

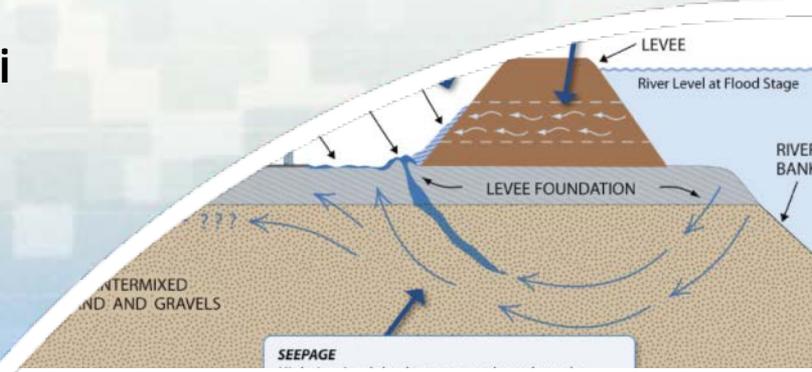
More than a Report

Telling the Planning Story to Multiple Audiences

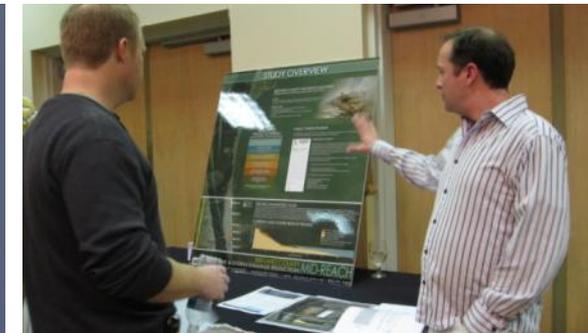
Sara Schultz, Jerry Fuentes, Kendall Zaborowski

2015 National Planning Community of Practice Training

4 June 2015



US Army Corps of Engineers
**PLANNING SMART
BUILDING STRONG**



Objective 1

Recall tips and techniques on how to tell a succinct and compelling planning story for a variety of internal and external interests

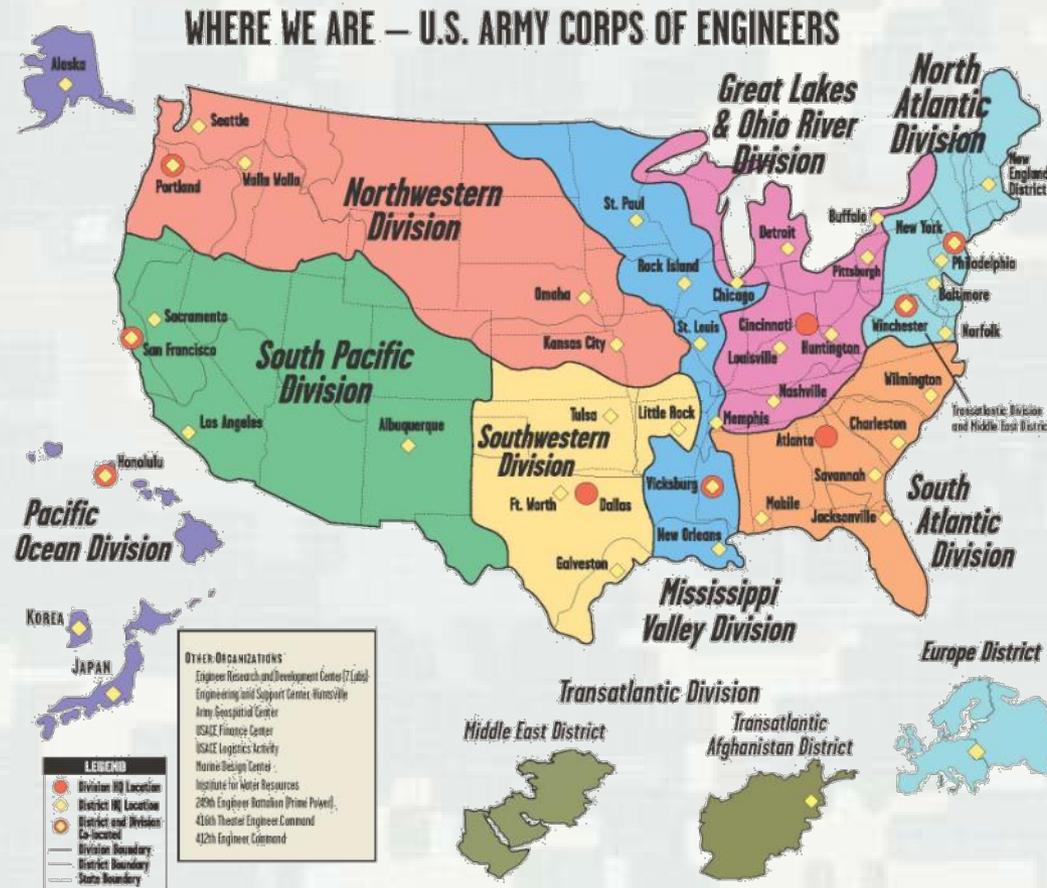
Learning Takeaway

Know
your
Audience!



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Working at a National Level

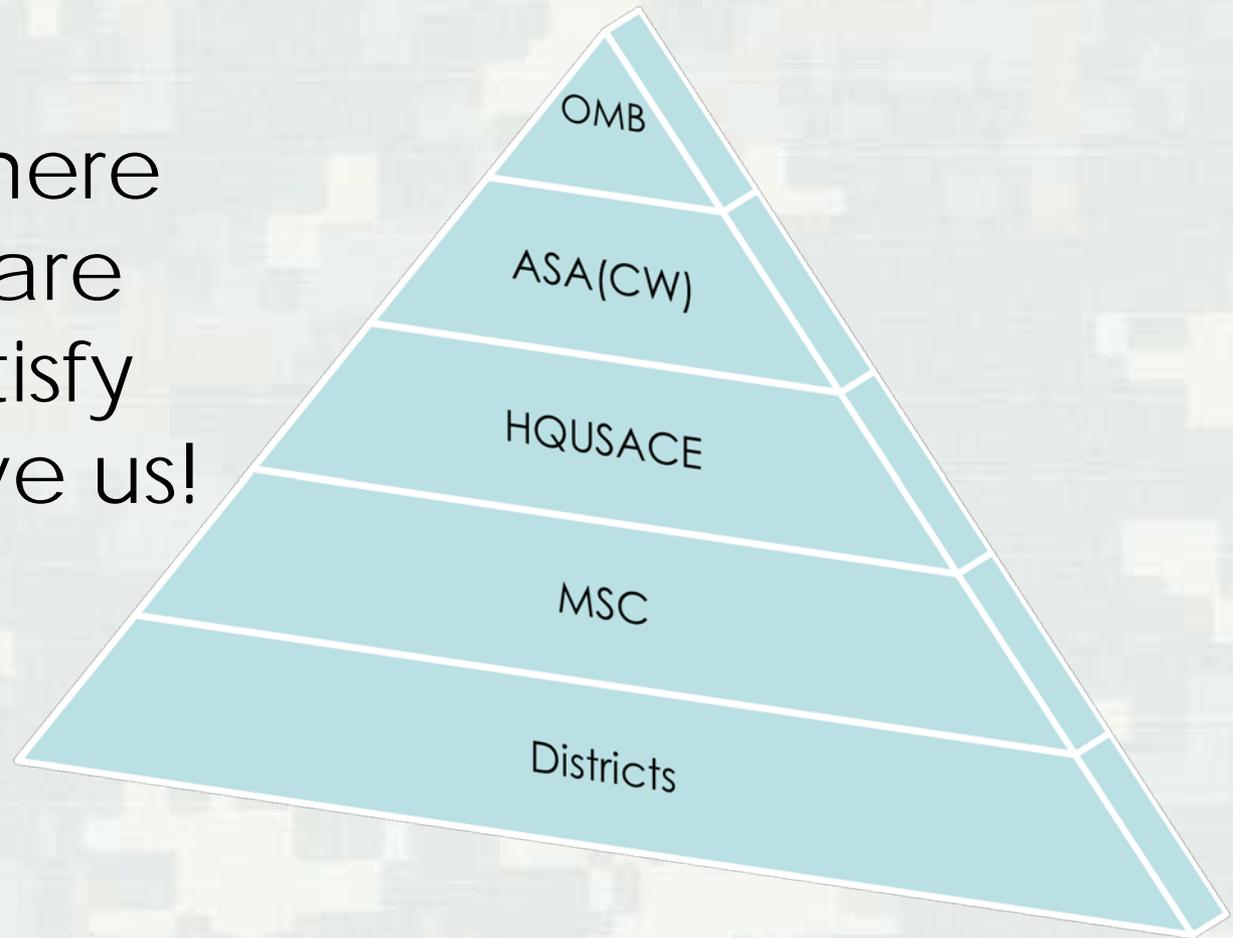


Acknowledge regional biases
or difference in cultures



Working at a National Level

Remember where you fit in - we are all trying to satisfy the level above us!



**PLANNING SMART
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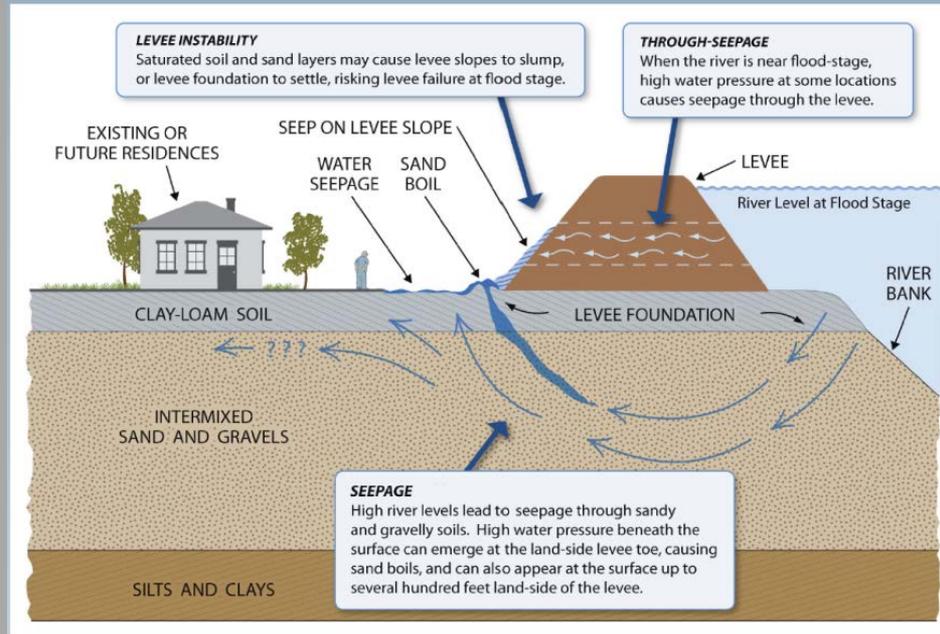
Vertical Team

Convince them of the problem (why are we here?)



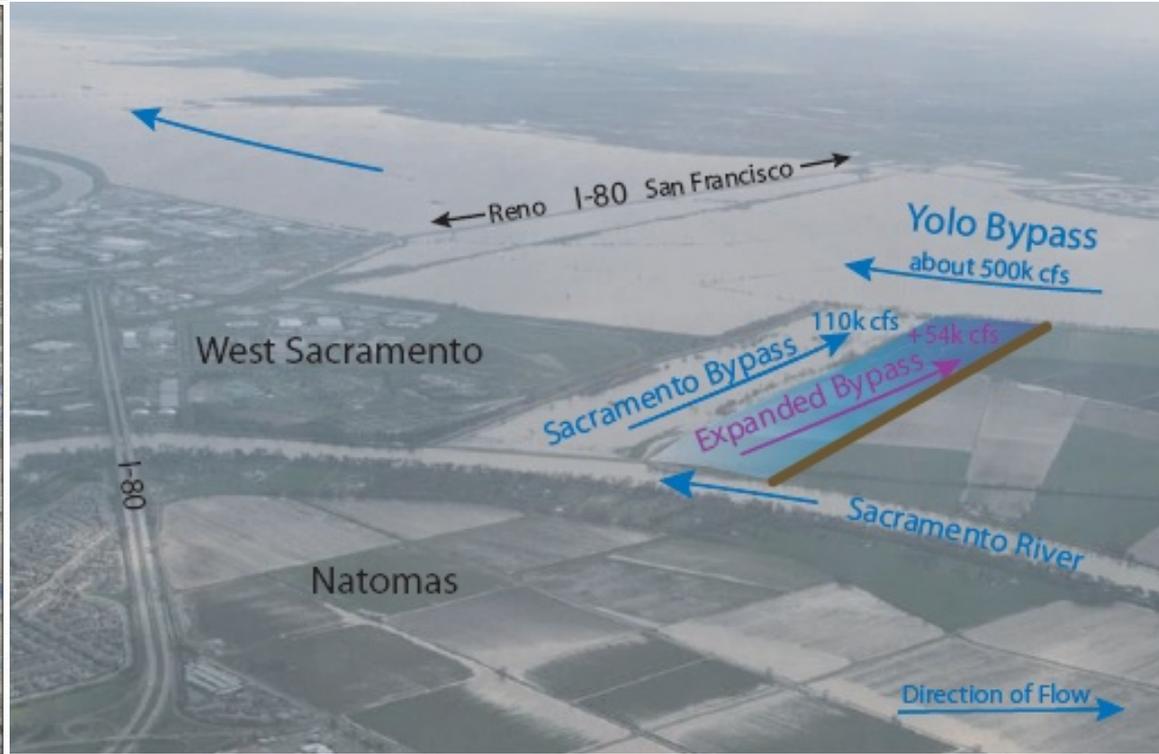
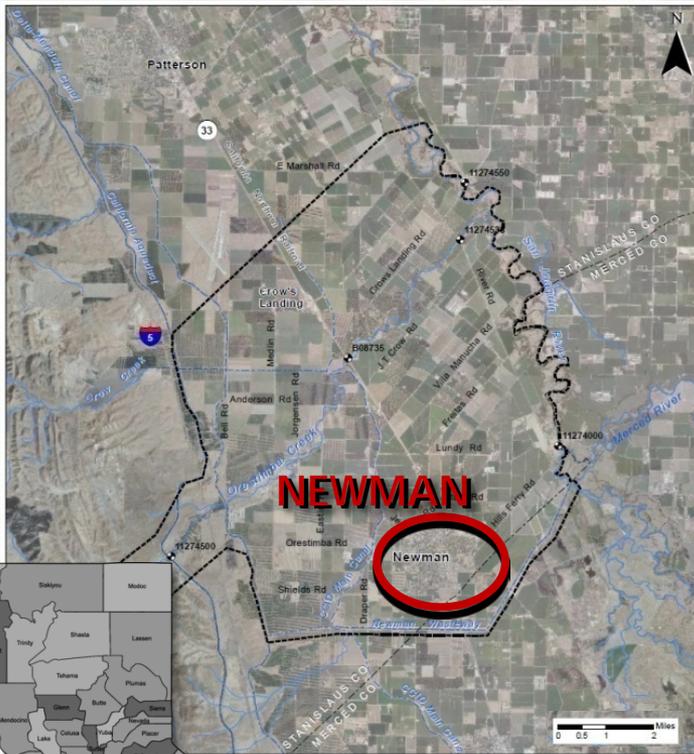
PROJECT NEED: LEVEE PROBLEMS

SEEPAGE: Geotechnical studies have identified seepage beneath and through segments of the Natomas levee system as a significant risk to the stability and reliability of the system.



