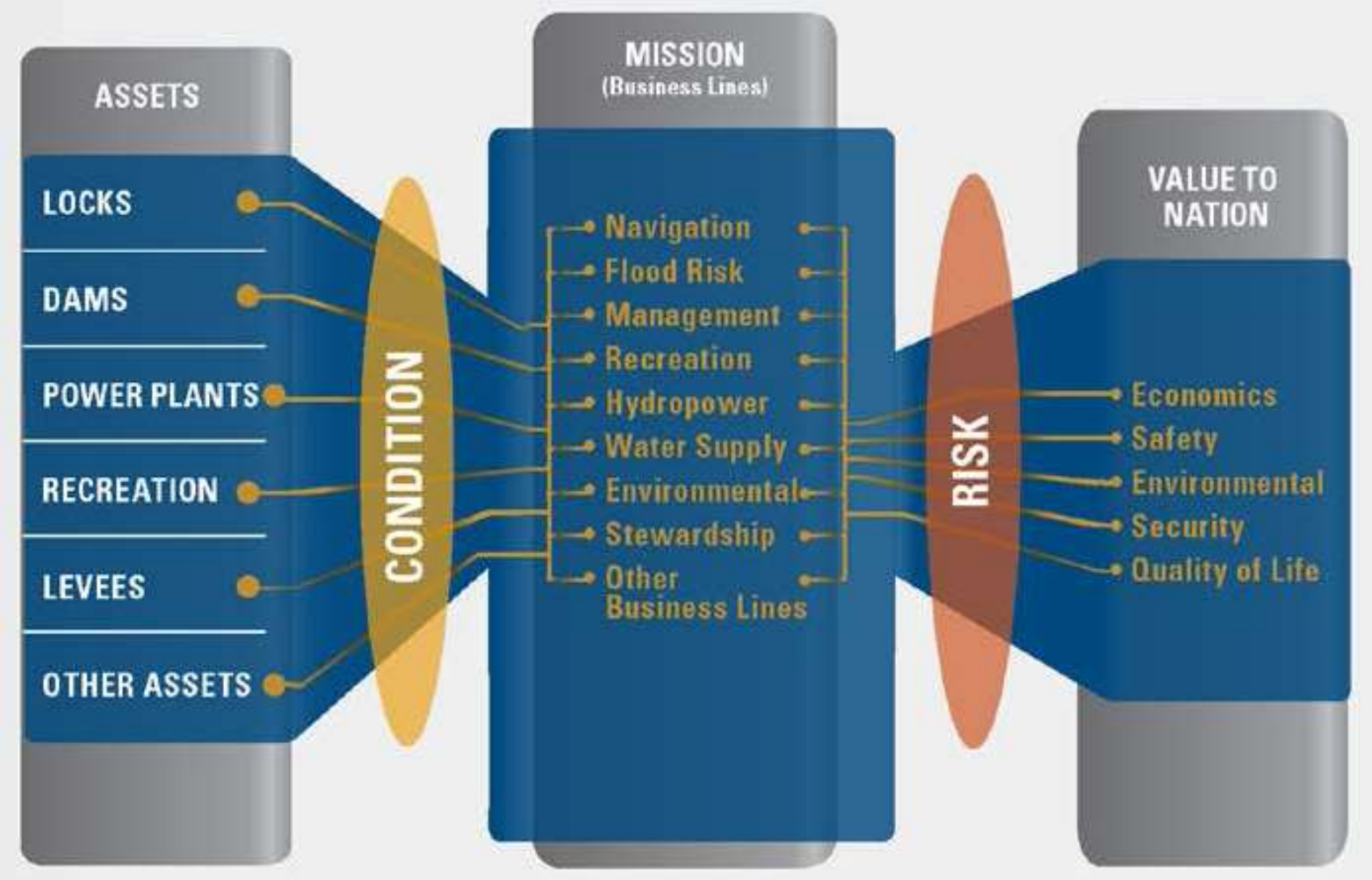
USACE CIVIL WORKS ASSET MANAGEMENT



4 Focus Areas

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

