Army Corps of Engineers Watershed Investment Decision Tool

USACE – USGS – BOR – NOAA Joint Headquarters Meeting

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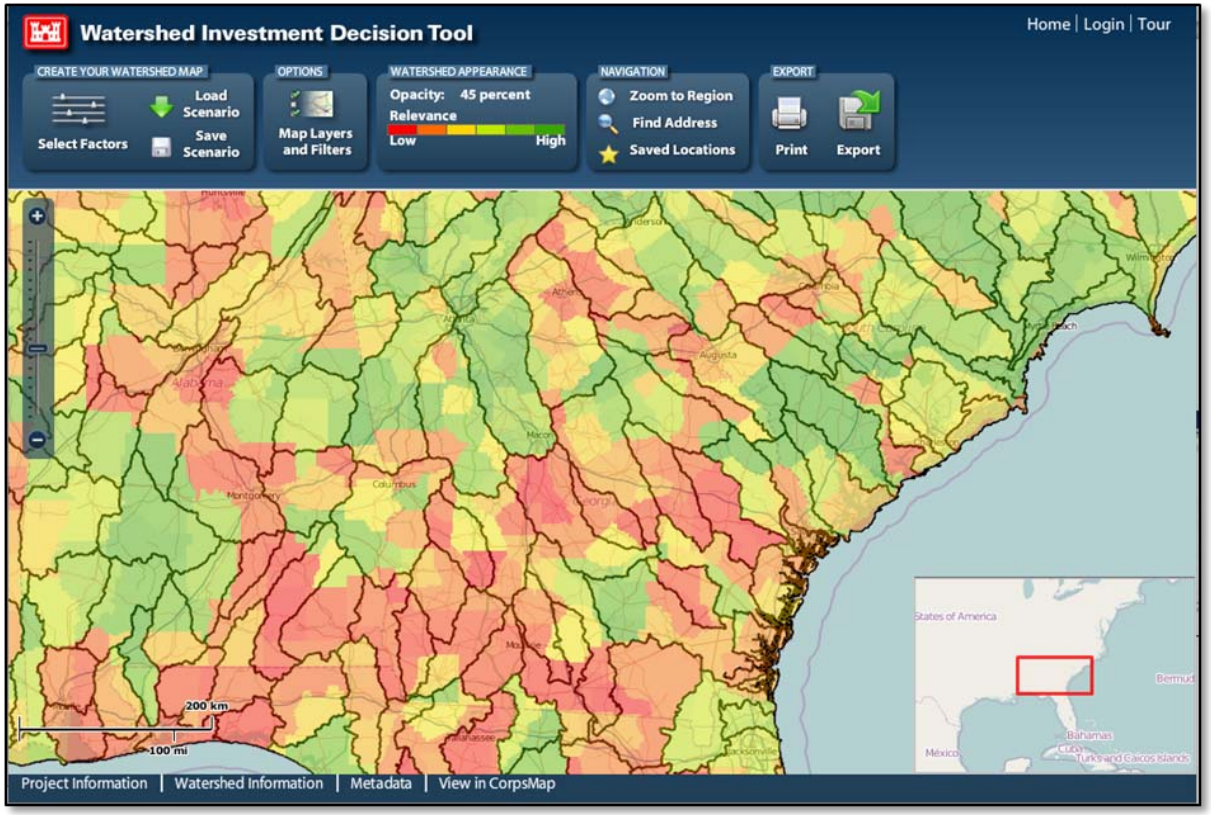
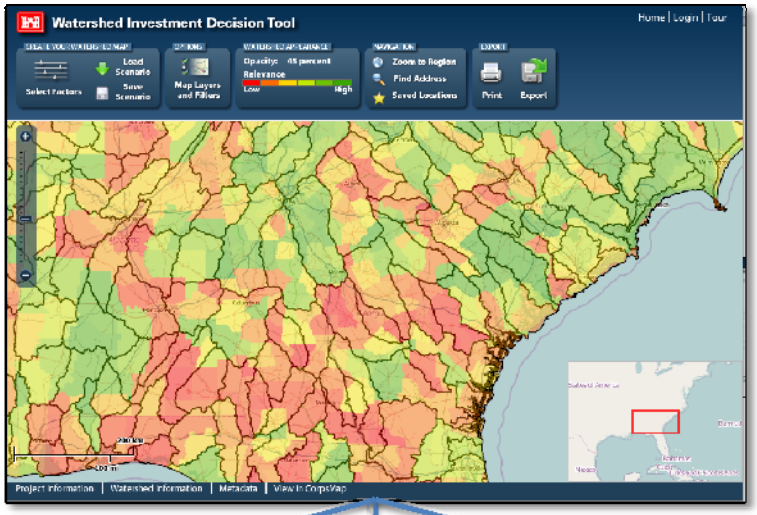
Overview

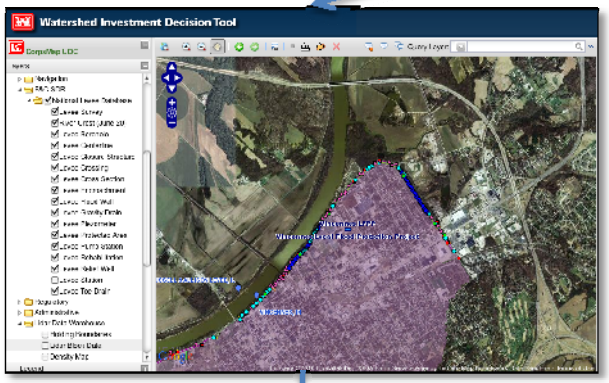
- What is the Watershed Investment Decision Tool?
- Activity To Date
- Plans For 2011