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Vertical Team

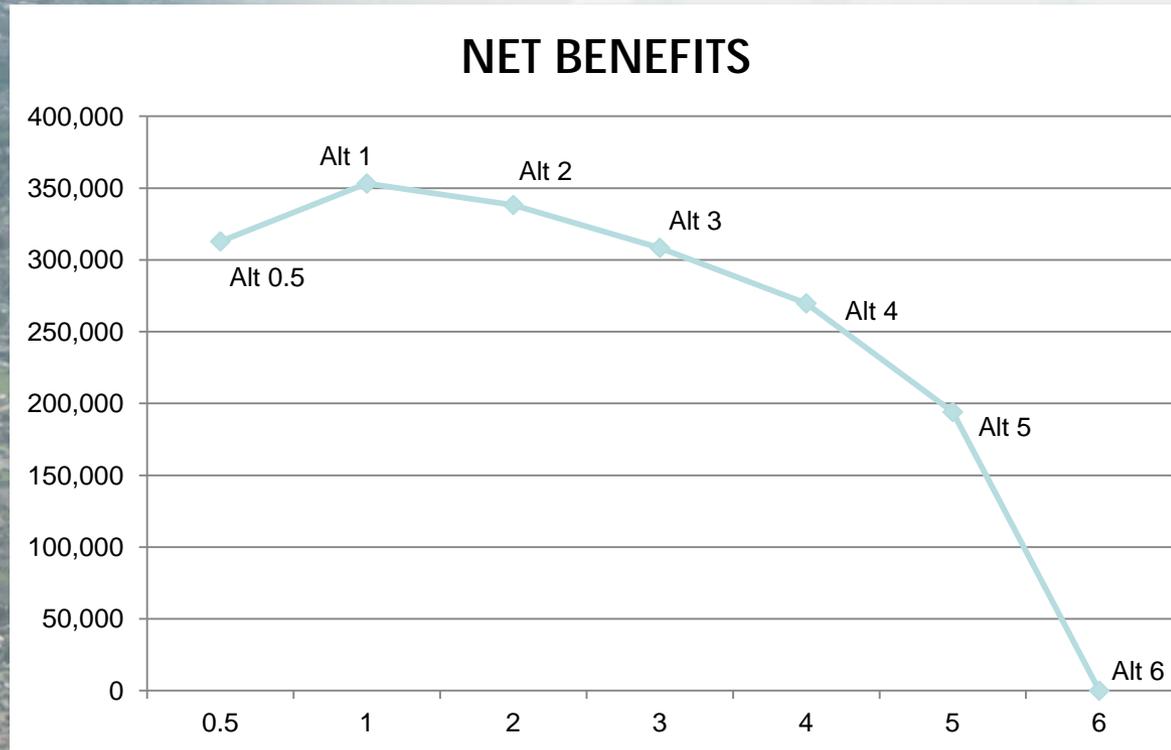


You may be familiar with your study area but others are not – remember to give an orientation! The water flows which way?



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Vertical Team



What is the Federal Interest?
Have we correctly
identified NED?



U.S. ARMY



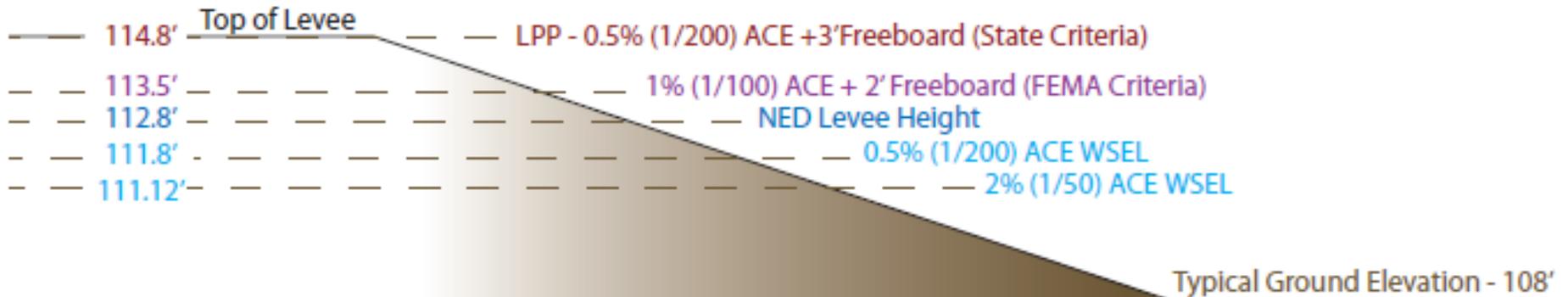
PLANNING SMART
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Sponsors

- Be clear about financial obligations
- Will the proposed project meet FEMA and/or state standards?

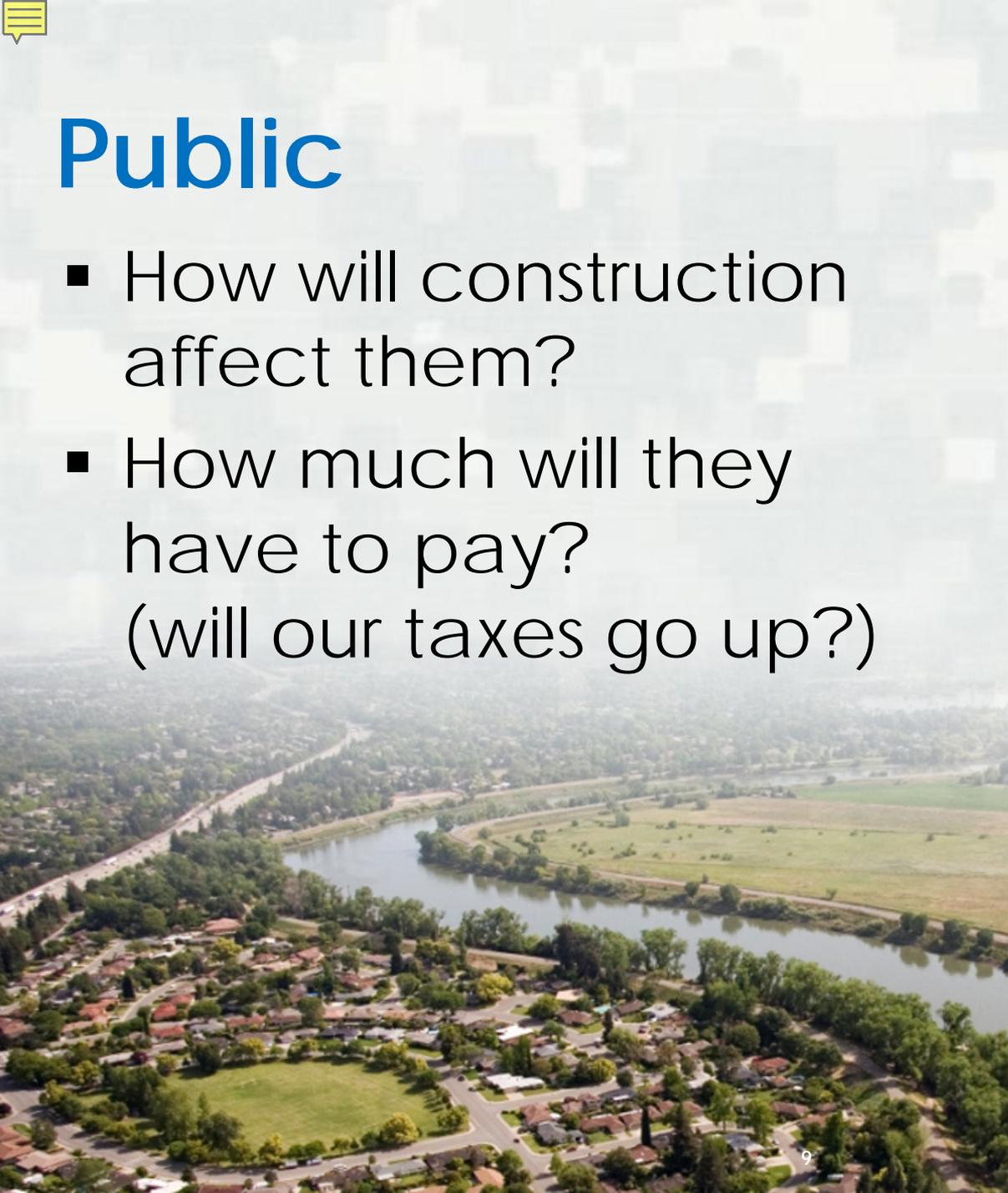
Item	Federal	Non-Federal	Total
Construction	\$17,146,831	\$1,804,169	\$18,951,000
LERRDs ³		\$10,159,000	\$10,159,000
PED ⁴	\$4,279,695	\$450,305	\$4,730,000
Construction Management ⁵	\$2,255,224	\$212,776	\$2,468,000
Subtotal Total (NED Plan Cost Sharing)	\$23,681,750	\$12,626,250	\$36,308,000
Percentage	65%	35%	
Additional LPP Project Costs		\$9,025,000	\$9,025,000
Construction		\$6,245,000	
LERRDs		\$905,000	
PED		\$1,275,000	
Construction Management		\$367,000	
Total Project Costs	\$23,681,750	\$21,651,250	\$45,333,000

Elevation



Public

- How will construction affect them?
- How much will they have to pay?
(will our taxes go up?)



Slurry cut-off wall construction



Launchable rock trench construction

Public

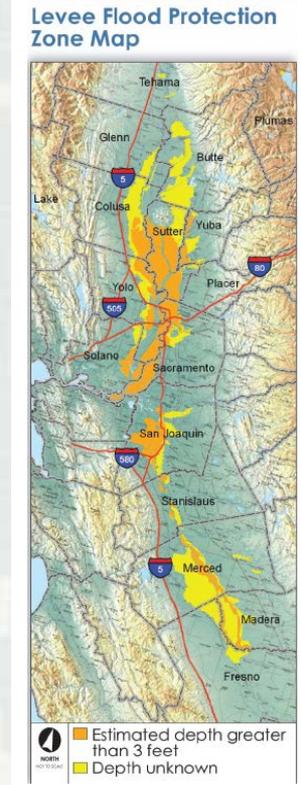
Do I have to buy FEMA flood insurance?

**LIVING WITH LEVEES:
KNOW YOUR FLOOD RISK!**

Be Aware.
Be Prepared.

www.water.ca.gov/myfloodrisk

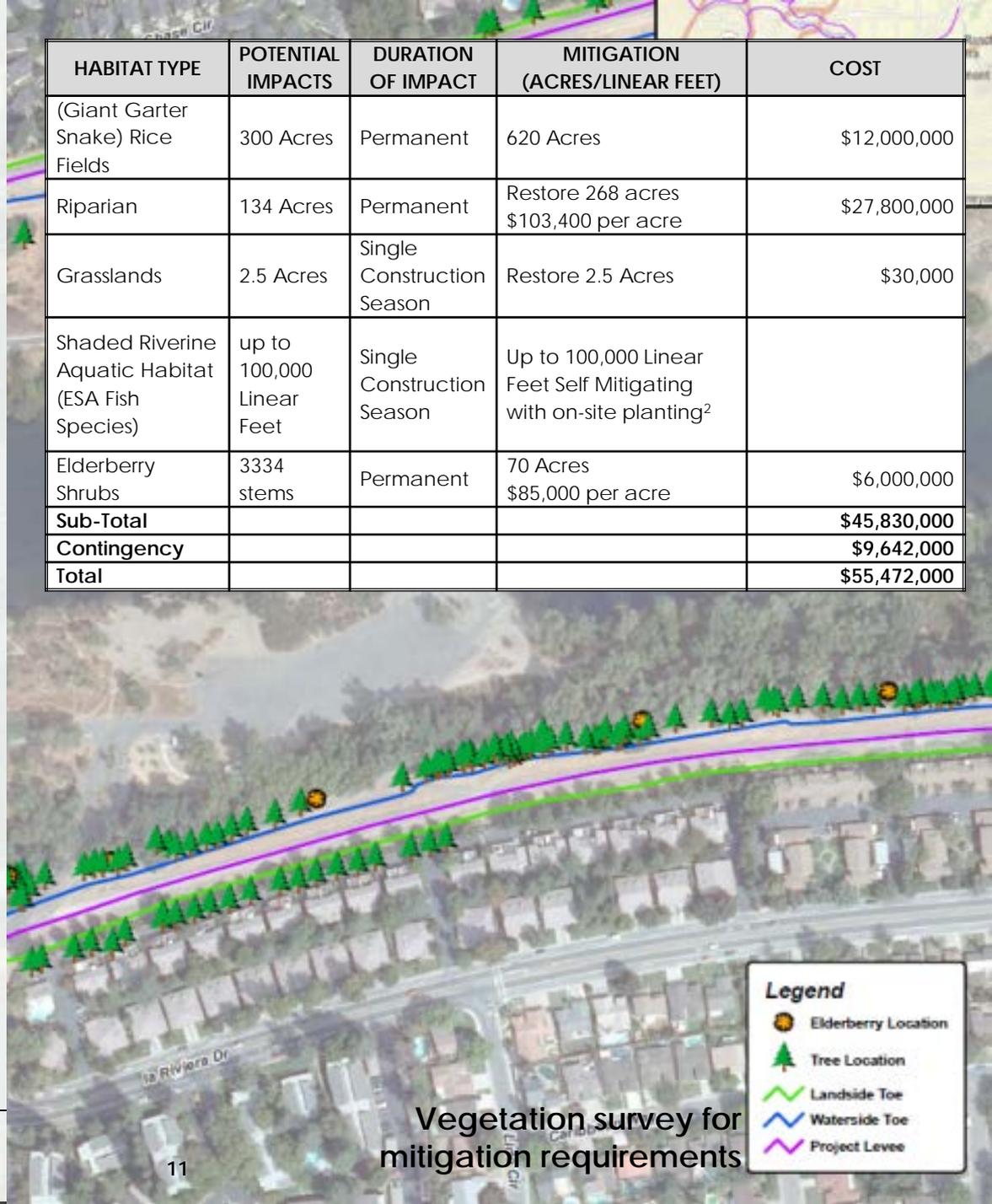
Logos: California Department of Water Resources, FEMA, US Army Corps of Engineers, State of California Department of Water Resources.



