USACE Asset Management Program

“Managing the Army Corps of Engineers’ Civil Works Infrastructure Assets for the Nation’s Well-Being”

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Roadmap for Today

- What is asset management all about
- Why is asset management important for USACE
- How is asset management being implemented
- Where is asset management going
Asset Management

- **Asset:** “an item of value owned”
  - Constructed Asset (Dams, Locks, Hydropower Plants, Recreation Areas)

- **Management:** “to handle or direct with a degree of skill”
  - Smart investments that are risk-informed
  - Life-cycle, i.e., from planning to disposal

- **Simply stated:**
  - Inventory (what you own)
  - Condition (what is the condition of what you own)
  - Investment Strategy (driven by risk-informed decision-making)
Buildings & Structures: ~$238 Billion
Land: 7.8M acres
USACE among top 4 federal agencies in total value of assets
Recreation areas
376 M Visitors/yr
Generate $15B in
economic activity,
500,000 jobs

400 miles of
Shore protection
Destination for
75% of U.S.
Vacations

½ of Nation’s
Hydropower:
$500M in power
sales

12,000 miles of
Commercial Inland
Waterways:
½ the cost of rail
1/10 the cost of trucks

8500 Miles of
Levees

627 Shallow Draft
Harbors

299 Deep Draft
Harbors

Emergency
Operations

Stewardship of
11.7 Million Acres
Public Lands

Environmental
Restoration

Regulatory
Responsibilities

US Ports & Waterways convey > 2B Tons Commerce

Civil Works Value to the U.S.
Drivers

- **External**
  - Civil Works infrastructure plays a vital role in US economy
  - Growing competition for funds within US Government
- **Internal**
  - Aging infrastructure
  - Limited resources
  - Growing competition for funds within Corps’ expanding missions
  - Ability to convey a clear business case for investing in water resource infrastructure
    - To augment
    - To maintain
Asset Management Program Goals

- Support Corps’ strategic plan and performance measures
- Institutionalize a system-wide approach in the use and investment of assets
- Establish an integrated Corps-wide asset management process
  - Standardized process within and across business lines with respect to inventory, condition, and quantification of risk
- Promote efficient and economical outcomes
  - Drive performance-based budgeting
- Increase accountability of asset management at all levels, i.e., HQ, Division, and District
- Refine process through continuous improvement
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# Base Condition Rating Scale
(for minimum acceptable service level)

<table>
<thead>
<tr>
<th>Condition Classification</th>
<th>Definitions</th>
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| **A Adequate**            | - There is a **high level of confidence** that the feature will perform well under the designed operating conditions. This confidence level is supported by data, studies or observed project characteristics which are judged to meet current engineering or industry standards.  
- There is a **limited probability** that the verified degraded conditions will cause an inefficient operation, or degradation or lose of service. |
| **B Probably Adequate**   | - There is a **low level of confidence** that the feature will perform well under designed operating conditions, and may not specifically meet engineering or industry standards. The feature may require additional investigation or studies to confirm adequacy.  
- There is a **low probability** that the verified degraded conditions will result in inefficient operation, or degradation or loss of service. |
| **C Probably Inadequate** | - There is a **low level of confidence** that the feature will not perform well under designed operating conditions, and may not specifically meet engineering or industry standards. The feature may require additional investigation or studies to confirm adequacy. The feature does not meet current engineering or industry standards.  
- There is a **moderate probability** that the verified degraded conditions will result in inefficient operation, or degradation or loss of service. |
| **D Inadequate**          | - There is a **high level of confidence** that the feature will not perform well under designed operating conditions. Physical signs of distress and deterioration are present. Analysis indicates that factors of safety are near limit state. The feature deficiencies are serious enough that the feature no longer performs at a satisfactory level of performance or service.  
- There is a **high probability** that the verified degraded conditions will result in inefficient operation, or degradation or loss of service. |
| **F Failed**              | - The feature has FAILED  
- Historically the feature regularly experiences scheduled or unscheduled closures or loss of service for repairs. . . . |
Operational Condition Assessments

Condition at Component, Sub-Component and Sub-Sub-Component Level...

...as it relates to relative risk of mission impact for that level...

RESULT -- Project Priority Summary for LRD with drill down capability

Priorities

Overall Project Risk Summary

Constructed Asset Risks and Associated Components Risks

Algorithms
## Risk Management Matrix

<table>
<thead>
<tr>
<th>Consequence Category</th>
<th>Condition</th>
<th>F (Failed)</th>
<th>D (Inadequate)</th>
<th>C (Probably Adequate)</th>
<th>B (Adequate)</th>
<th>A (Adequate)</th>
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- **F**: Failed
- **D**: Inadequate
- **C**: Probably Adequate
- **B**: Adequate
- **A**: Adequate

Legend:
- High Relative Risk
- Med-High Relative Risk
- Medum Relative Risk
- Low Relative Risk
- Minimal Relative Risk
Status of Condition Assessments

- Mature Methodology Implemented
  - Recreation facilities
- Mature Methodology Partially Implemented
  - Dam Portfolio Risk Assessment
  - Hydropower facilities
- Developing Methodology Partially Implemented
  - Inland Navigation
  - Flood Risk Management
- Developing Methodologies
  - Coastal structures
  - Levees and floodwalls
Roadmap for Today

- Organization
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Future of Asset Management

Strategic Decision Support
- Program Investment Strategy
- Agency Strategic Plan
- Asset Management Framework
- 20-year Plan

Conditional Assessment Tools
(13 Tool Suite)

USACE Automated Systems
(12 Systems)

Transactional Systems

Strategic Decisions
Website (public):
http://corpsglobeweb.usace.army.mil/assetmanagement

Share Point (internal):
https://kme.usace.army.mil/CoPs/AMC

Gateway (internal):
http://operations.usace.army.mil/asset.cfm