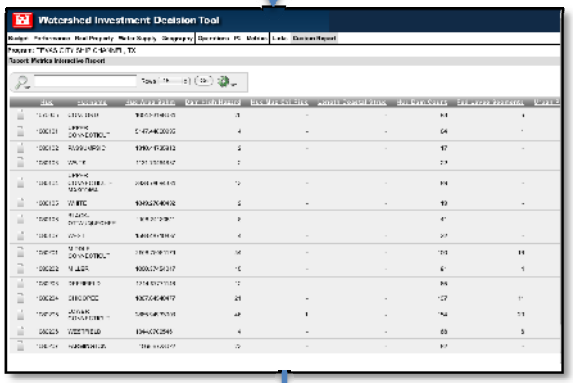
Watershed Investment Decision Tool: A geospatial framework enabling data access, synthesis, comparison, and analysis in support of collaborative watershed-scale investment decisions

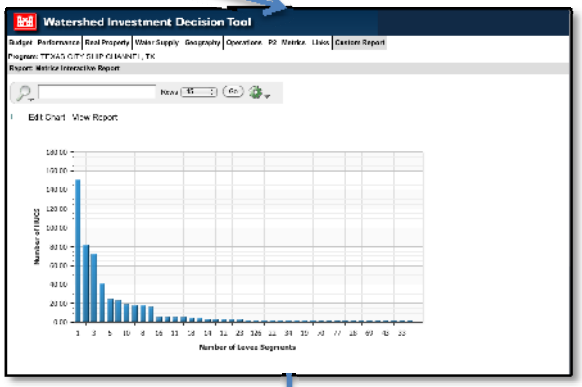


Watershed Investment Decision Tool







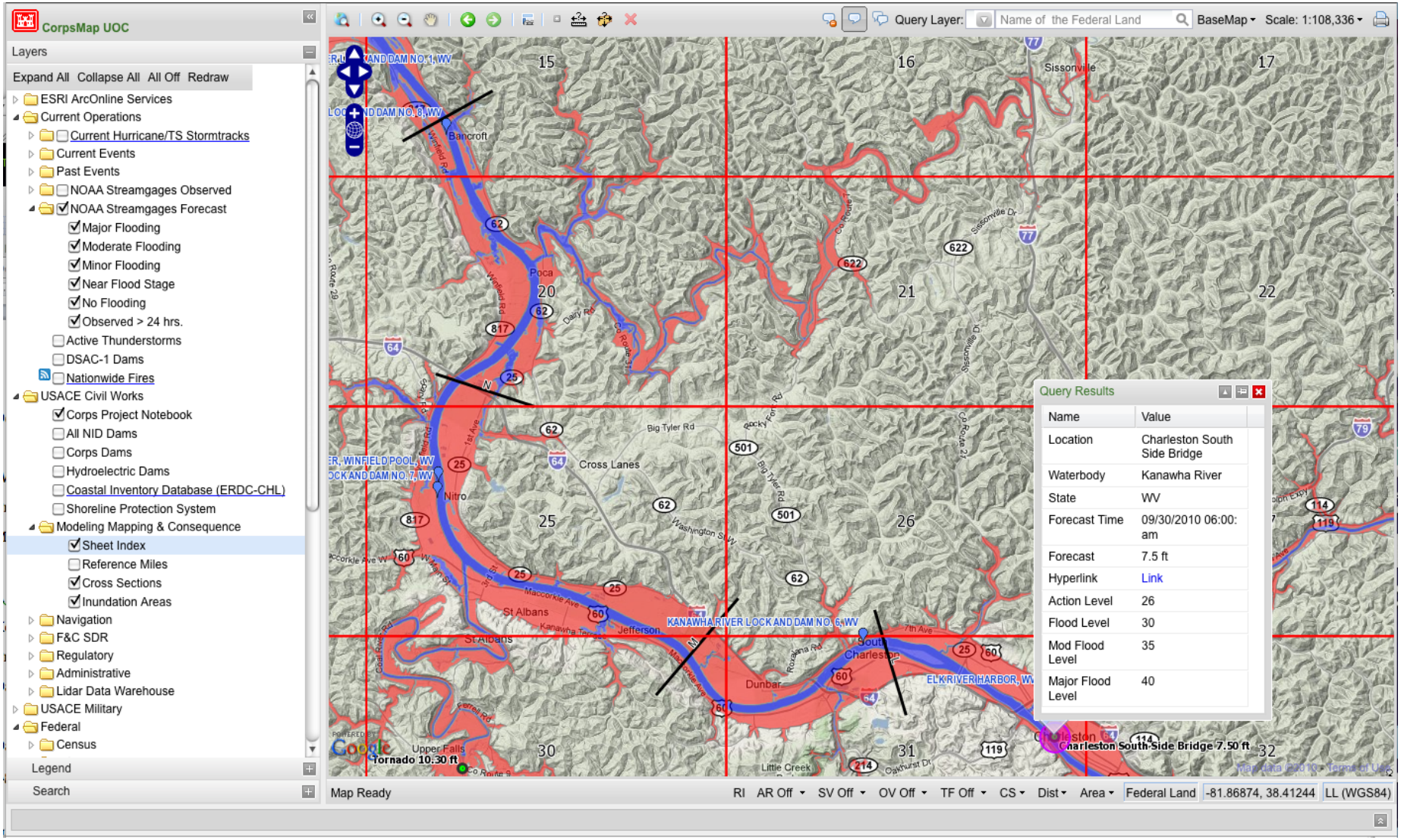


EGIS, CPN, NID, NLDB, NHD

OMBIL, P2, REMIS, EDW

Models & Services

Enterprise Geospatial Data & Web Services: Projects, Population, H&H Models, Flood Risk