Resource Agencies

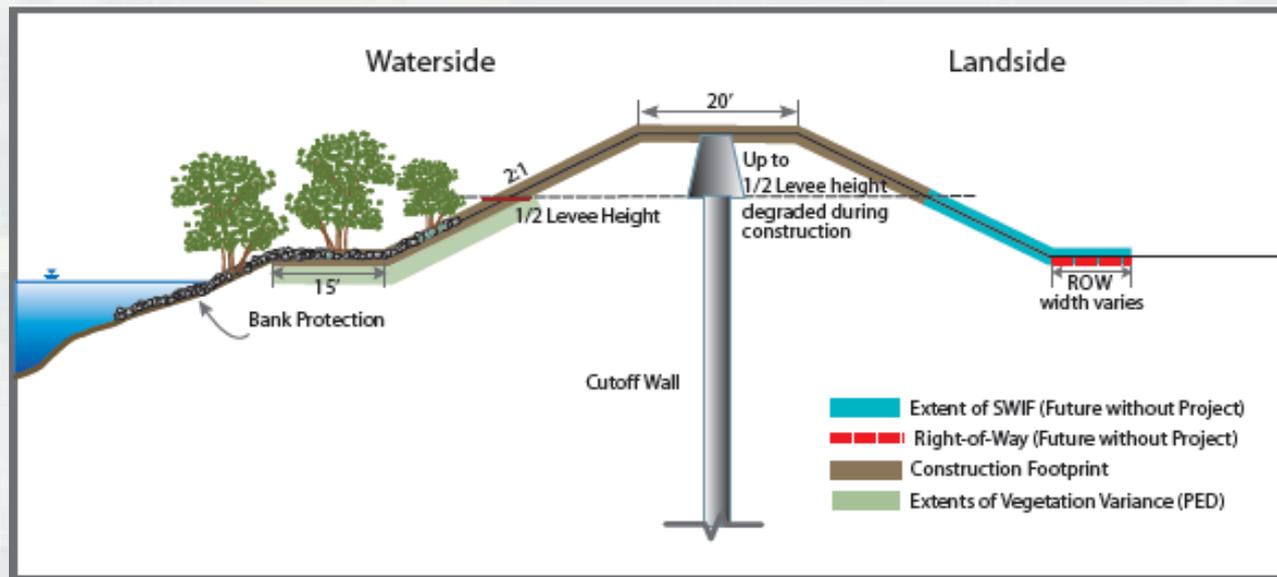
- Details on effects to species
- Construction windows
- How we will conduct mitigation

HABITAT TYPE	POTENTIAL IMPACTS	DURATION OF IMPACT	MITIGATION (ACRES/LINEAR FEET)	COST
(Giant Garter Snake) Rice Fields	300 Acres	Permanent	620 Acres	\$12,000,000
Riparian	134 Acres	Permanent	Restore 268 acres \$103,400 per acre	\$27,800,000
Grasslands	2.5 Acres	Single Construction Season	Restore 2.5 Acres	\$30,000
Shaded Riverine Aquatic Habitat (ESA Fish Species)	up to 100,000 Linear Feet	Single Construction Season	Up to 100,000 Linear Feet Self Mitigating with on-site planting ²	
Elderberry Shrubs	3334 stems	Permanent	70 Acres \$85,000 per acre	\$6,000,000
Sub-Total				\$45,830,000
Contingency				\$9,642,000
Total				\$55,472,000



PDT Members

- Identify information they need from us (alternative descriptions, objectives...)
- Identify information we need from them (benefits, costs...)
- Synthesize... words?

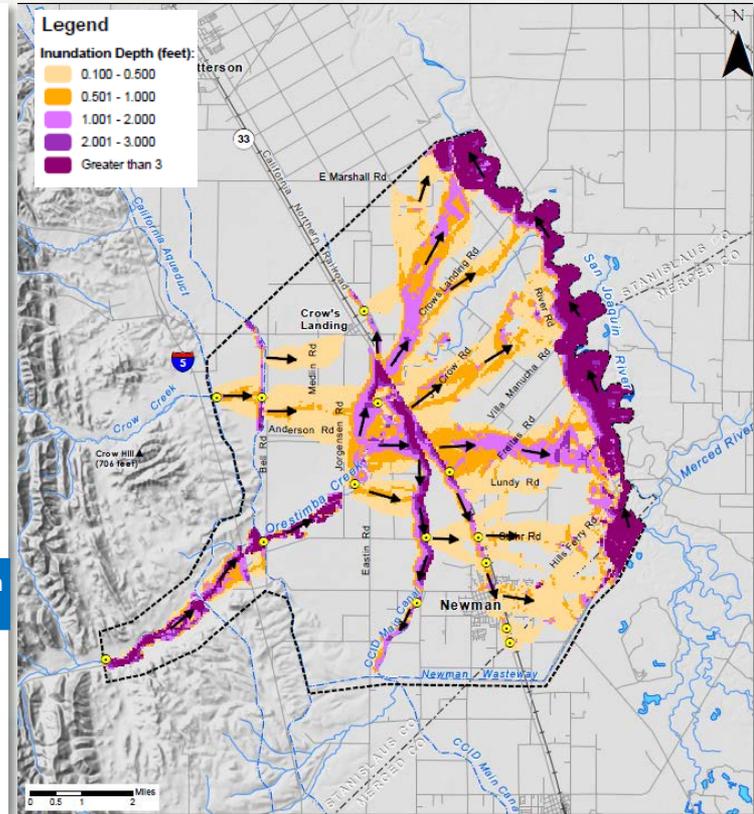
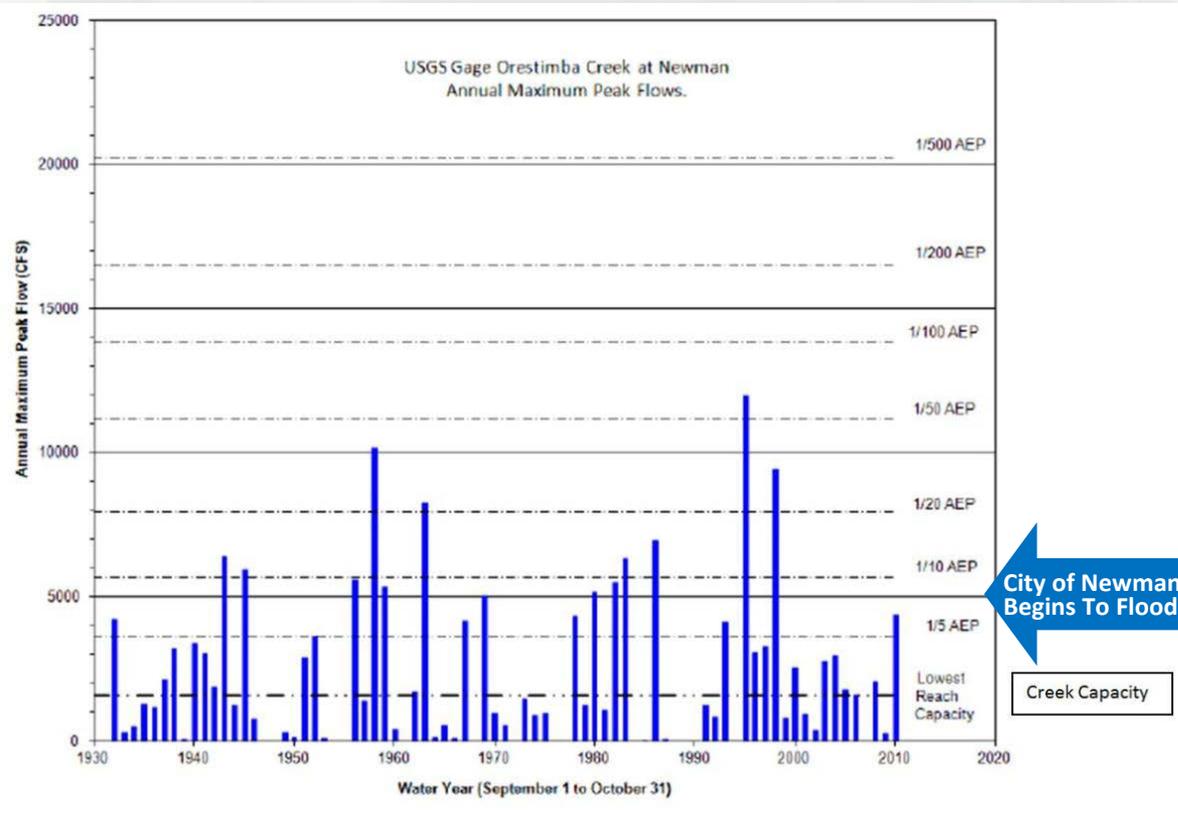


American River Common Features GRR
Typical Levee Cross Section with Application of SWIF and no Levee Raise



Technical Reviewers

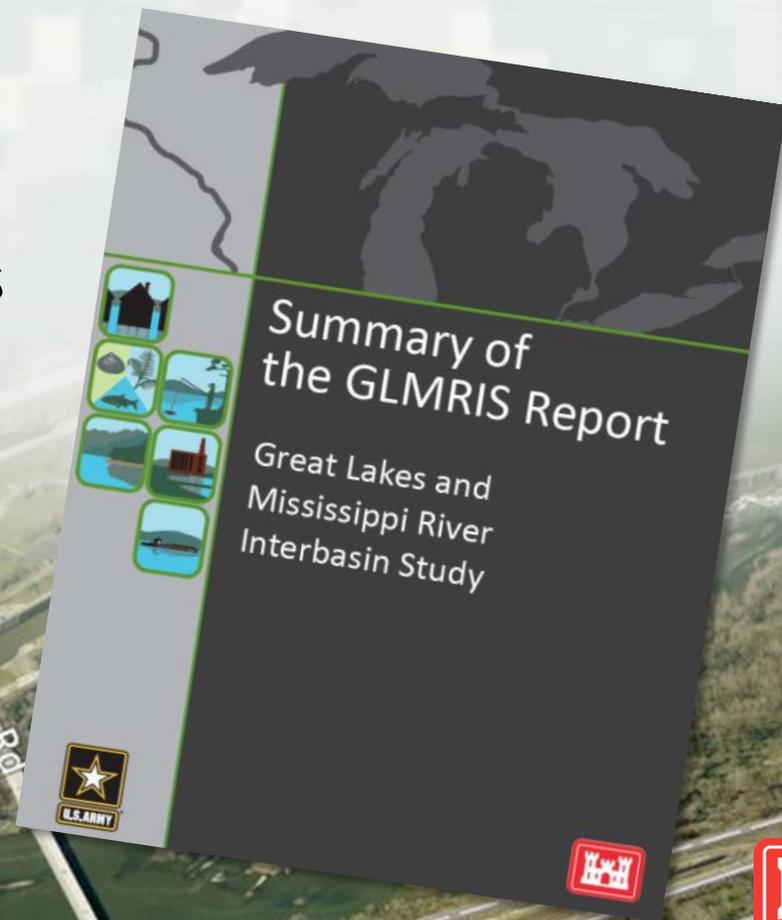
- Documentation of modeling efforts
- How decisions were made



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Developing Products for Various Audiences

- Planning Reports (3 levels of engagement)
 - ▶ Summaries
 - ▶ Main Report
 - ▶ Appendices
- Environmental Documents
- Public Outreach



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Objective 2

Describe how PDT generated information from Risk Registers (RR), Decision Management Plans (DMPs) and other documents can be readily synthesized into an integrated report document and/or report synopsis

Learning Takeaway

Use the information you have!



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Storytelling

- What are you (USACE) doing?
- Why is it a problem in the first place?
- What happens after you fix it?
- What don't you know?
- What other options did you consider?