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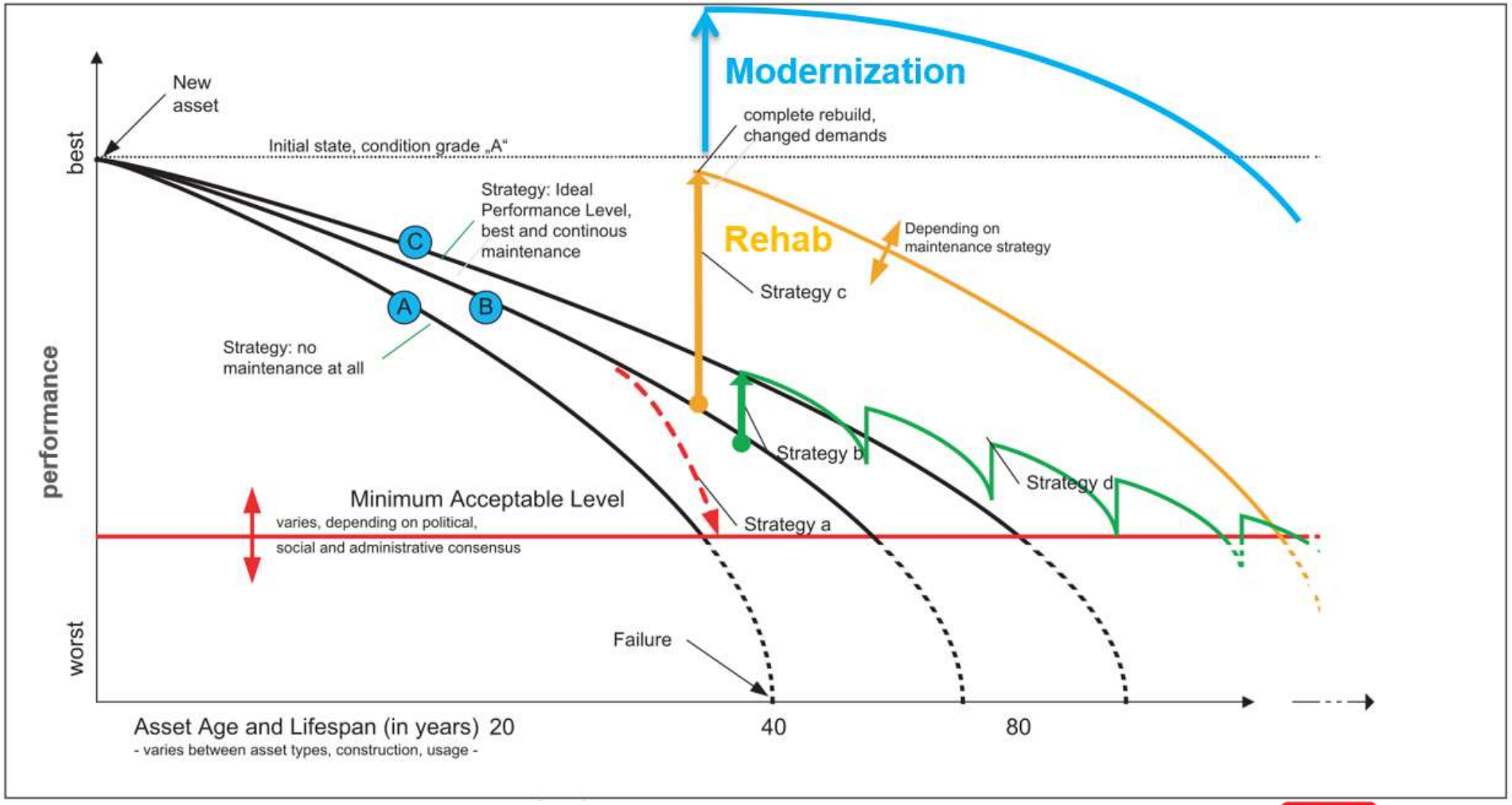
LIFECYCLE ASSET MANAGEMENT



