

ECOLOGICAL BENEFITS, RESOURCE SIGNIFICANCE, AND THEIR IMPACT ON BUDGET

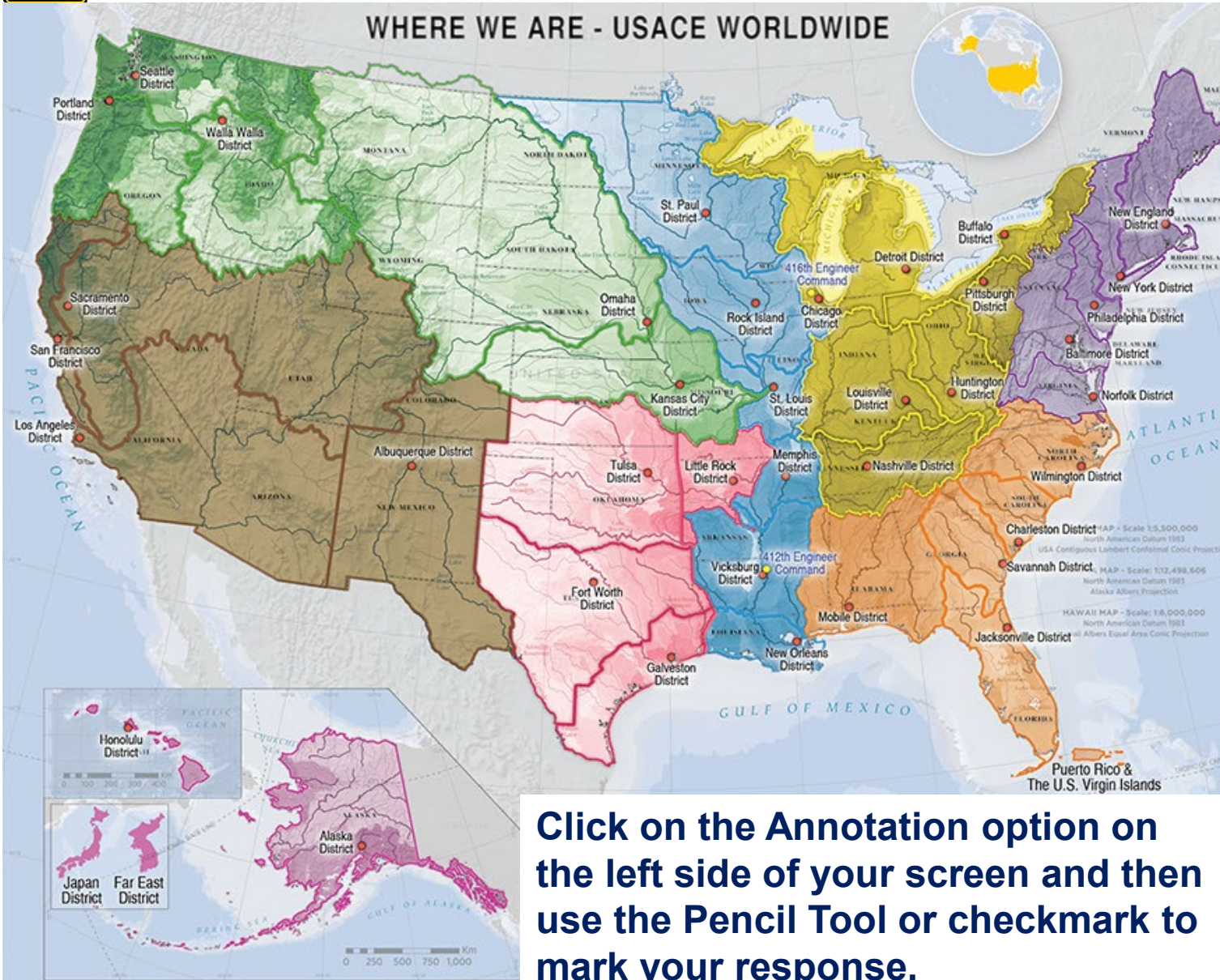
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Environmental Planner/Reviewer
Office of Water Project Review
Date: 18 November 2021



US Army Corps
of Engineers®



WHAT IS YOUR LOCATION AND DISCIPLINE?



Click on the Annotation option on the left side of your screen and then use the Pencil Tool or checkmark to mark your response.