Detailed Business Data Sets: Performance, Utilization, Assets, Budget, Risk

USACE ENTERPRISE DATA WAREHOUSE

Welcome: schlagel

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Web Intelligence - Land Currently Controlled by District Detail

Document | View | 1 /1+ | Refresh Data | Track

Input Controls - Easement Detail

Map | Reset

There are no input controls defined on this report.

EDW ENTERPRISE DATA WAREHOUSE

Real Estate Corporate Information System
Land Currently Controlled by District Report
Civil/Military Easement Land for All Years
All Programs

Please click HERE to return to the Summary Report. Click 'Refresh Data' to apply filters to the report.

Division		District		Program Type	Customer	Project/ Installation	Status	Tract ID	Estate Type
SAD	K0 - SOUTH ATLANTIC DIVISION	SAM	K5 - MOBILE DISTRICT (SAM)	Civil	OCAC - DOE - PIPELINE	ALAMOS	Active	2002-E	Easement
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Owned Detail | Easement Detail | Lease Detail

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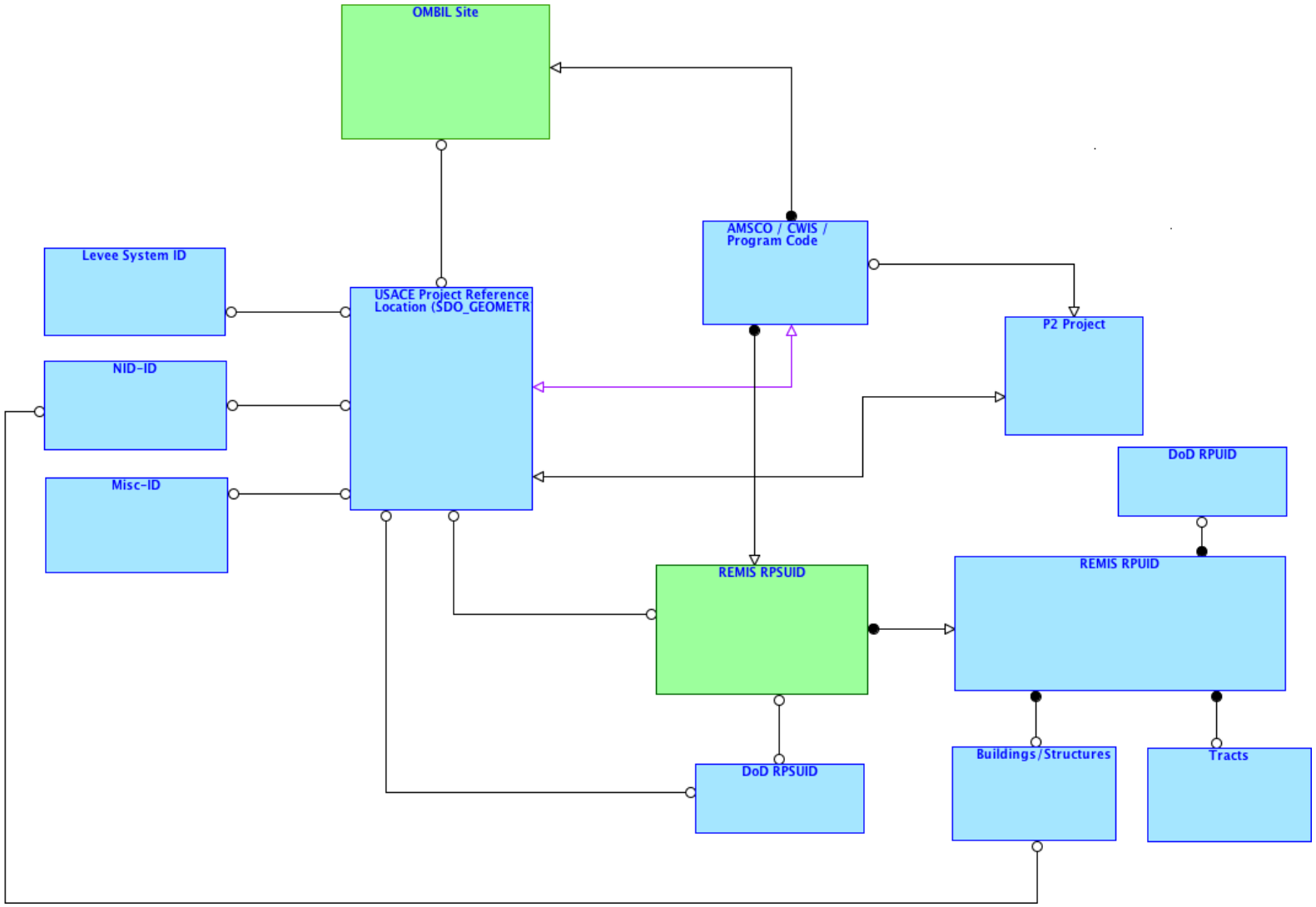
Much Work on a “Rosetta Stone”