Planning Tools & Storytelling

Alternatives Milestone (VT Concurrence on Final Viable Array of Alternatives)

DECISION MANAGEMENT PLAN

ID	Criteria	Item	Date	Assessors	Action	Risk and its cause
			<i>Date of entry (record each date entry was modified)</i>	<i>Name(s) of person(s) assessing the task</i>	<i>Identify the action you propose to take (i.e., things you will do or not do) in order to accomplish the strategy and develop the information identified in the decision management plan. Be as specific as possible in your description.</i>	<i>Briefly identify the risk associated with the action you are taking, i.e., considering the entry in column D, what can go wrong and how can it happen?</i>
P1	Effectiveness at Preventing I (At time of implementation)	PF - A	14-Jun-13	Jerica Richardson	Concurrent levels of review of the draft report without feasibility level of design.	Concurrent review of documents may produce some delays in reviewers decisions because of a lack of feasibility level analysis in the new SMART Planning process and/or conflicting comments. Comments may take longer to resolve if additional information is requested by reviewers.
P2	(For new lock management Transportation efficiency)					Moving out shortly after TSP approval and without adequate funding could cause impacts to schedule because on-going work may have to be stopped. However, the information from these analyses can be used to address public and policy review comments or refine our TSP selection. If the data shows that another TSP should have been selected, revision of the report could cause additional delays. This may also have to go out for another public review which further impact project schedules and budgets.
E1	Flow availability in t	PF - B	14-Jun-13	Jerica Richardson	Fund and start team on feasibility level analysis on WVA, Hydrology, Economics, Cultural Resources, Engineering and Real Estate. If another alternative is more preferable, engage the Vertical Team and get consensus on a change and inform the public prior to release of the draft Final report.	
E2	New lock construction	PF - C	17-Jun-13	Jerica Richardson	Include feasibility level of design on Alt D as well as the TSP.	Budget and schedule impacts.
		ECON - A	17-Jun-13	Brian Maestri	Calculating damages without adjusting for repetitive flooding.	Underestimating FWOP damages.
E3	Flushing lock and floating ANS	ECON - B	17-Jun-13	Brian Maestri	Calculating benefits based on adjusted base year damages.	underestimate or overestimating FWP benefits.



Planning Tools & Storytelling

- Look at the DMP and ask “what decision are we trying to make?”
- What does the RR tell you about this decision?
 - ▶ Where are you uncertain?
 - ▶ How are you going to reduce that uncertainty?
 - ▶ What are the remaining risks after you make the decision?
 - ▶ What are the outcomes of previous decisions?
 - ▶ What are the next decisions?

Missions (VT Concurrence on Final Viable Array of Alternatives)		Information Needed	Action (What are we going to get this info)				
Criteria	Metric	Information Needed	Item	Date	Assessors	Action	Risk and its cause
Effectiveness at Preventing Interbasin Transfer (at time of implementation)	Qualitative Rating of one to four stars based on semi-quantitative value obtained using a ranking algorithm - RISK REDUCTION	Existing data collected in the GUMRIS Report including AVOP conditions, information on potential ANS Control measures, and ANS Risk Assessments.		Date of entry (record each date entry was modified)	Name(s) of person(s) assessing the task	Identify the action you propose to take (i.e., things you will do or not do) in order to accomplish the strategy and develop the information identified in the decision management plan. Be as specific as possible in your description.	Briefly identify the risk associated you are taking, i.e., considering the D, what can go wrong and how c
Management measures)	Qualitative evaluation of the potential benefits for replacing the existing 600ft Navigation Lock with a new Navigation Lock	Review of DMP 5 data along the Illinois Waterway to determine the vessel to pass through Brandon Road and the closest navigation structures			18	Concurrent levels of review of the draft report without feasibility level	Concurrent review of documents some delays in reviewers decision lack of feasibility level analysis in Planning process and/or conflict Comments may take longer to re



Developing an Outline

- Different products (know your audience!) require different outlines
 - ▶ Main Report
 - ▶ Summaries
 - ▶ Technical



Planning Tools & Storytelling

This is your story!

Item	Date	Assessors	Action	Risk and its cause
	Date of entry (record each date entry was assigned)	Name(s) of person(s) assessing the task	Identify the action you propose to take (i.e., things you will do or not do) in order to accomplish the strategy and develop the information identified in the decision management plan. Be as specific as possible in your description.	Identify the risk associated with the action you are taking, (i.e., considering the entry in column 3), what can go wrong, and how can it happen?
PF - A	14-Jun-13	Erica Richardson	Concurrent levels of review of the draft report without feasibility level of design.	Concurrent review of documents may produce some delays in reviewers decisions because of a lack of feasibility level analysis in the new Subpart Planning process and/or conflicting comments. Comments may take longer to resolve if additional information is requested by reviewers.
PF - B	14-Jun-13	Erica Richardson	Fund and start team on feasibility level analysis on MVA, Hydrology, Economics, Cultural Resources, Engineering and Real Estate. If another alternative is more preferable, engage the Vertical Team and get consensus on a change and inform the public prior to releasing draft final report.	Moving out shortly after TSP approval and without adequate funding could cause impacts to schedule because on going work may have to be stopped. However, the information from these analyses can be used to address public and policy review comments or refine our TSP selection. If the data shows that another TSP should have been selected, revision is required.
PF - C	17-Jun-13	Erica Richardson		

Alternatives Milestone IVT Concurrence on Final Viable Array of Alternatives		Metric	Information Needed	Action (What are we going to get this info)
DECISION MANAGEMENT PLAN			Technical Significance Decisions	
ID	Criteria			
P1	Effectiveness at Preventing Interbasin Transfer (At time of implementation)	Qualitative rating of one to four stars based on semi-quantitative value assigned using a ranking algorithm. RISK REDUCTION	Existing data collected in the GLMRIS report including: MPOV conditions, information on potential ANS Control measures, and ANS Risk Assessments.	Create plans based on formulation strategies of structural controls that target three modes of transport: active swimming, floating by current, and combinations of objects moving through the waterway. Establish controls targeting modes of transport. Establish interdependencies. Eliminate odd combinations that don't make sense. Screen out redundancies.
P2	(For new lock management measures) - Transportation efficiency	Qualitative evaluation of the potential benefits for repurposing the existing 600ft Navigation Lock with existing 1200 ft Navigation Lock	Review of USACE data along the Illinois waterway to determine the vessel traffic passing through Indian Pass and the closest navigation structures.	Determine if evaluating expanding the lock in addition to constructing a new lock as part of ANS Control measures.
E1	Flow availability in the Federal Channel	Determine the minimum required flow in the channel to support exchange of water in the existing lock.	Existing flow data of the Illinois Waterway	Determine the minimum flow required to inform engineering on flushing lock management measures.
E2	New lock construction	Effectiveness of lock at preventing ANS transfer	Existing condition of lock; potential navigation impacts of rehabilitating old lock; cost of rehab; cost of new construction; rehabilitation requirements of existing lock	Conduct assessment of existing lock conditions and viability of retrofitting it to add ANS control component. Review impacts to navigation due to construction schedule of retrofitting of new locks. Evaluate costs of retrofitting versus new construction. Determine effectiveness of retrofit versus new construction.
E3	Flushing lock as a viable control measure for floating ANS	Effectiveness at exchanging water within a reasonable time frame to allow for navigation	Methods of exchanging water; timing of above water; limiting safety factors for barges and other vessels within a lock chamber while exchange is occurring	Conduct numeric and 3-D models to determine most viable method of exchanging / flushing water in an active lock. Conduct a physics model of the most viable alternative.

the Final EIS.

Env 2 - Based on the results of the feasibility level designs, environmental will develop a mitigation plan for the recommended plan. However, the use of Mitigation Banks will also be considered.

Subtask:

- Env2.1** Utilizing WVA's findings we will develop project induced direct and indirect habitat impacts.
- Env2.2** Environmental will work with the Engineering Design Team under task Eng2.6 to develop a levee system to retain hydrologic connectivity between areas that are within and outside of the levee alignment of the recommended plan. Findings from the refined 1D hydraulic modeling will be used to determine the indirect habitat impacts for the final mitigation plan.

Env 2 - Environmental will develop an adaptive management and monitoring plan (AM&M) for the recommended plan. If mitigation banks are chosen this action would not be required.

Env 3 - Conduct within the available funding limits and schedule a HTRW phase 1 of the recommended plan. Any HTRW impacts will be avoided, minimized and reduced to the maximum extent practicable. Changes would be made to the designs and quantities in the final report. If design changes are not practicable, additional HTRW assessments would be conducted during PED.

Env 4 - Conduct within the available funding limits and schedule a cultural resources survey of the recommended plan in consultations with SHPO and the Federally recognized Tribes. Any potential cultural resources impacts will be avoided, minimized and reduced to the maximum extent practicable and changes would be made to the designs and quantities in the final report. If design changes are not practicable, a additional cultural assessments would be conducted during PED.

Env 5 - Water Quality impact will be developed within the available funding limits and schedule utilizing the refined 1D hydraulic modeling in Eng 2.6.

Subtask:

- Env5.1** Clean Water Act Sections 401 (Water Quality Cert.) impacts will be documented in the final report. The 401 (Water Quality Cert.) will require 30-day public comment period.
- Env5.2** Clean Water 404(b)(1) impacts will be documented in the final report. The 404(b)(1) will require 30-day public comment period.
- Env5.3** Coastal Zone Constancy determination impacts will be documented in the final report. The Coastal Zone Constancy determination will require 45-day public comment period.

Env 6 - Document feasibility analysis and any revised impacts to all significant resources with the recommended plan. This information would be documented in the final report.

Env 7 - If Eng2.7 identifies areas of induced flooding, a additional risk analysis may be necessary. If a additional risk analysis indicates that induced flooding is significant, proper mitigation

The image shows two documents related to the GLMRIS project. On the left is the cover of the 'GLMRIS Brandon Road BRIDGING STRONG' report, published by the U.S. Army Corps of Engineers. It features a photograph of a bridge over water and lists project details like location (Brandon Lock & Dam) and dates. On the right is a presentation slide titled 'Summary of the GLMRIS Report' for the 'Great Lakes and Mississippi River Interbasin Study'. The slide includes a map of the study area and a grid of icons representing various study components: Adaptive Resource Planning, Economics, Navigation, Recreation, and Ecosystem Management.



Project Slide Deck

Honest talk: Main source of information for many members of our vertical team

- Useful tool to track the development of the study
- Reach back to the slides many times to retrieve graphics or ideas



More Than the Story

- Use Risk Registers (RRs) and Decision Management Plans (DMPs) to develop and adapt communication philosophy
 - ▶ Initial RR and DMP can build your communication plan
 - ▶ Think what products you will need early
 - 3 Levels of Engagement
 - ▷ Public-friendly documents and products
 - ▷ Main Report
 - ▷ Technical appendices



Objective 3

Identify how
and when to
use graphics to
support the
decision process

Learning Takeaway

Words
are not
Enough!



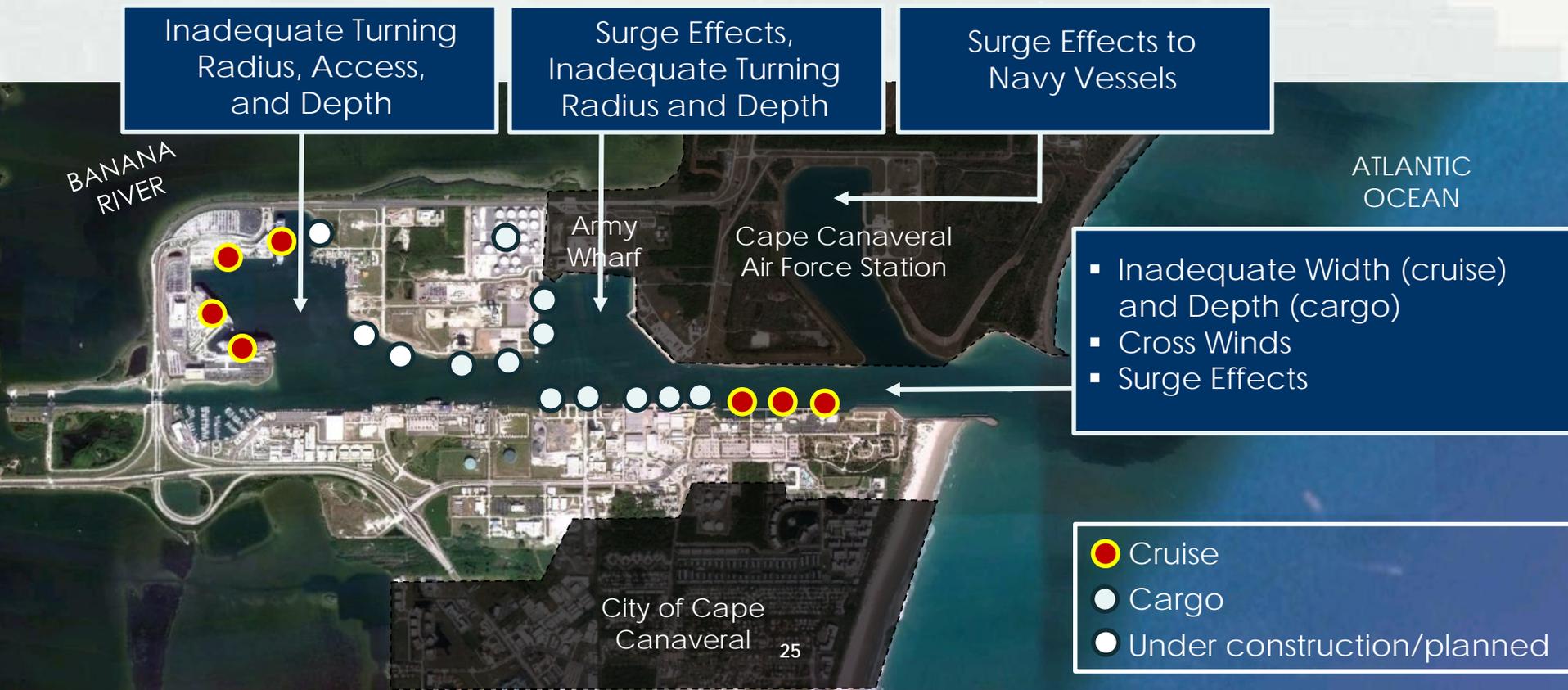
Why Use Graphics?