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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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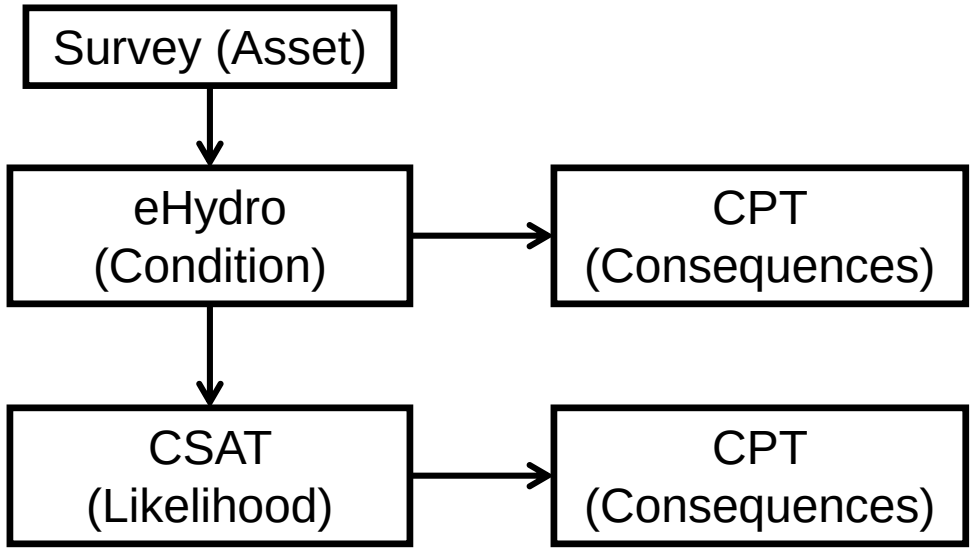
CNC Asset Management

	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



CSAT: Corps Shoaling Assessment Tool

CPT: Channel Portfolio Tool

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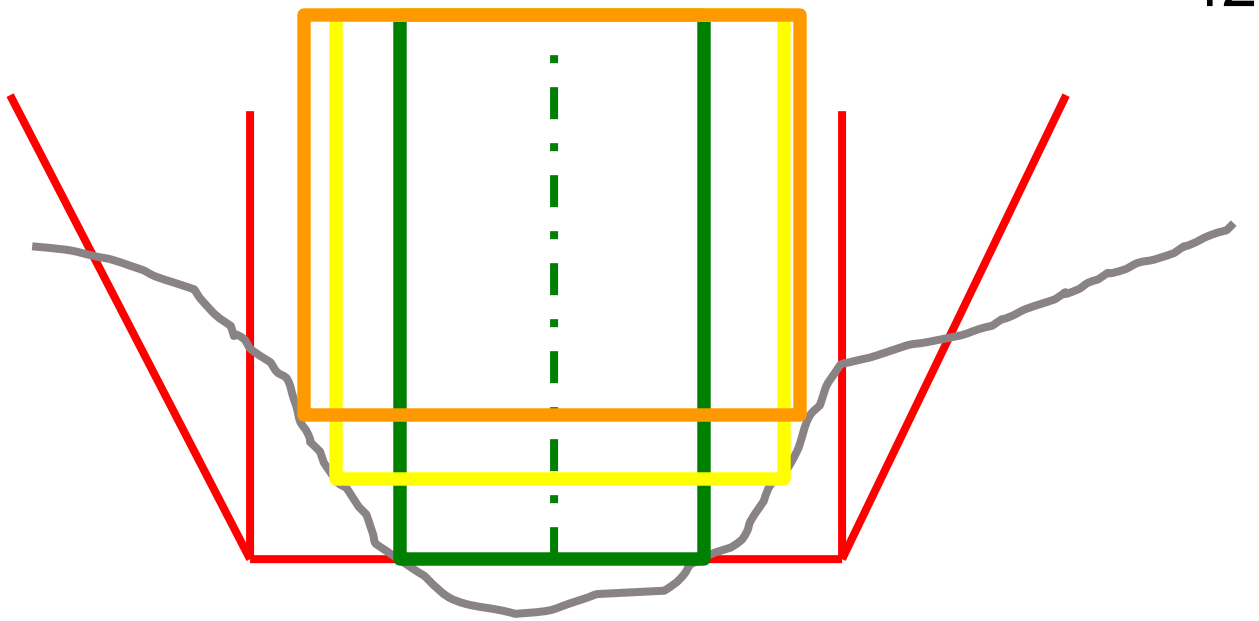
CNC CONDITION ASSESSMENT EXAMPLE

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

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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 bet
  dredging events
- Predict average shoaling rates and dredging requirements per channel rea
- Report volumes at different depth/time intervals