To Allow Query Across Multiple Business Systems



Business Data Integration

Watershed Investment Decision Tool has access to and is developing crosswalks to:

- All OMBIL (Operations and Maintenance) Data
- Budget Data
- ARRA Project Data
- ORM2 Regulatory Permit Data
- Asset Management/Real Property Data
- Corps Water Management Systems
- CEFMS/P2 and EDW
- Agency data (EPA, USFWS, USGS, etc)

Metrics of Interest and Data Needs

Environmental Resources
- Habitat quality, stressors, restorability

Recreation
- Use statistics, population proximity statistics

Regulatory Program
- Permits processed, mitigated acreage, permitted acres

Water Demand
- Demand deficit by user (People, Agriculture, Environment, Energy)

Navigation
- Port/Lock/waterway use statistics, transportation competition

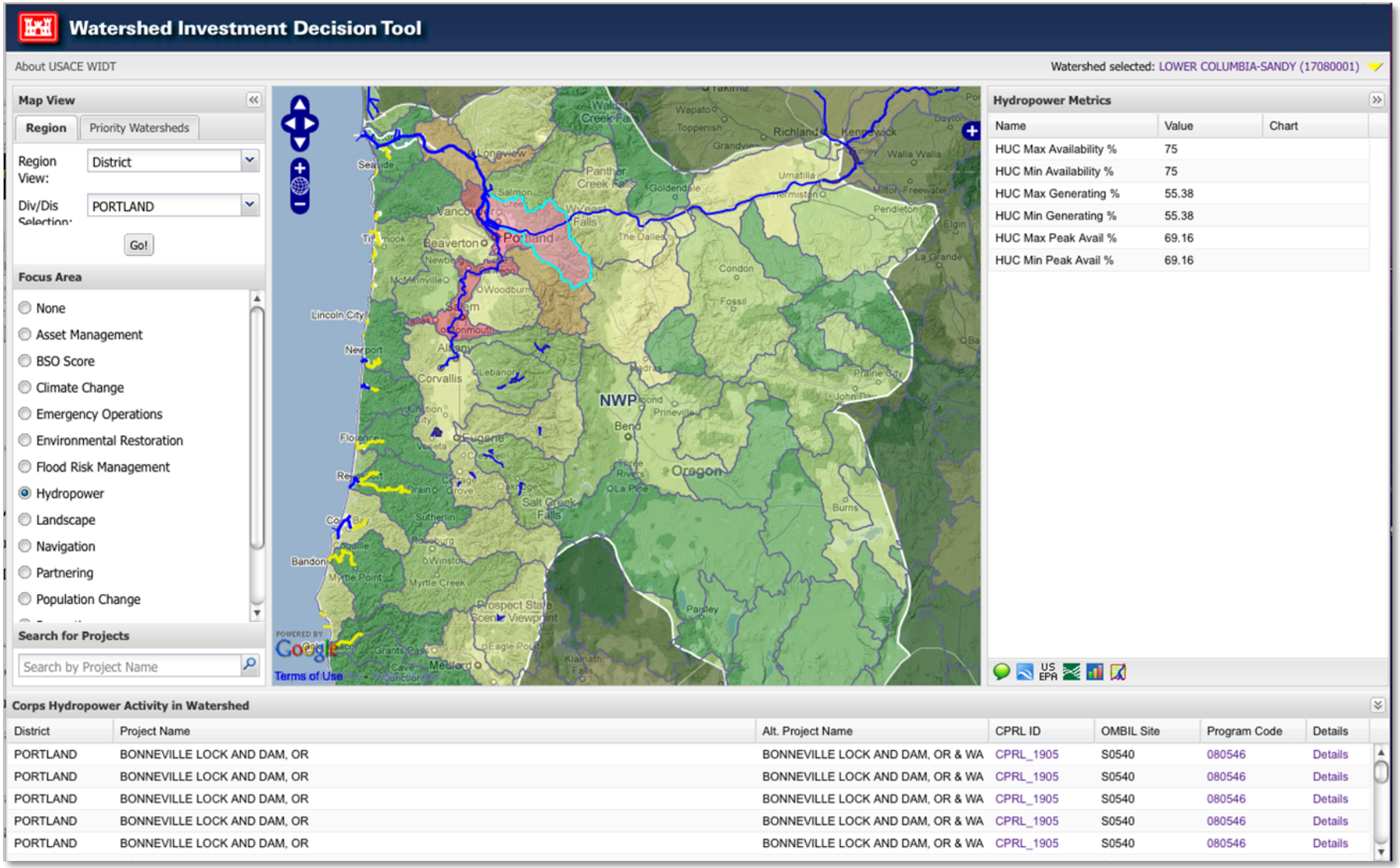
Hydropower
- Competition for pool storage capacity (flood, supply, energy)

Flood Damage Risk Reduction
- Population/Industry at risk, critical infrastructure/services