- Environmental Planner _____
- Plan Formulation _____
- Economist _____
- Archeologist/Cult. Res. _____
- Geologist _____
- Hydrologist _____
- Civil Engineer _____
- Environmental Engineer _____
- Electrical Engineer _____
- Mechanical Engineer _____
- Other Engineer _____
- Counsel _____
- Real Estate _____
- Project Manager _____
- Project Support (other) _____



WHICH OF THE FOLLOWING ARE TRUE?



Vertical team members can provide valuable input during early stages of the planning process.

The environmental lead will determine the significance.

Since we have funding, there must be Federal interest and significance.

Benefits can be determined without knowing the significance.

Establishing significance can assist in model development/determination

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SIGNIFICANCE OF RESOURCES - GUIDANCE



- Pre-publication version of Appendix C of ER 1105-2-100, section C-4-Subsection d – Significance Determination
- Appendix E of ER 1105-2-100, Section V, E-37 – Significance of Ecosystem Outputs

Both use the same categories to determine significance:

- Technical
- Institutional
- Public

- EC 11-2-224 - Budget EC (FY23) Section 9.e.(2) and Figure C-4H BY Justification Sheet
- WRRDA 2014 Section 1011 (b)



SIGNIFICANCE – TOOLS AND RESOURCES



Resource Significance Protocol for Environmental Project Planning, IWR 97-R-4

Resource Significance: A new Perspective for Env Project Planning, IWR 95-R-10

Past PCoP Webinars:

02 FEB 17 – Environmental Resource Significance in Civil Works Planning

26 AUG 16 – Plan Formulation Strategies for Ecosystem Restoration Projects



RECOMMENDATIONS



Solicit public, resource agencies and cooperating/participating agencies regarding resource significance in the project area.

Centered/focused discussion on significance at scoping and/or charrette to discuss institutional, public and technical significance.

Continue discussing significance throughout feasibility – tying it into every step. (see next slide)

Significance can be derived from existing national and international plans for watersheds, estuaries, species recovery, and more (RAMSAR wetlands, conservation priorities...)

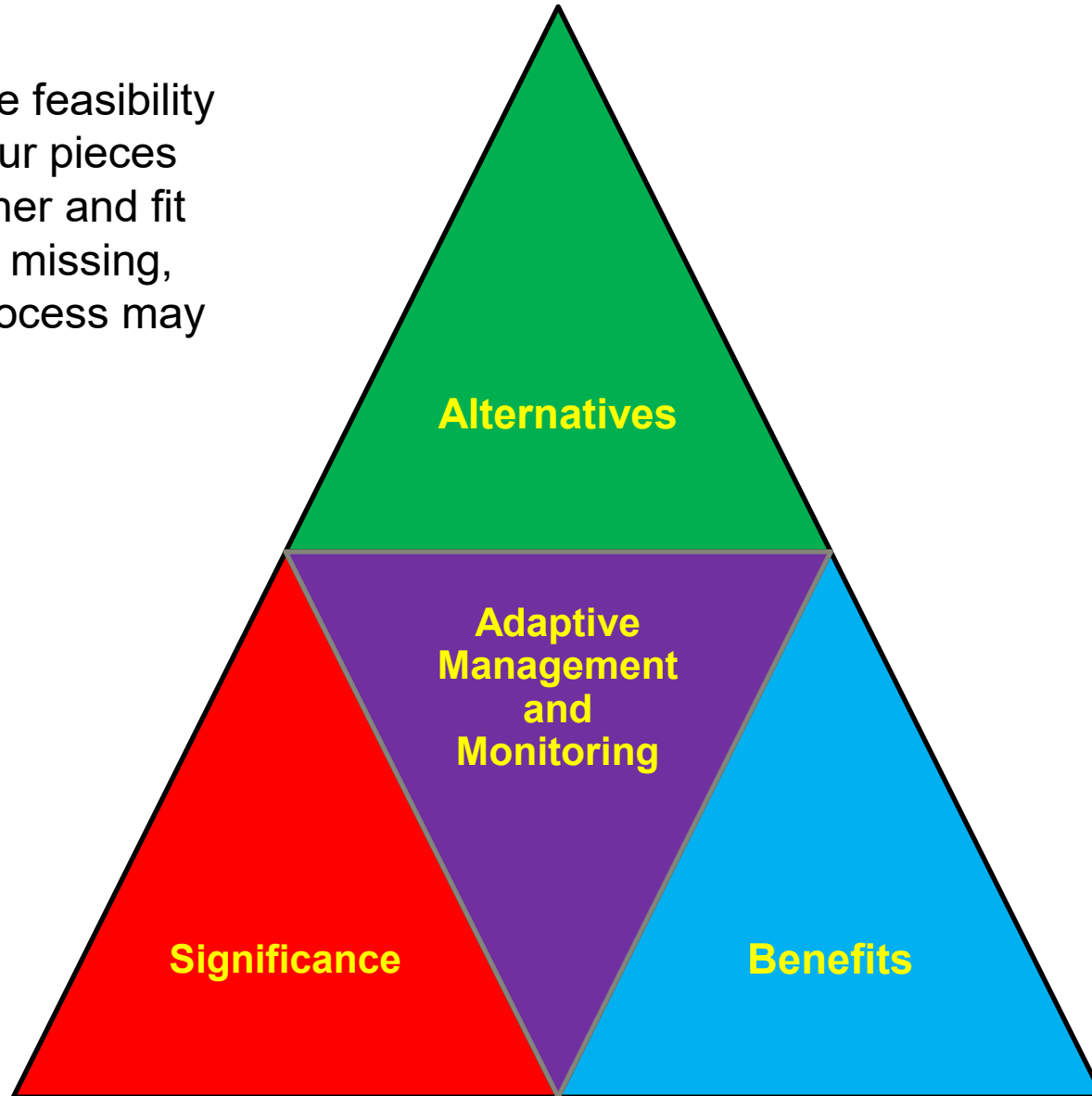
The significance should be reflected in budget request and in the Justification section of the J-Sheet.