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

Average annual shoaling rate

- Warm colors – higher shoaling rates
- Cool colors – lower shoaling rates

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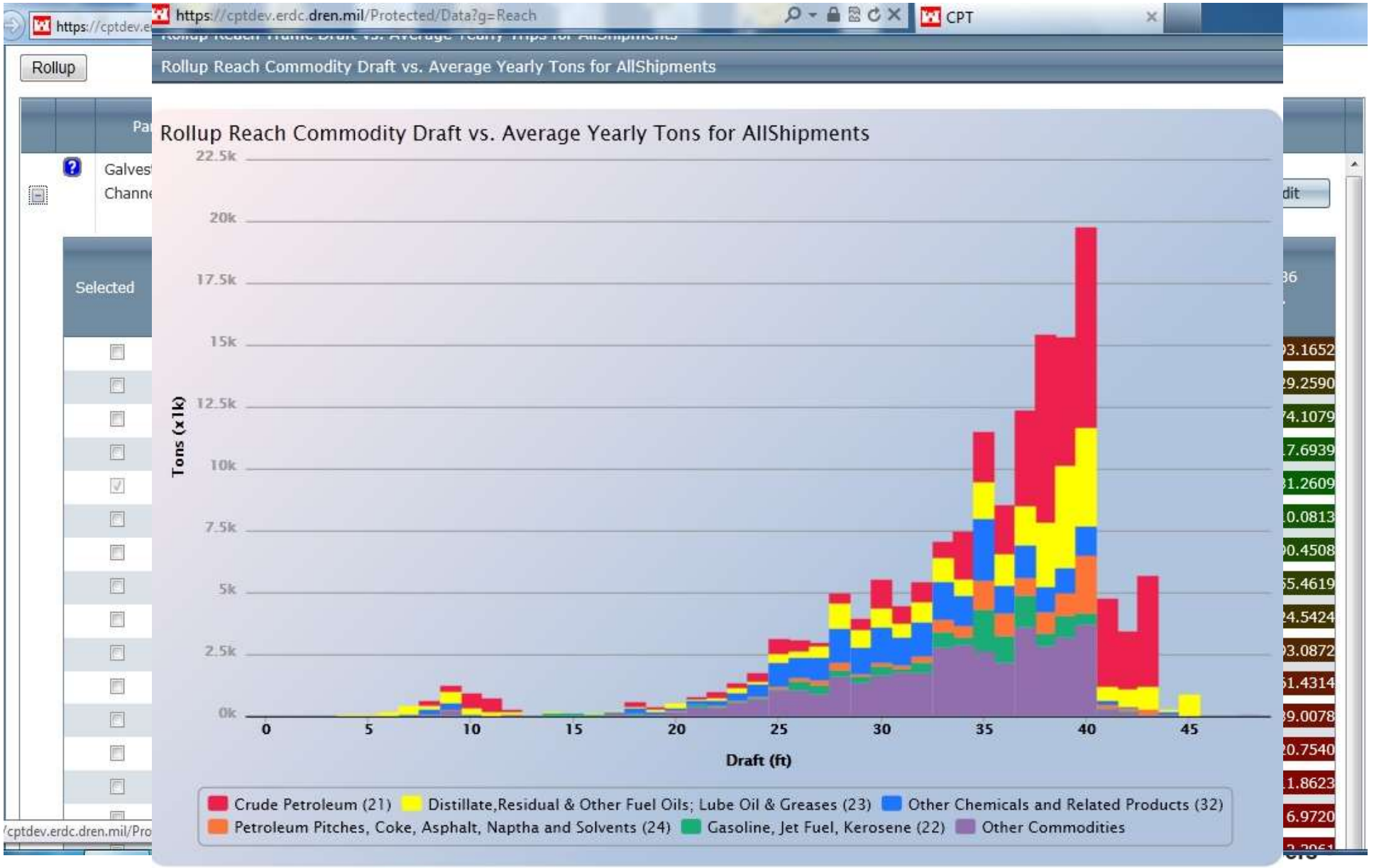
CHANNEL PORTFOLIO TOOL (CONSEQUENCES)