- To streamline your story
- To explain complex concepts
- To teach technical points
- To illustrate the problems you're proposing to solve

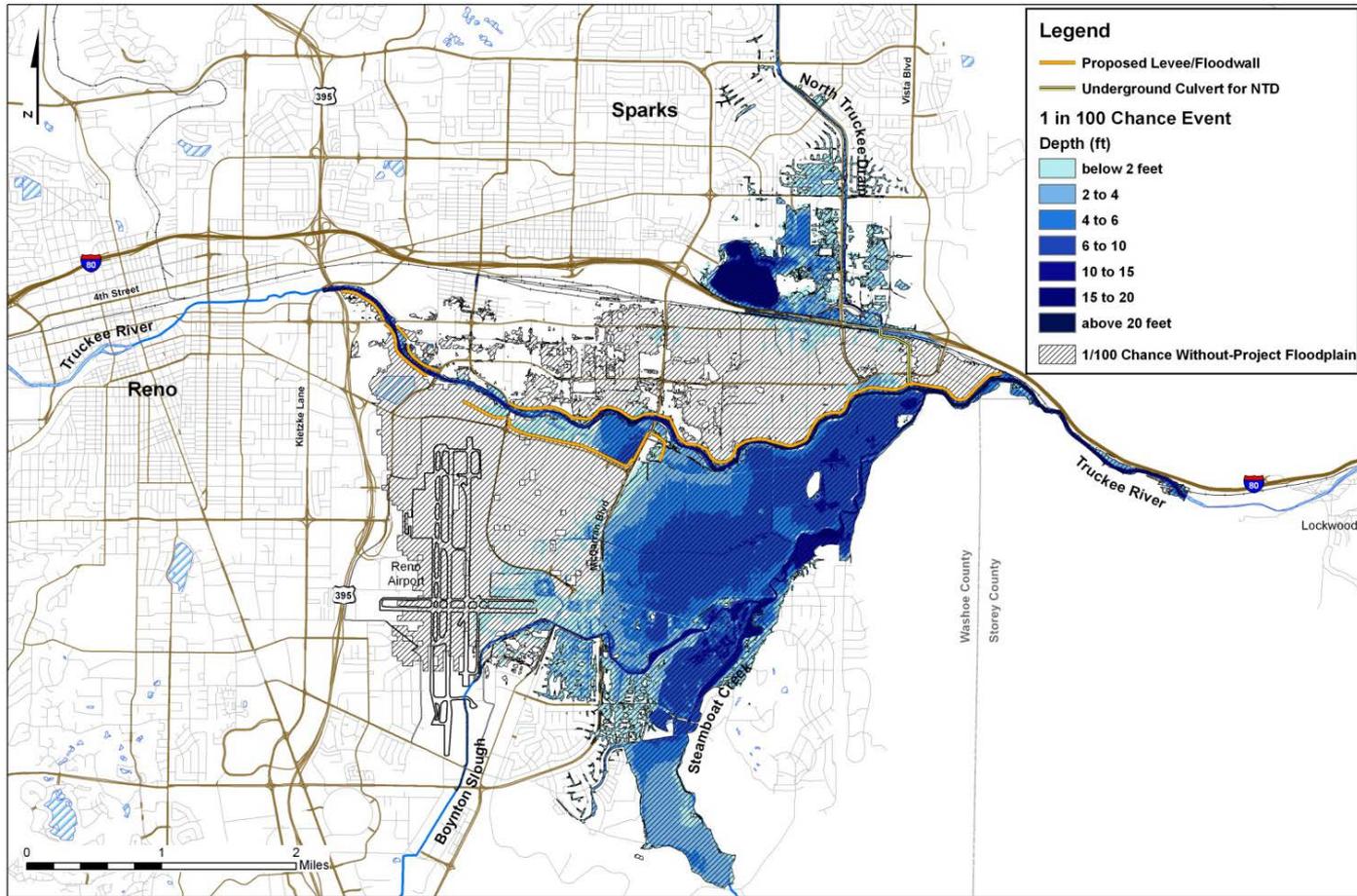


Streamline Your Story

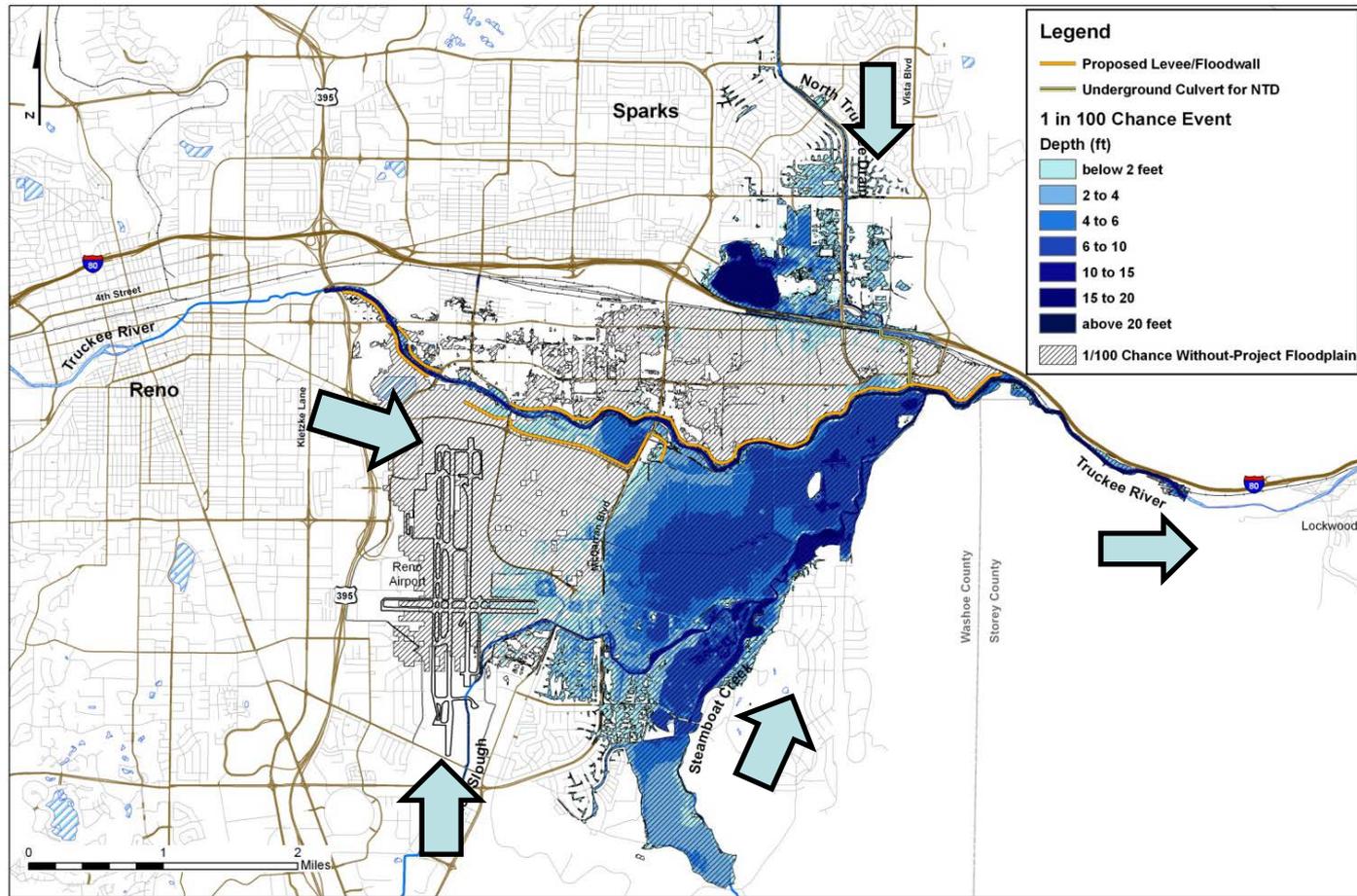
- Let the picture tell the story
- Tables and graphs remain important
- Graphics can highlight key issues or findings
- Use of storyboards to set up report



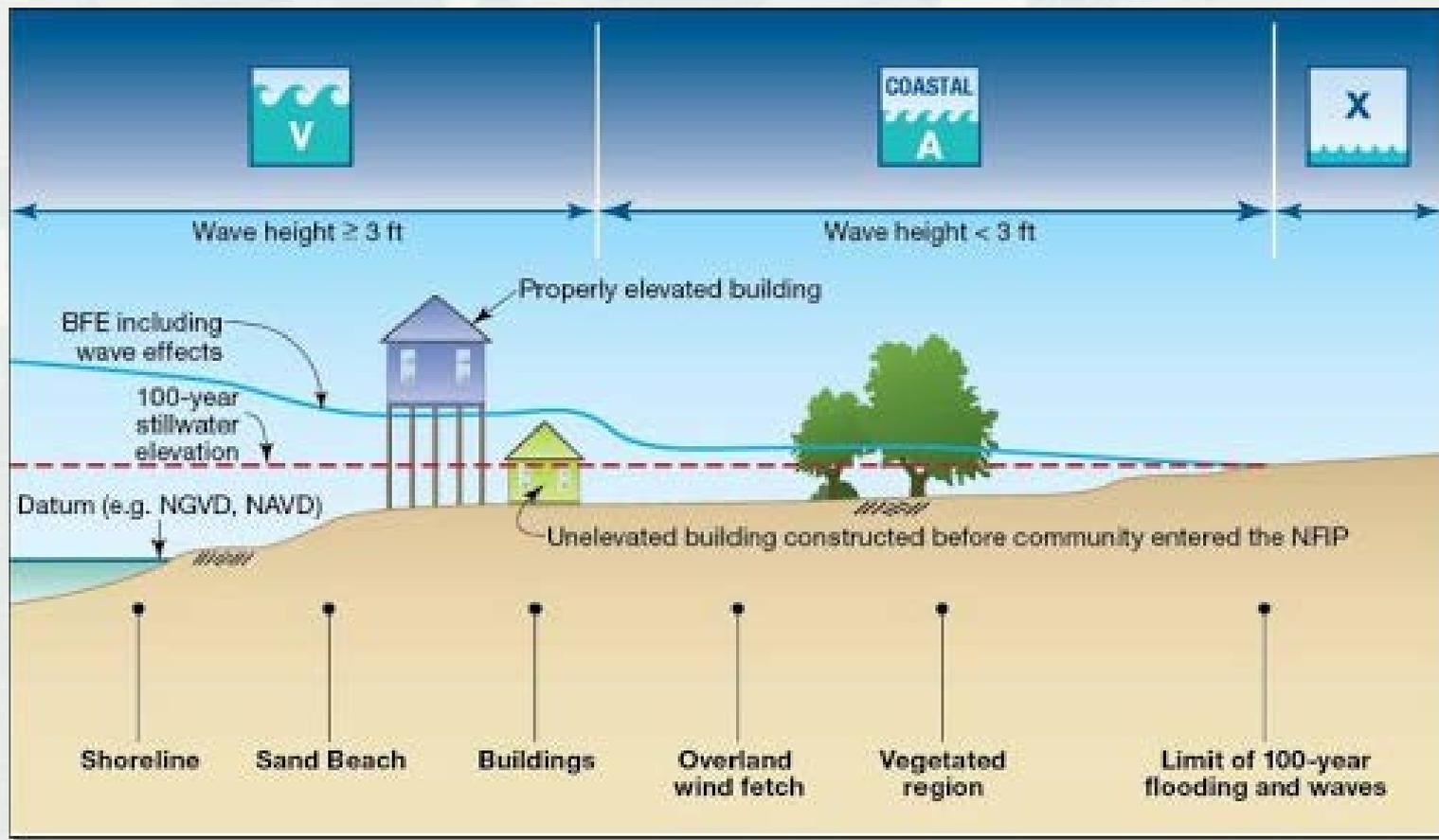
Typical Floodplain



Improved Floodplain



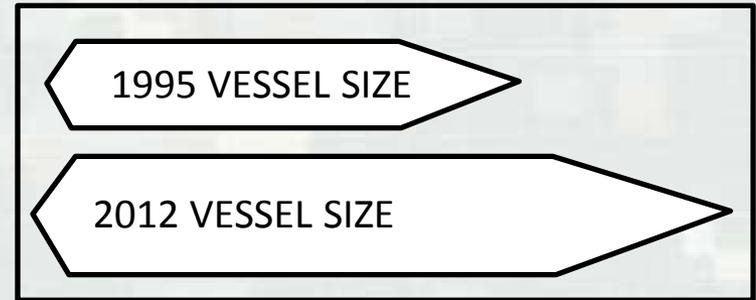
Coastal Flooding Diagram



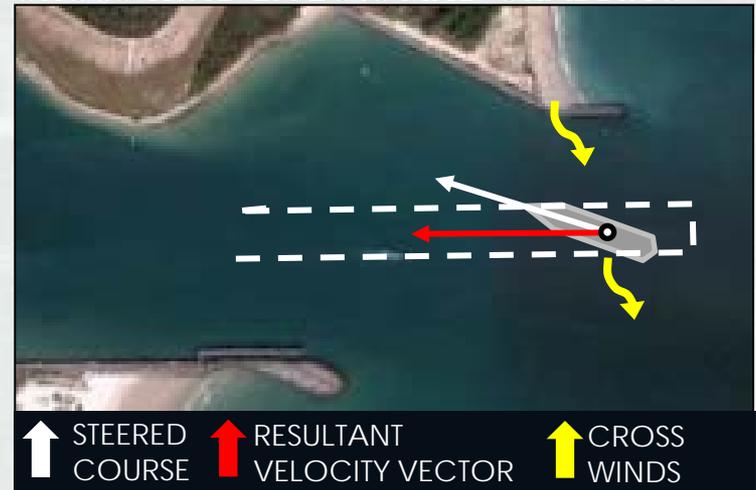
Simplify Complex Concepts

- Graphics can help clarify complex concepts
- Don't overcome graphic with data
- Where needed, break up graphic into multiple graphics
- Remember KISS