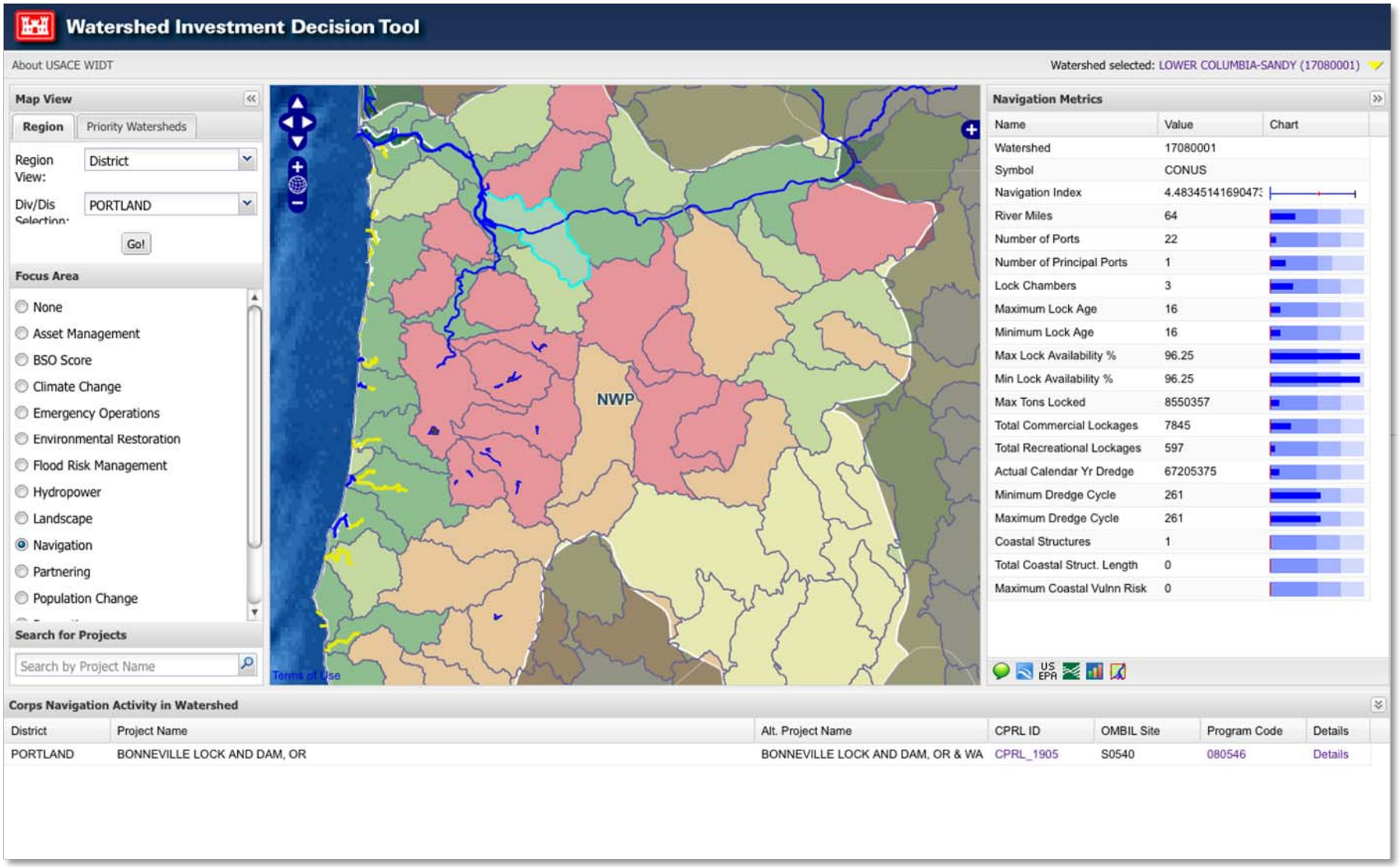
Emergency Management
- Vulnerabilities, plan development

Workload/Workforce Balance
- Emerging workloads and workforce shaping (readiness)