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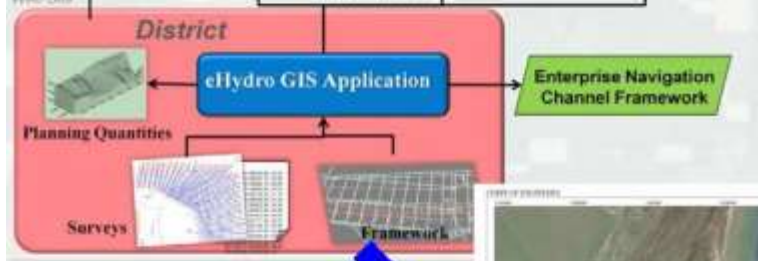
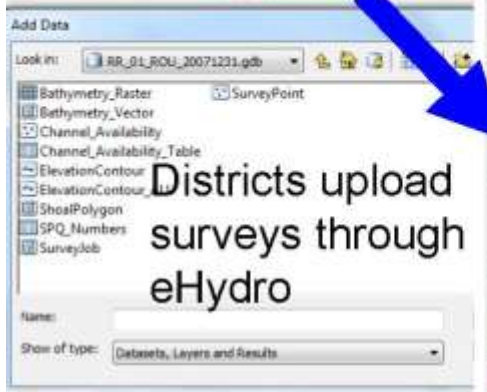
Next Steps



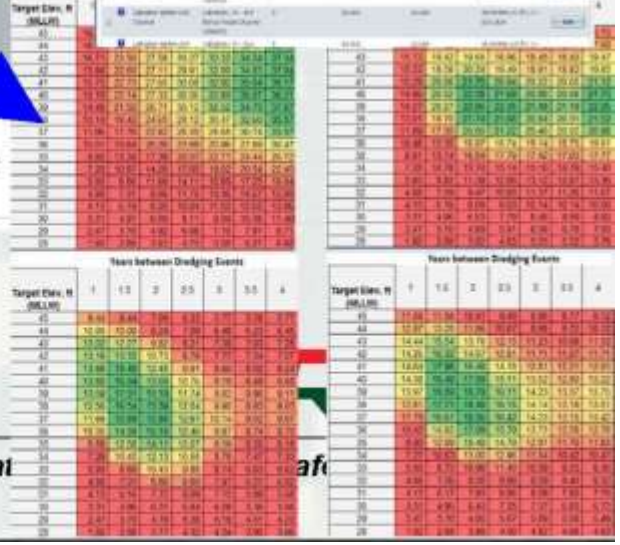


Districts upload surveys through eHydro

- Hydrographic surveys available from 2011-2014
- Average annual shoaling rate
  - Spatial understanding of shoaling magnitudes
    - Warm colors – higher shoaling rates
    - Cool colors – lower shoaling rates