SIGNIFICANCE, BENEFITS AND ALTERNATIVES



As you move through the feasibility study, note that these four pieces should relate to each other and fit together. If one piece is missing, your plan formulation process may be shaky.





CAUTIONS



Pieces of significance may be missed if the public isn't solicited.

Significance determination should not be an after thought but developed throughout feasibility.

Significance at national/regional level – from listed species and habitats to national priority ecosystems.(e.g. Everglades, Chesapeake Bay,...)

The vertical team should be involved throughout to include Aquatic Ecosystem Restoration budget line managers

Consider historic, archeological and other resources in project area.

Significance is subjective, not black and white.

Be careful not to confuse Federal Interest and Resource Significance



SIGNIFICANCE LEADS TO BENEFITS



How does significance lead to benefits?

When should you do this step?

What tools can one use?

Who can assist?

Where should you document this work?

Why does this all matter?

The next portion of this presentation answers these questions... showing the relationship of significance to benefits and plan formulation



PLANNING PROCESS

Put check marks to the right of those project tasks where significance plays a role.



Problems

Opportunities

Goals

Federal interest

Study budget

Brainstorming alternatives

Determining which habitat model(s) to use





HOW SIGNIFICANCE LEADS TO BENEFITS



- ✓ Problems
- ✓ Opportunities
- ✓ Goals
- ? Federal interest
- ? Study budget
- ✓ Brainstorming alternatives
- ✓ Determining which habitat model(s) to use



WHEN IS SIGNIFICANCE ADDRESSED?



Early in the planning process

Throughout the planning process

During budget development



WHAT TOOLS ARE AVAILABLE?



Conceptual Ecological Models –

Show “cause and effect” relationships and help the PDT demonstrate the linkages between problems, solutions, and desired outcomes

Note: DCW 2008 memo indicates CEMs should be developed, but certification is not required.

Ecosystem Output Models -

should simulate the effects of a management measure to clearly demonstrate how it achieves a planning objective.