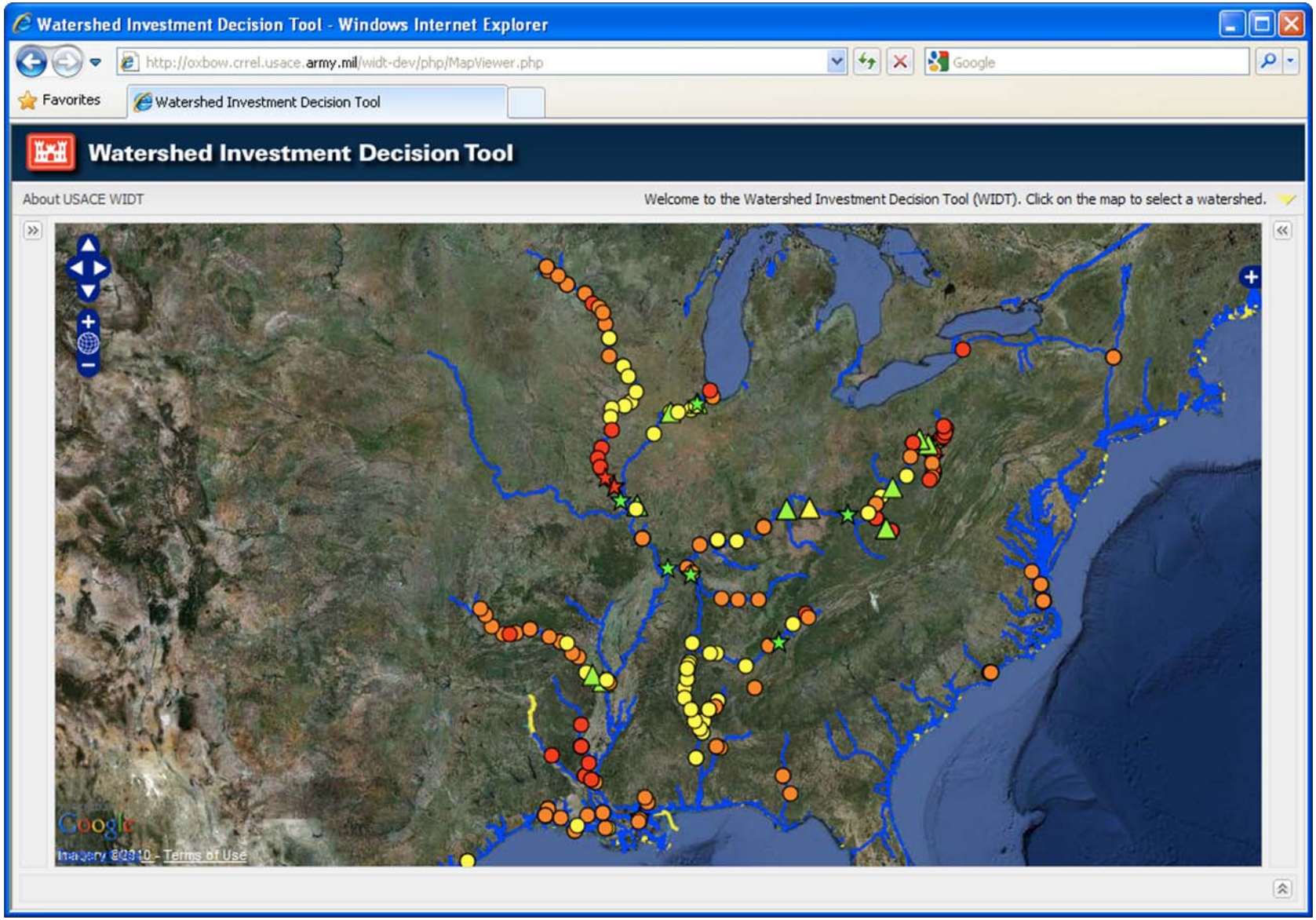
Hydropower Business Line Data for Lower Columbia within USACE Portland District