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

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



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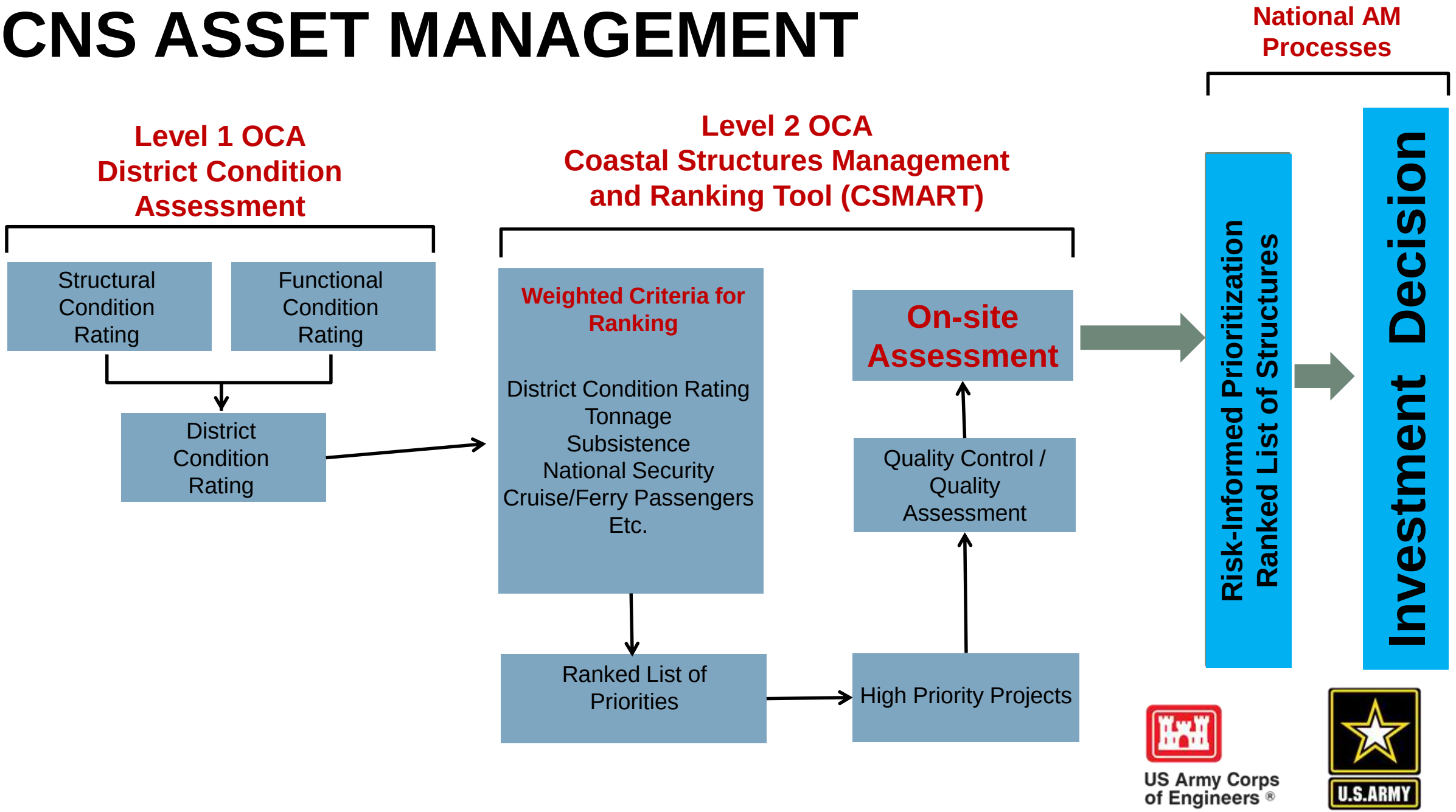
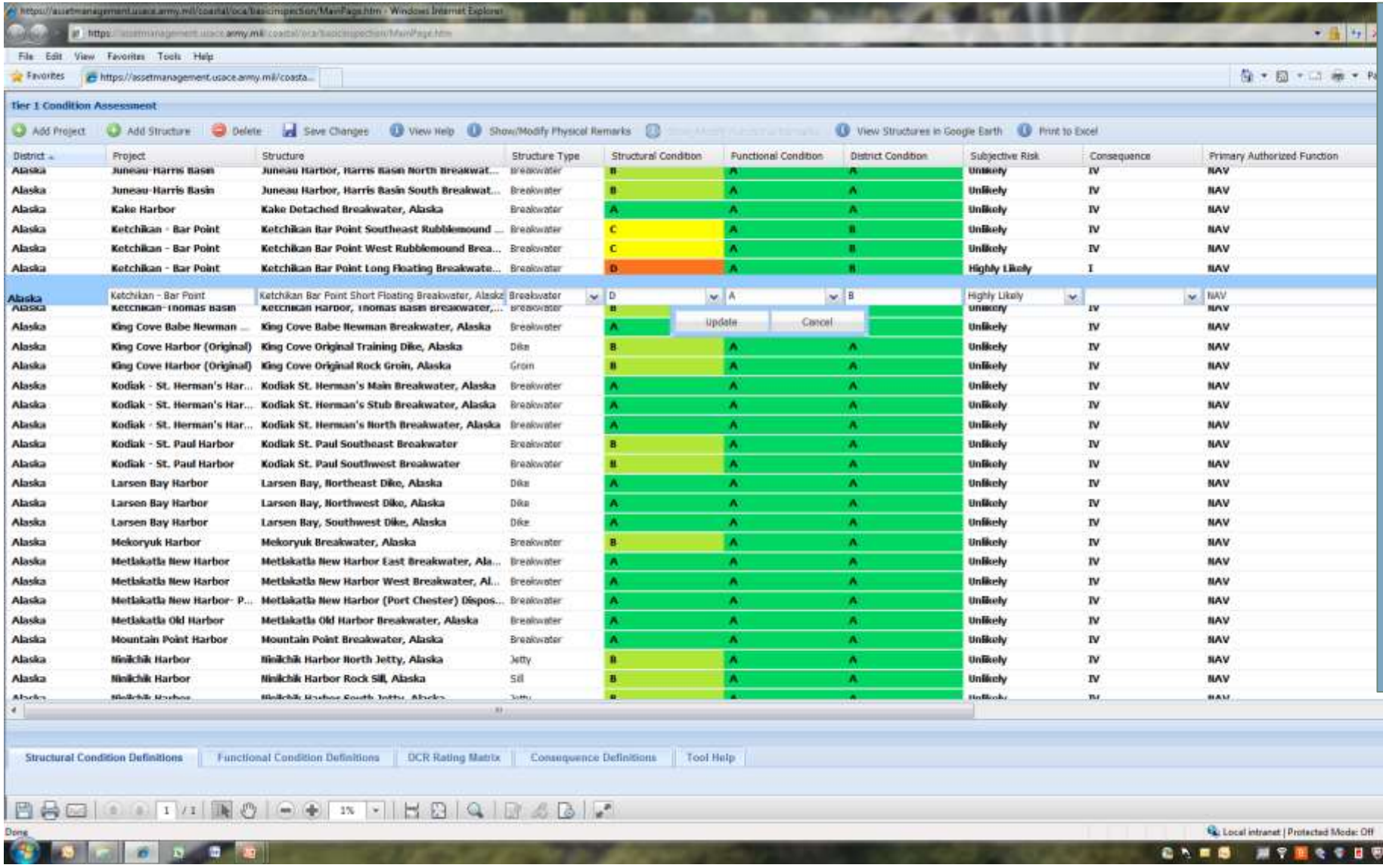