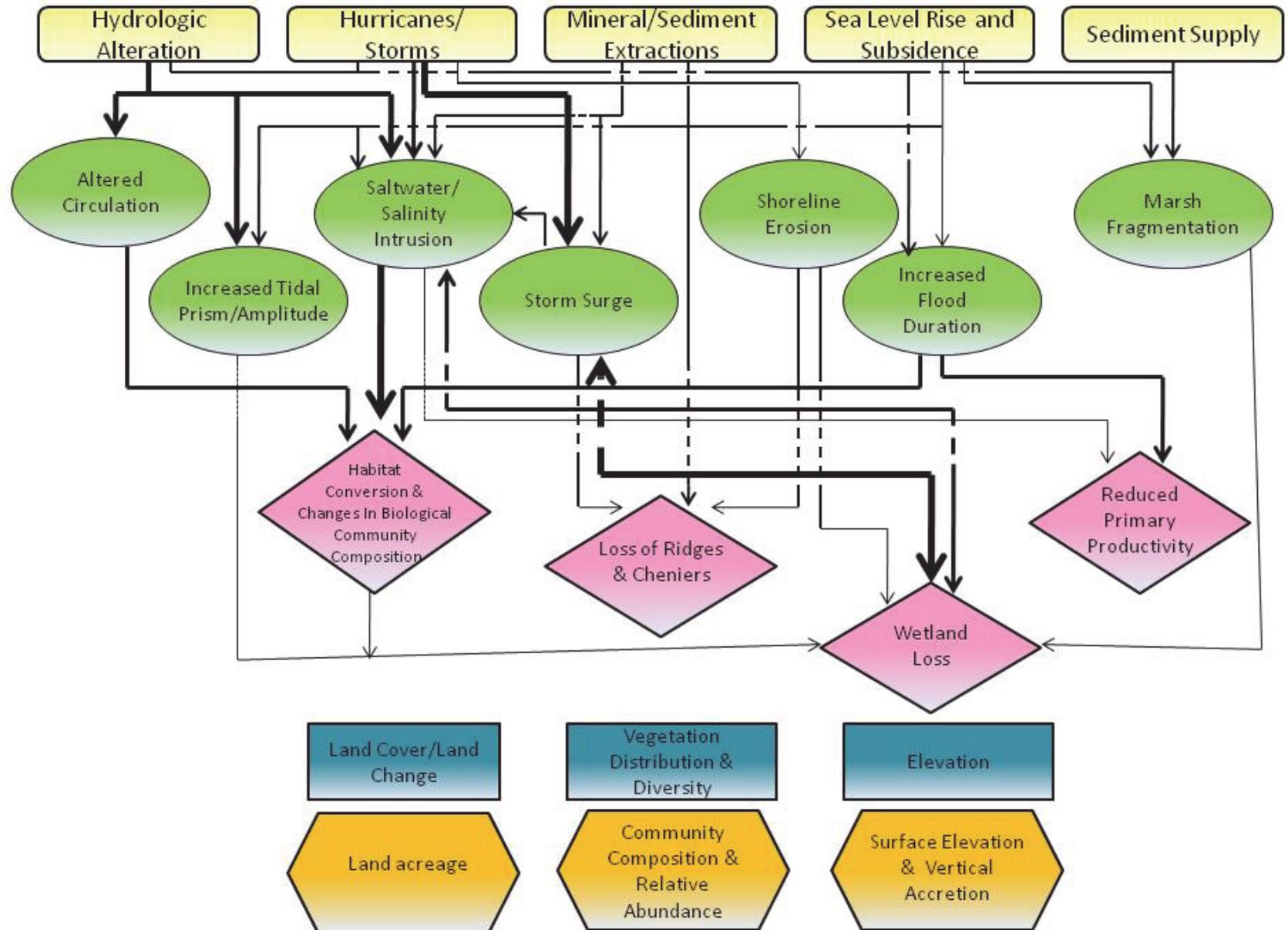
INADEQUATE DEPTHS/WIDTHS



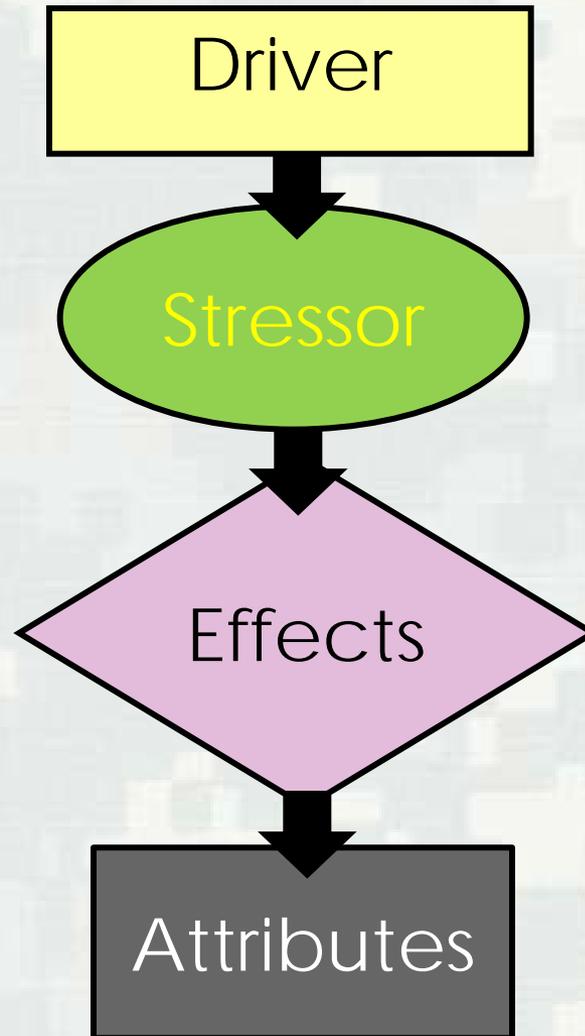
CROSS WIND EFFECTS AND CRABBING



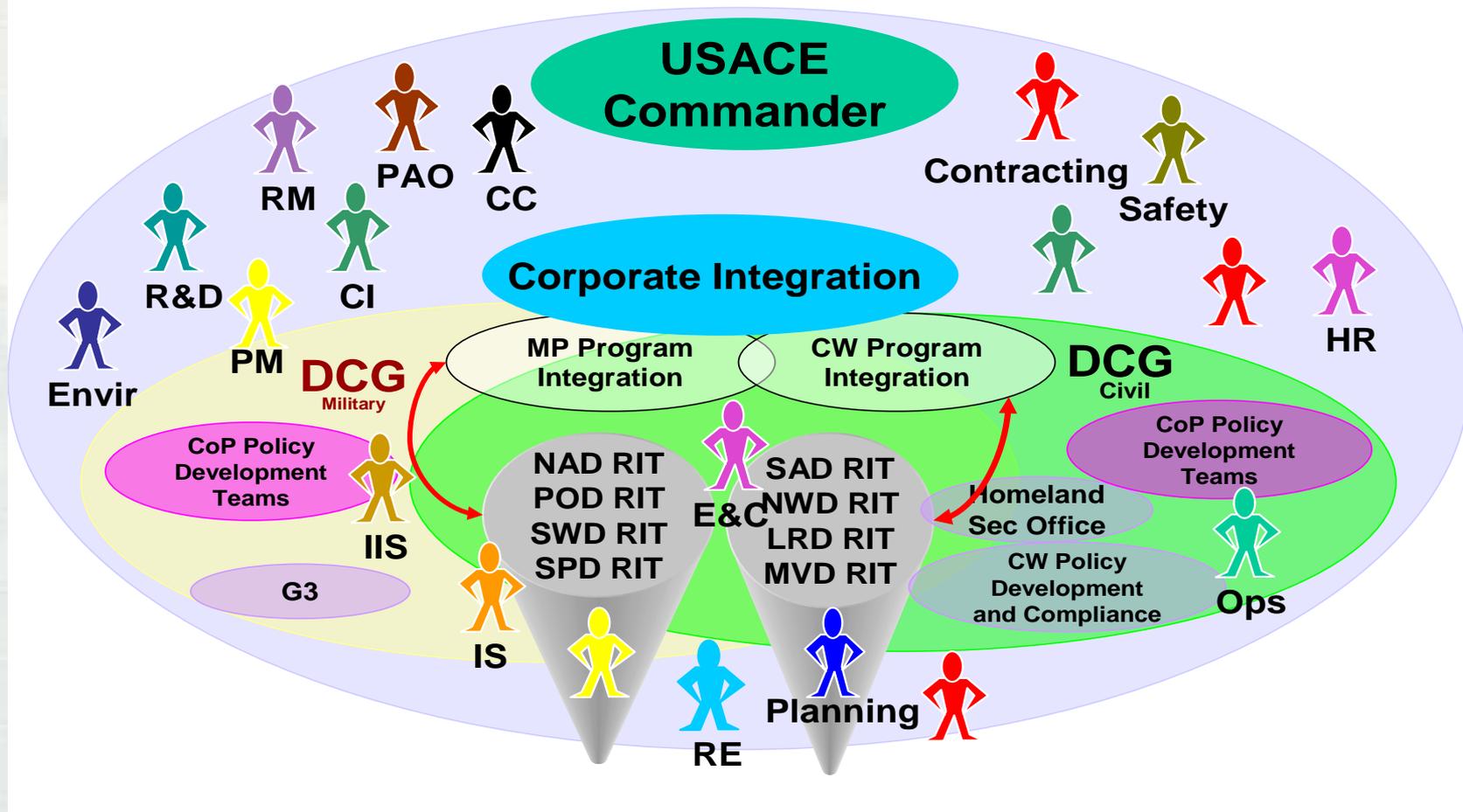
Conceptual Ecological Model (CEM)