Navigation Business Line Data for Lower Columbia within USACE Portland District



Lock & Dam System Status & Trends

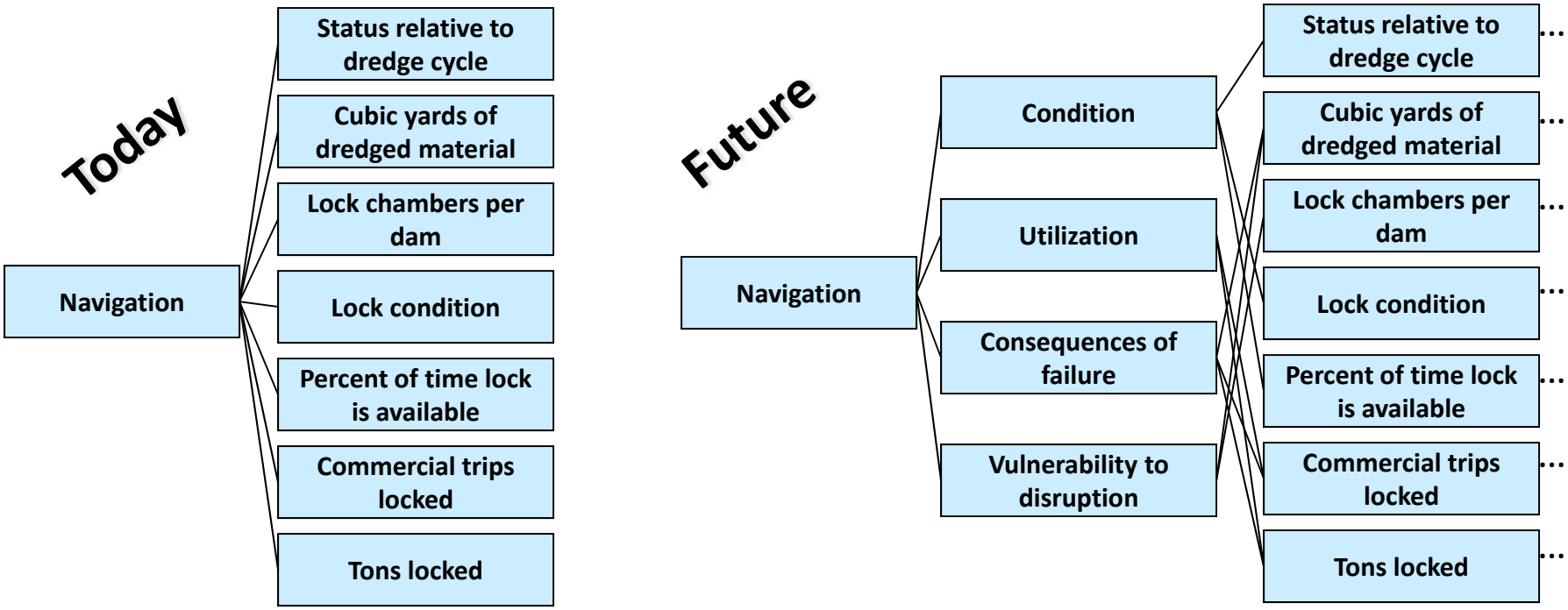


Reducing Complex Data to Highlight Critical Information

For example: Climate Variability, Population Trends and Infrastructure Condition

Color	Corps Role	Climate and Population Projections	Description
	Active	Stable	USACE is active in this watershed, both population and precipitation forecasts indicate stability .. Steady State
	Limited	Either Climate or Population Are Unstable	USACE has limited role in this watershed, but models indicate change in population or precipitation in future – possibly requiring new activity
	Limited	Both Climate and Population Are Unstable	USACE role is limited, but change in both precipitation and population may require activity in future
	Active	Either Population or Climate are unstable	USACE is active in this Watershed and either precipitation or population are changing .. Project conditions/budget may need to be re-evaluated
	Active	Both Population and Climate Are Unstable	USACE is active in this watershed and both precipitation and population are expected to changed in this area

FY11: Development of Detailed Information Model



Ecosystem Management Decision-Support System: An application framework for designing and implementing knowledge-based decision support for environmental analysis and planning at any geographic scale or scales. Integrates a logic engine to perform landscape evaluations, and a decision modeling engine for developing strategic management priorities.

http://en.wikipedia.org/wiki/EMDS
http://www.institute.redlands.edu/emds

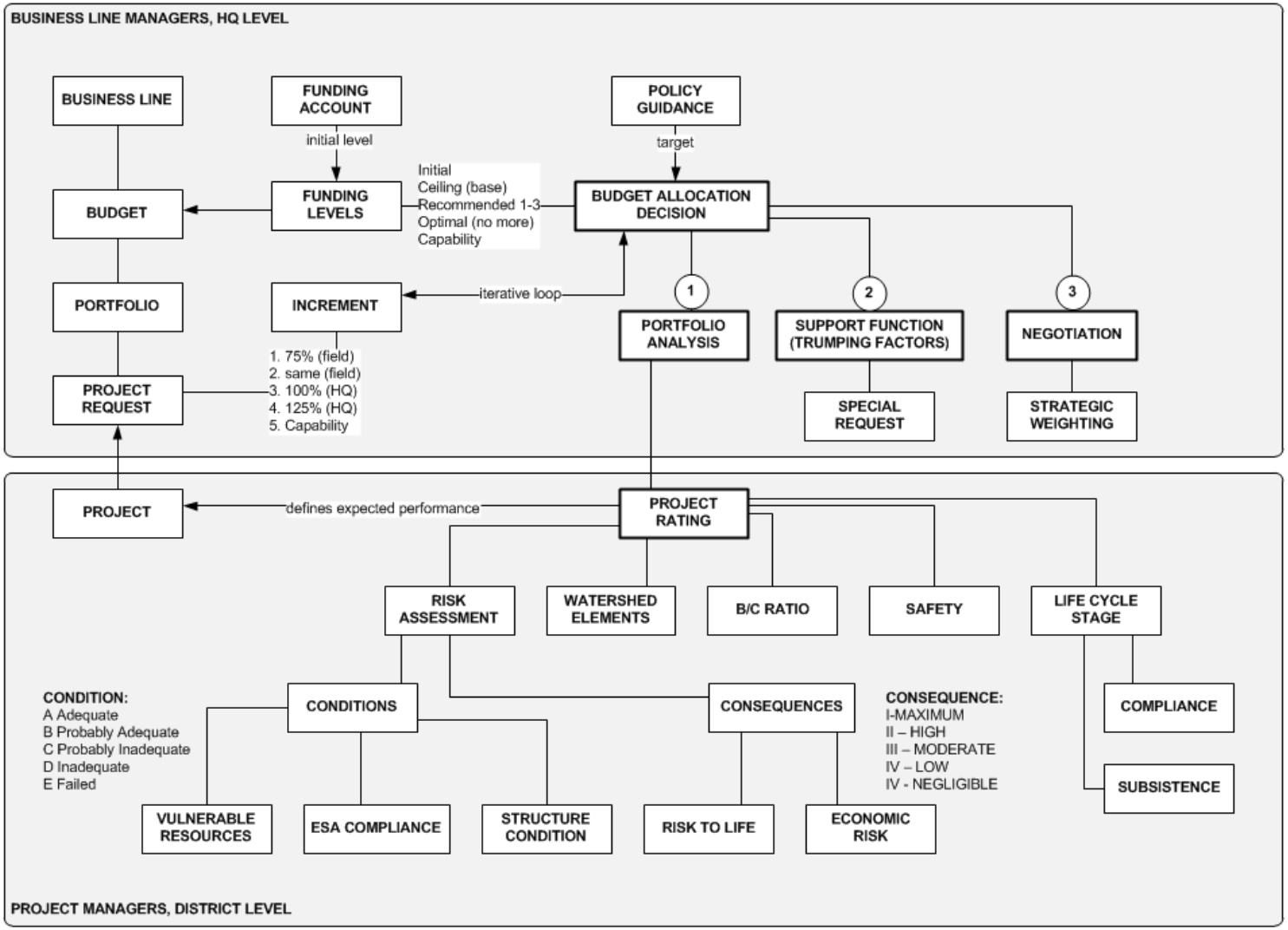
From Keith Reynolds @ USFS

Why We Think EMDS Is A Best Practice

- General – a design framework
- Simple - allows for intuitive explanation of model results
- Support for large, complex, abstract problems
- Transparent – more than just a pretty map
- Rational, repeatable, and fully documentable reasoning with incomplete information
- Derive priorities for missing information
- Support for multiple interdependent spatial scales