DISTRICT CONDITION ASSESSMENT TOOL - CNS



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

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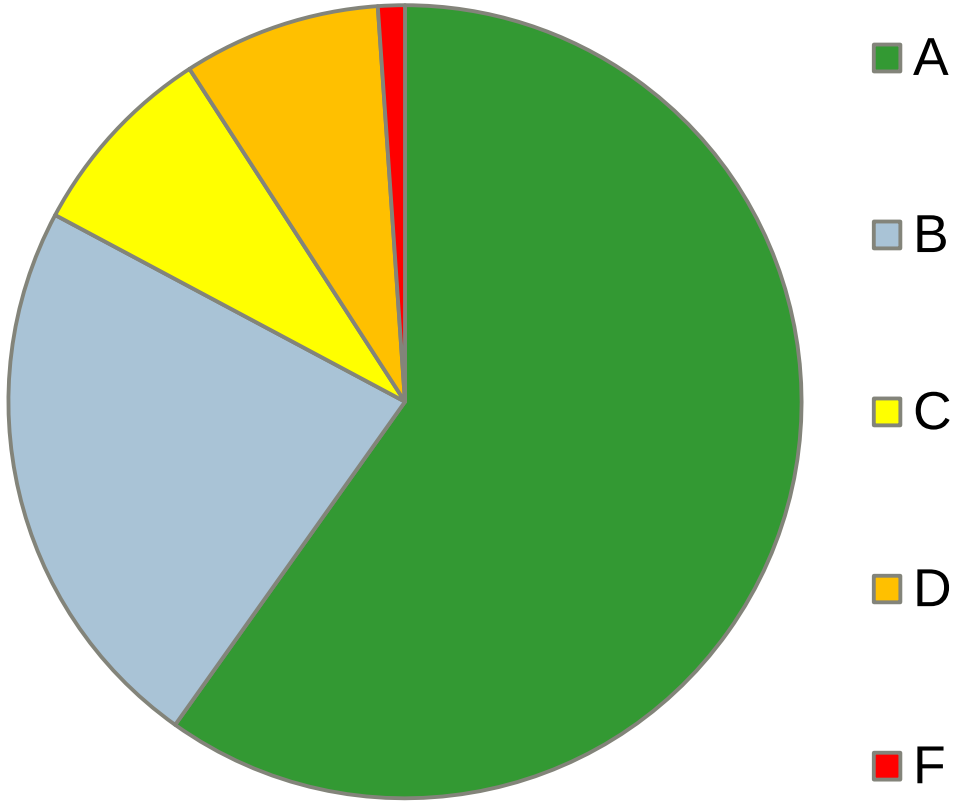
CNS ASSET MANAGEMENT SNAPSHOT

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).

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