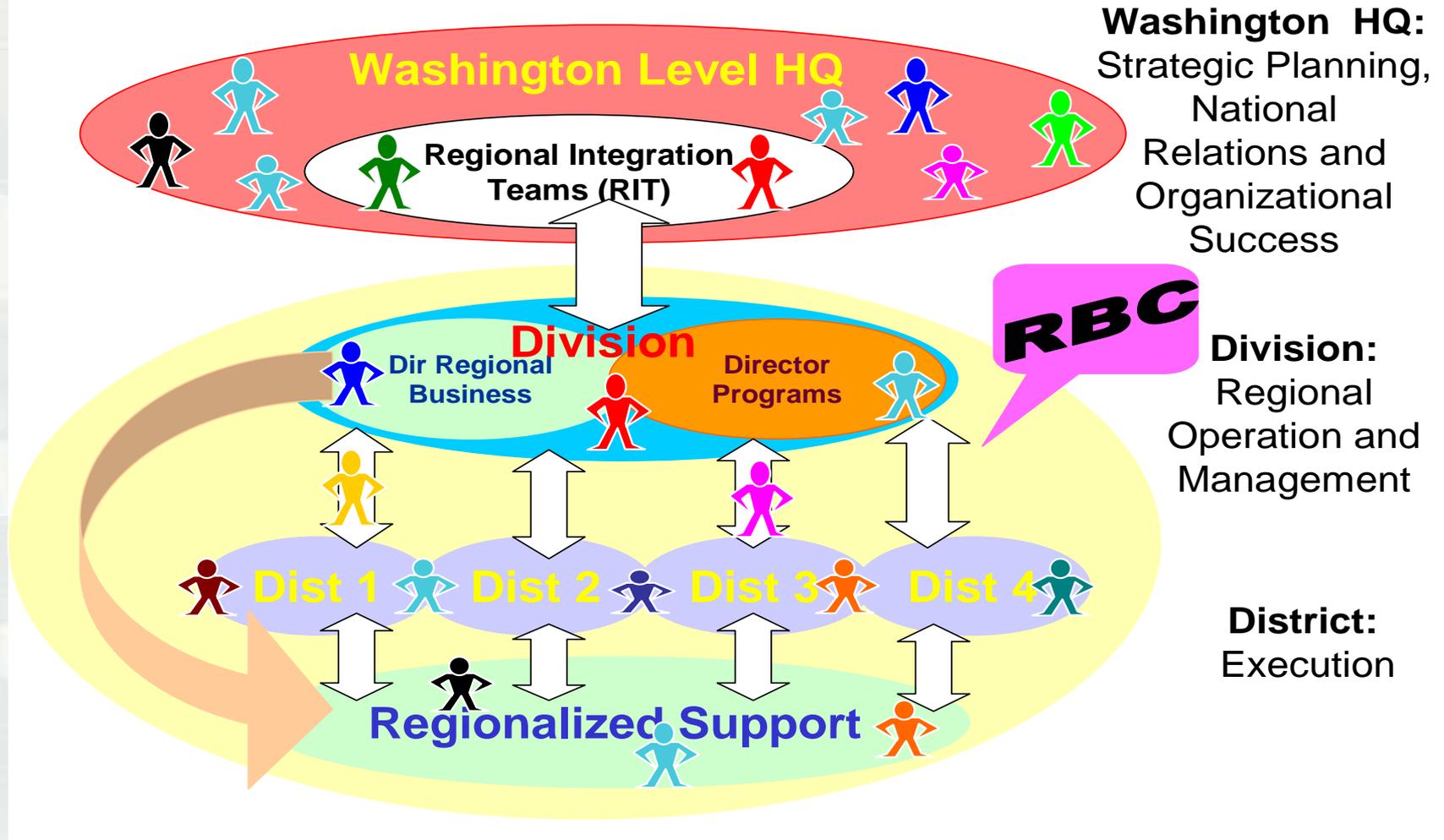
Basic CEM Flow



WASHINGTON HEADQUARTERS



USACE ORGANIZATION



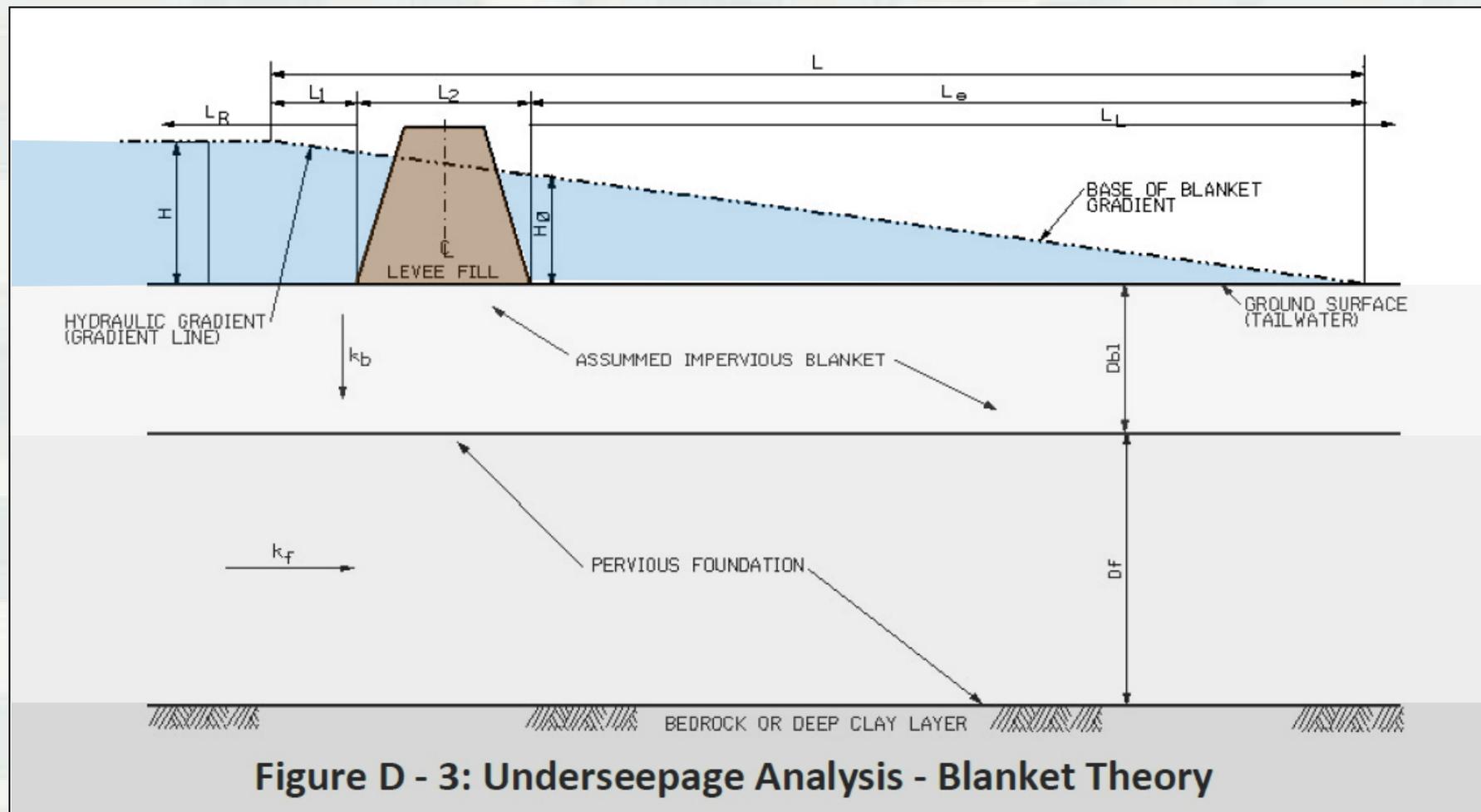
Washington HQ:
Strategic Planning,
National
Relations and
Organizational
Success

Division:
Regional
Operation and
Management

District:
Execution



Teach Technical Points



Illustrate Problems



More Graphics to Illustrate Problems



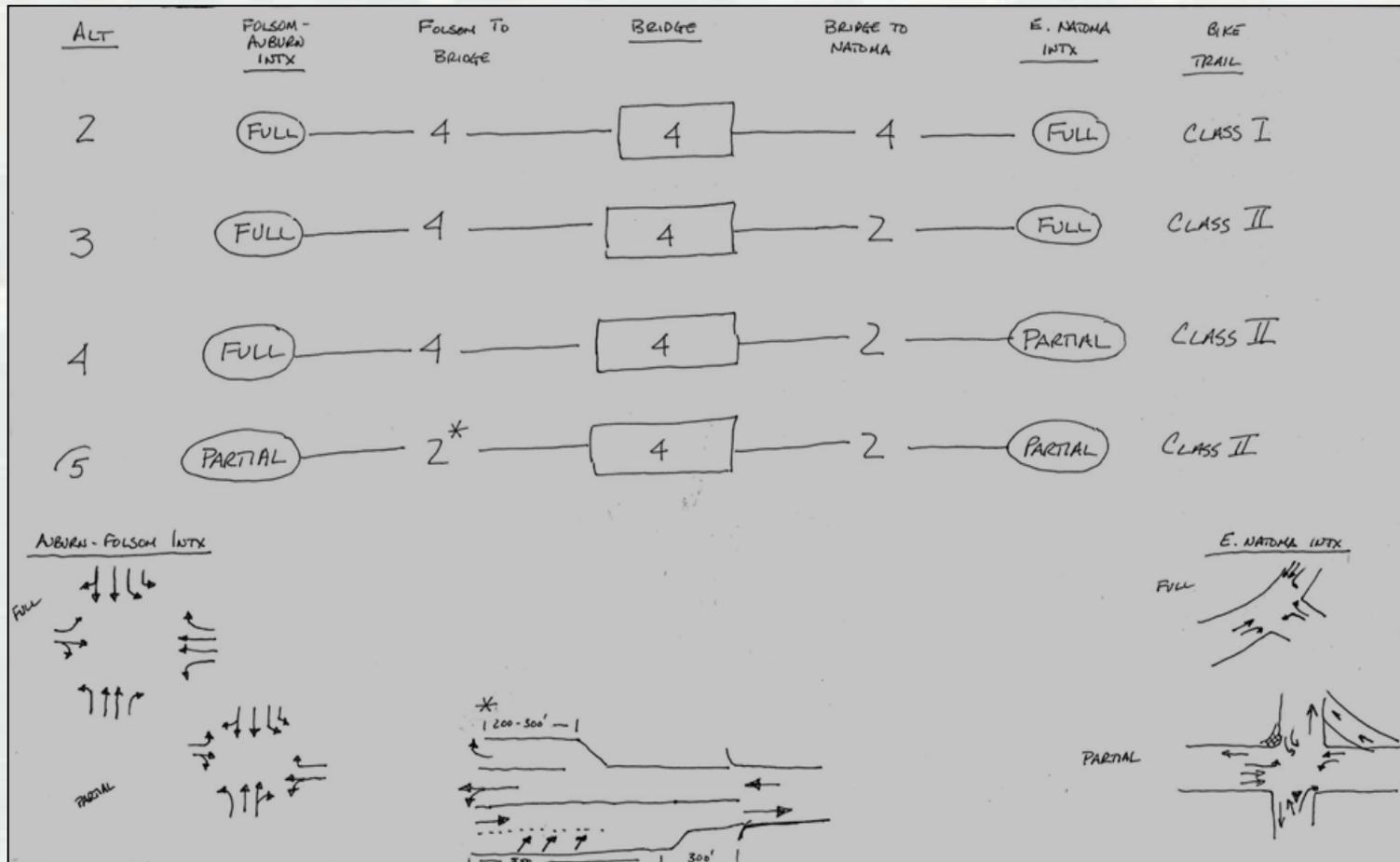


When and Where to Use Graphics

- Start Day 1 – layers of products
- PDT meetings
- Reports
 - ▶ Milestone slide decks
- Fact Sheets
- Public Outreach
 - ▶ Posters, Brochures, Websites



PDT Examples



Reports

FIGURE 8. Porpoise Point Shoreline Change 1995-2008



27

and the outplanting of approximately 103,000 nursery raised corals. Additional mitigation will be provided due to any detectable, incidental, direct impacts of dredging equipment and indirect impacts on hardbottom habitats due to turbidity/sedimentation. These mitigation components were determined to be economic "Best Buys" from among mitigation alternatives.

Construction of the Recommended Plan involves dredging of approximately 5.5 million cubic yards of material. The widening/extension of the project will increase the channel by approximately 2,033,000 square feet, increasing the estimated annual shoaling rate for the increased project footprint by 5,740 cy/yr to total rate of 27,440 cy/yr. All dredged material will be placed in the ocean dredged material disposal site (ODMDS). Expansion of the site is underway. The U.S. Environmental Protection Agency (EPA) has drafted an Environmental Assessment (EA) and the public comment period has concluded on the document. EPA is working to finalize the EA and is scheduled to complete the formal designation process including rule making and publication in the Federal Register in 2015.

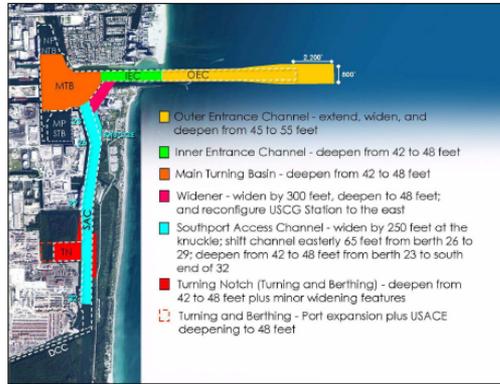


Figure A: Recommended Plan

Table A: Recommended Plan Costs and Benefits

Depth	Plan	AAEQ Costs	AAEQ IDC	AAEQ Benefits	AAEQ Net Benefits	BCR 3.375%	BCR 7%
47ft	NED	\$ 15,900,000	\$ 1,200,000	\$46,900,000	\$ 31,000,000	2.9	1.5
48ft	LPP	\$ 16,860,000	\$ 1,400,000	\$48,240,000	\$ 31,400,000	2.9	1.5

iii

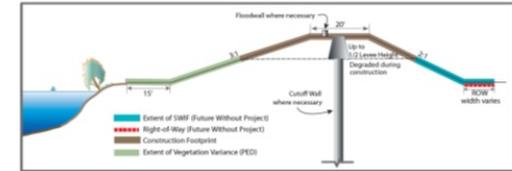


Figure 3-7: Levee Safety Compliance for Segments with Floodwall Raise

Table 3-17 below describes the first costs, the interest during construction (IDC), the average annual cost, the operations and maintenance costs and the total annual cost for Alternative 1.

Table 3-17: Final Alternative 1 - Costs.

Basin	Final Alternative 1: Fix in Place (in \$1,000s, October 2014 Price Level, 50-Year Period of Analysis, 3.375% Discount Rate)						
	Risk Source	First Costs ^a	IDC ^b	Total Costs	Average Annual Costs (Aac)	O&M	Total Aac
ARS	American	256,660	72,488	329,148	13,718	N/A	13,718
	Sacramento	674,007	170,647	844,654	35,203	N/A	35,203
	Sac Raises	71,565	16,326	87,891	3,663	N/A	3,663
	Total Basin	1,002,232	259,461	1,261,693	52,584	N/A	52,584
ARN	American	144,222	23,961	168,183	7,009	N/A	7,009
	Tributaries ^c	181,819	11,410	193,229	8,053	N/A	8,053
	Total Basin	326,041	35,371	361,412	15,062	N/A	15,062
GRAND TOTAL	All Basins	1,328,273	294,832	1,623,105	67,646	286	67,932

^aInterest During Construction

^bIncludes Alcide, Dry, and Boggs Creeks and the National East Main Drainage Canal (NEMDC)

^cFirst costs include mitigation for environmental effects within the construction footprint.

3.14.2 Final Alternative 2: Improve Levees and Widen the Sacramento Weir and Bypass

Alternative 2 would include the levee improvements discussed in Alternative 1, except for the extent of levee raises along the Sacramento River. While Alternative 1 would include about 7 miles of levee raises, Alternative 2 would only require about 1 mile of levee raising. The Sacramento Weir and Bypass would be widened to divert more flows into the Yolo Bypass. This would reduce the amount of raising required on the Sacramento River levees to meet the State's criteria of the 200 year water surface elevation (WSEL) plus 3 feet. The levees along the American River North Basin Tributaries, including the NEMDC, Arcade, Dry/Boggs, and Maggie Creeks, would be improved to address identified seepage, stability, erosion, and height concerns through the methods described under Alternative 1. The levees



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Example Fact Sheets

VTC FACT SHEET
GENERAL INVESTIGATION

STUDY NAME AND STATE: San Joaquin Valley Region, California

CONGRESSIONAL DIRECTION SOURCE: Energy and Water Development Appropriations Act, 2006

DESCRIPTION OF ADDED WORK: The conferees have provided funding for studies of the San Joaquin Valley region in California (consisting of Stanislaus, Madera, Merced, Fresno, Kings, Tulare, and Kern Counties)

AUTHORIZATION: Energy and Water Development Appropriations Act, 2006

DECISION DOCUMENT: Feasibility Study

RELATIONSHIP TO EXECUTIVE BRANCH POLICY: This program has low budget priority.

CONGRESSIONAL INTEREST: Dennis Cardosa (CA-18), George Radanovich (CA-19), Jim Costa (CA-20), Devin Nunes (CA-21), William Thomas (CA-22)

<u>SUMMARIZED FINANCIAL DATA:</u>	<u>Technical Assistance</u>
Estimated Federal Cost	\$100,000
Estimated Non-Federal Cost	0
Cash	0
Other	0
Total Estimated Project Cost	\$100,000
Allocation thru FY 2005	\$0
Budget Request for FY 2006	0
Conference Amount for FY 2006	\$100,000
Proposed Allocation for FY 2006	\$100,000
Budget Request for FY 2007	0
Balance to Complete after FY 2007	0

RECOMMENDED IMPLEMENTATION PLAN FOR ADDED WORK: Recommended plan is to complete a 905(b) reconnaissance report to determine if there is a federal interest to move into a feasibility study.