From Keith Reynolds @ USFS

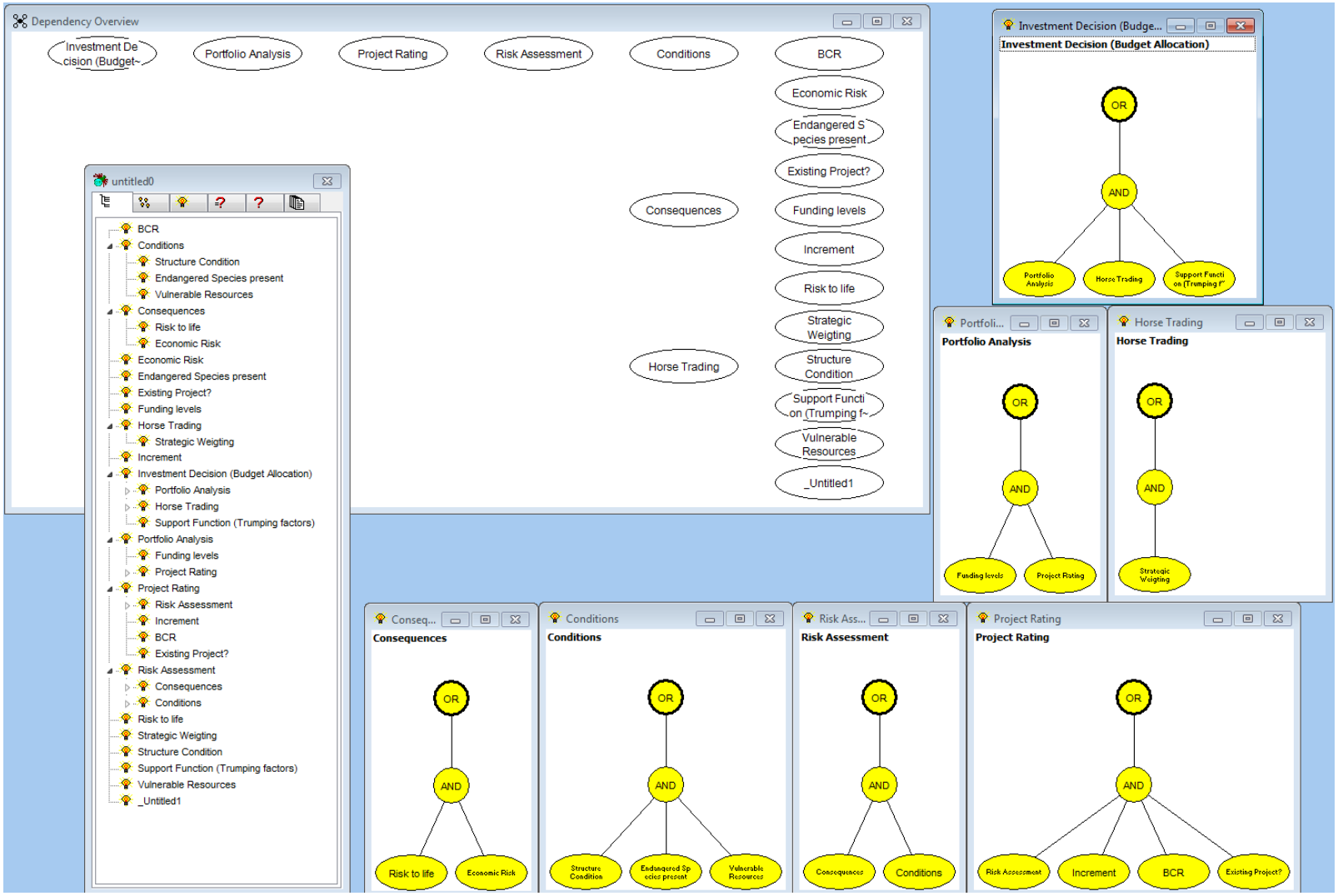
Initial Idealized Budget Development Process Model



Civil Works Business Line
Budget Allocation Process

DRAFT VERSION 0.1 JULY 16, 2010

Initial Components for Top Level Investment Model



Anticipated Activity For FY11

- Numerous Application Enhancements Based on Feedback from Business Line Managers & Field
- Public Access To WIDT (WIDT in the Cloud)
- Initial Logic Models for USACE Business Line
- A Simple XML Specification for Feeding Data/Metrics To WIDT (like) Systems
- Translation of EMDS from Entirely Desktop To Web-Based System
- Initial Integration of EMDS With WIDT
- Continued Collaboration With Agency Partners

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