US Army Corps
of Engineers
Sacramento District

Central Valley Integrated Flood Management
Study, Central Valley, CA
(Multipurpose)



DATE: 15 February 2013

CONGRESSIONAL DISTRICTS: 1st District, 3rd District, 4th District, 5th District, 6th District, 7th District

- STUDY AREA:** The Central Valley Integrated Flood Management Study (CVIFMS) study area includes the Sacramento River Basin in central CA.
- SCOPE:** The study scope is to evaluate modifications to the State Project of Flood Control (Sacramento River Flood Control Project) to reduce risk of flooding and seek opportunities for ecosystem restoration within the system. The Central Valley Flood Protection Plan (CVFPP) was approved in 2012 and presents the State of California's vision for flood management in the Central Valley. The State is currently developing feasibility studies using the CVFPP as their preferred approach. CVIFMS would evaluate the CVFPP and other alternatives to identify Federal interest. On-going Federal flood management studies would be considered in place and functioning to avoid duplication of solutions.
- ISSUES:** Compliance with Planning Modernization and 3x3x3 guidance may restrict the evaluation to increments of the CVFPP instead of the entire plan. This issue is an ongoing point of discussion with the sponsor and vertical team.
- AUTHORIZATION:** Section 209 of the Flood Control Act of 1962 (Public Law 87-874). In the 1998, House Report 105-190 of Public Law 105-62, Water Resource Development Act of 2000.



Public Outreach

The screenshot shows the Jacksonville District website for the US Army Corps of Engineers. The header includes the Corps logo, the text "US Army Corps of Engineers", and "JACKSONVILLE DISTRICT". A search bar is present. The navigation menu includes: HOME, ABOUT, BUSINESS WITH US, MISSIONS, LOCATIONS, CAREERS, MEDIA, LIBRARY, CONTACT. The breadcrumb trail is: HOME > MISSIONS > CIVIL WORKS > NAVIGATION > NAVIGATION PROJECTS > LAKE WORTH INLET FEASIBILITY STUDY.

Lake Worth Inlet Feasibility Study



Lake Worth Inlet connects Palm Beach Harbor to the Atlantic Ocean. The port is located in Riviera Beach, Palm Beach County, Florida. The Port of Palm Beach is the fourth busiest container port in Florida and the eighteenth busiest in the continental United States. Lake Worth Inlet, serving as the entrance channel to the port, is inadequate both in width and depth, negatively impacting future port potential and creating economic inefficiencies with the current fleet of vessels.

Based on modern vessel sizes, the port is operating with insufficient channel width and depth. These deficiencies cause the local harbor pilots and the U.S. Coast Guard to place restrictions on vessel transit to ensure safety resulting in economic inefficiencies translating into costs to the national economy.

The U.S. Army Corps of Engineers Feasibility Study is currently underway and will determine plans to reduce transportation costs, reduce navigation concerns, and improve safety. The federal objective is to determine the project alternative with the maximum net benefits while protecting or minimizing impacts to the environment.

Project Links

- FINAL Feasibility Report and Environmental Impact Statement (Feb 2014)**
- DRAFT REPORT: Integrated Feasibility Report and Environmental Impact Statement

Project Documents

- Civil Works Review Board presentation (Jan 2014)**
- Project Overview Fact Sheet
- Tentatively Selected Plan (TSP) Graphic
- Presentation - Public Meeting: Integrated Feasibility Study & EIS (May 2013)



Ancillary Products



REPORT GRAPHICS ↔ POWERPOINT GRAPHICS ↔ PUBLIC WORKSHOP POSTERS

4.0 RECOMMENDED PLAN (PROJECT 4.0 PROJECT 010)

LAKE WORTH INLET
Saline Beach Harbor

BUILT ENVIRONMENT

NATURAL ENVIRONMENT AND MITIGATION PLAN

NAVIGATION ENVIRONMENT

ECONOMIC ENVIRONMENT

ADVANCE MAINTENANCE PLAN

INFERENCE CHANNEL
 DEPTH: 41' W/TH: RANGES FROM 44' TO 440'

LANDSCAPE PLAN
 RESTORING BASIN & SURROUNDING WATERSHED PLAN

LANDSCAPE PLAN
 RESTORING BASIN & SURROUNDING WATERSHED PLAN

LANDSCAPE PLAN
 RESTORING BASIN & SURROUNDING WATERSHED PLAN



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Basics of Graphic Design

- What do I need to know?
- Types of Graphics
 - ▶ Maps, Photos, Line art, Charts, Graphs
- Use of Color
- Audience considerations
 - ▶ Plan view vs. Landscape views
 - ▶ Artist renditions



What Do I Need?

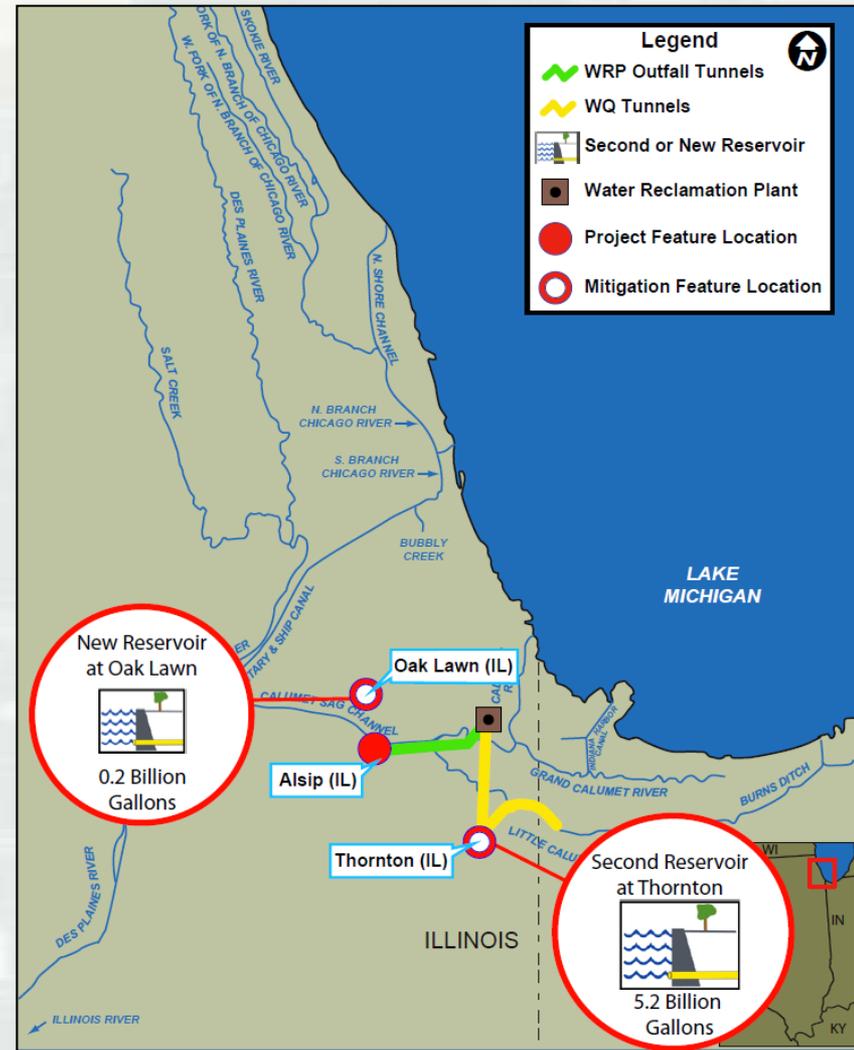
- To start thinking about graphics from day 1!
- Start accumulating images
- Invest some PDT time in discussing how to use graphics
- Knowledge of some basics in graphic design



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Types of Graphics

- Photographs
- Maps
- Graphs and tables
- Flow charts
- Artist renditions
- Cross-sections



Use of Color

- To enhance meaning
- To speed searches
- To improve recognition
- To create associations
- To enhance usability
- To convey structure



Audience Considerations

- Be mindful of regional or cultural bias
- Some readers learn visually
- Know what's important to them

Problems Opportunities	Existing Conditions	Future Without-Project	Objectives Constraints	Plan Formulation	Recommended Plan
<p>MEASURES CONSIDERED</p> <p>STORAGE/TREATMENT Quantity and Quality</p> <ul style="list-style-type: none"> Stormwater Treatment Areas (STAs) Flowage Equalization Basins (FEBs) Deep Storage (various depths) <p>CONVEYANCE/DISTRIBUTION Distribution, Directionality, Timing Controlled Versus Not Controlled</p> <ul style="list-style-type: none"> Spreader Canals Pumps Canal Filling Levee Removal and Gaps Culverts/Gated Structures <p>SEEPAGE MANAGEMENT Keeping Water in the Natural System</p> <ul style="list-style-type: none"> Walls Pumps 					
<p>EVALUATION (Example Using Central Everglades Zones)</p> <p>1 RUN HYDROLOGIC MODELS OF ALTERNATIVES</p> <p>2 CALCULATE % OF TARGETS ACHIEVED (PERFORMANCE MEASURES) PER ZONE</p> <p>3 ASSESS ADDITIONAL ECOLOGICAL EFFECTS</p>					

CENTRAL EVERGLADES THE RISK OF NO

DIMINISHED HABITAT/ LANDSCAPE PATTERNS that Support Biological Diversity

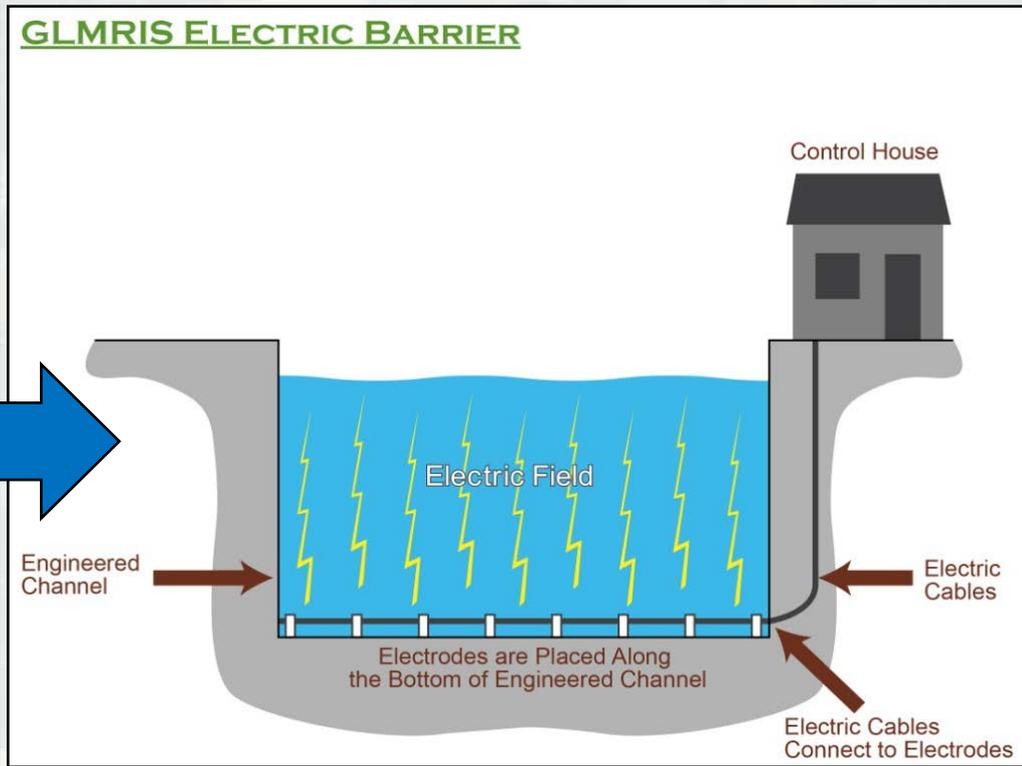
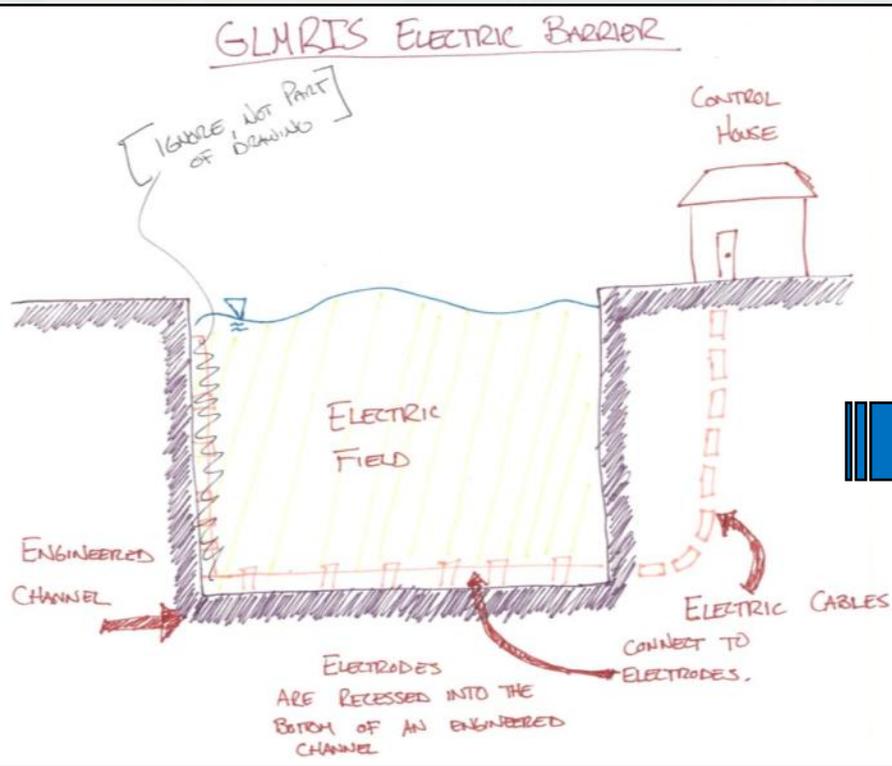
INCREASED THREAT TO 68 LISTED SPECIES

DIMINISHED HEALTH OF COASTAL ESTUARIES & Economies Dependent on Them

DIMINIS OPPORTU TO ADDRESS SUPPLY of Environmental, Agricultural & Urban Users



ACE-IT Can Help!



Summary

- Know your audience
- Use the information you have
- Words are not enough



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Questions?



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