- ECO-PCX model library - <https://ecolibrary.planusace.us/#/home>
- ERDC models – <https://emrrp.el.erd.c.dren.mil/models.html>
- 01 SEP 2021 Webinar - <https://emrrp.el.erd.c.dren.mil/webinars.html>



OTHER BENEFITS



Memorandum from Assistant Secretary of Civil Works to Commanding General on 5 Jan 21 regarding Comprehensive Documentation of Benefits

A renewed emphasis on showing benefits for all four accounts –

- National Economic Development
- Regional Economic Development
- Environmental Quality/National Ecosystem Restoration
- Other Social Effects

- SAD developing a workbook for comprehensive benefits
- LRD compiled resources/information related to comprehensive benefits



IWR AND HQ INFORMATION ON THE 4 ACCOUNTS:



- Issues and Applications in Formulation and Evaluation Considering the 4 P & G Accounts, 2008 IWR White Paper.
- Other Social Effects: A Primer, IWR, 2013-R-02
- Lessons Learned and Best Practices: Recent Experiences with Cost Effectiveness and Incremental Cost Analysis(CE/ICA) for Ecosystem Restoration Projects, Leigh Skaggs.
- PCoP Webinars:
 - 20 Feb 20 – Ecological Model Development within the Planning Phase
 - 26 Aug 16 - Plan Formulation Strategies for Ecosystem Restoration Projects



WHO SHOULD BE INVOLVED IN PLAN FORMULATION?



The entire PDT

The vertical team

The ECO-PCX

The non-federal Sponsor

Resource Agencies

Cooperating/Participating Agencies

Others



WHERE ARE SIGNIFICANCE AND BENEFITS DESCRIBED?



Milestone Meetings – Report summary/slides

Main Report - Significance

Section on Significance (if an AER project)

This is your main sales pitch – technical, institutional and public

Mitigation Summary (if another type of project)

Opportunities/Goals - Significance and Benefits

This is your second sales pitch – how can USACE make a difference

Model selection - Benefits

Appendices

Plan Formulation (if there is one)

Mitigation Plan

Monitoring and Adaptive Management

Budget Documents, e.g. J-Sheet



WHY IS SIGNIFICANCE IMPORTANT TO BUDGET?



Show me the money!!!

USACE proposes projects to Congress so Congress can:

- Authorize the projects

- Appropriate funds to the Corps to build authorized projects

First these proposals go to the Office of Management and

Budget who review -

- Significance

- Benefits

Significance and benefits sell your project, so should be clear & relatable



Proctor Creek





EXAMPLE – PROCTOR CREEK



Local Sponsor – City of Atlanta

District – Mobile

Urban setting originally considered for FRM, but lacking sufficient economic benefits
Selected plan turned out to be the scale of a CAP project, so converted to CAP

Over six pages of draft report addressed significance as follows:

Technical:

Status and Trends – deforestation/development, stream realignment, loss of habitat

Connectivity – disconnect between quality habitats

Limited habitat – for minnows and macroinvertebrates

Biodiversity – Decrease from 42 native fish species to 15, listed species

Institutional: Urban Waters Federal Partnership

Public:

Multiple stakeholder groups in the watershed

Historically significant area – Civil War, Civil Rights, built by African-Americans for African-Americans.

Benefits - Developed a model to determine linear feet of creek restored and the quality of the restoration.



LOS ANGELES RIVER





EXISTING HABITAT





EXAMPLE – LOS ANGELES RIVER



Local Sponsor – City of Los Angeles

District – Los Angeles

Urban setting of a USACE project for flood risk management – famous for several movie scenes as well.

Over thirteen pages of final report addressed significance:

- Technical – scarcity of Mediterranean ecosystem, biodiversity, status and trends, connectivity

- Institutional – Urban Waters Federal Partnership, recovery plan for Santa Ana sucker

- Public – multiple stakeholder groups, use of the area, National Recreation Trail System

PLUS - significance of the Southwest Riparian Ecosystem itself – scarcity, biodiversity,...

AND the importance of restoring a more natural hydrologic regime and geomorphic character.

Utilized a habitat model developed for the geographic area and received single use approval.

Benefits – Average Annual Habitat Units (non-monetary) and Recreation benefits (monetary)



LA RIVER





EXAMPLE – LYNNHAVEN BASIN



Local Sponsor – City of Virginia Beach

District – Norfolk

Estuarine area surrounded by residential, shopping and light industrial – heavily urbanized.

The final report contains six pages on significance –

Institutional: Part of the Chesapeake Bay – a living national treasure – highlighting laws and efforts focused on the Chesapeake Bay and those actions in the Lynnhaven Basin.

Public: history of stakeholder involvement, historical importance

Technical: Water quality improvements done by city and others, how restoration actions would complete the restoration.

Benefits were calculated for secondary production (kg/acre), species diversity (using BIBI – an index from 1-5), Total Suspended Solids reduction (kg/acre) for the in-water measures.

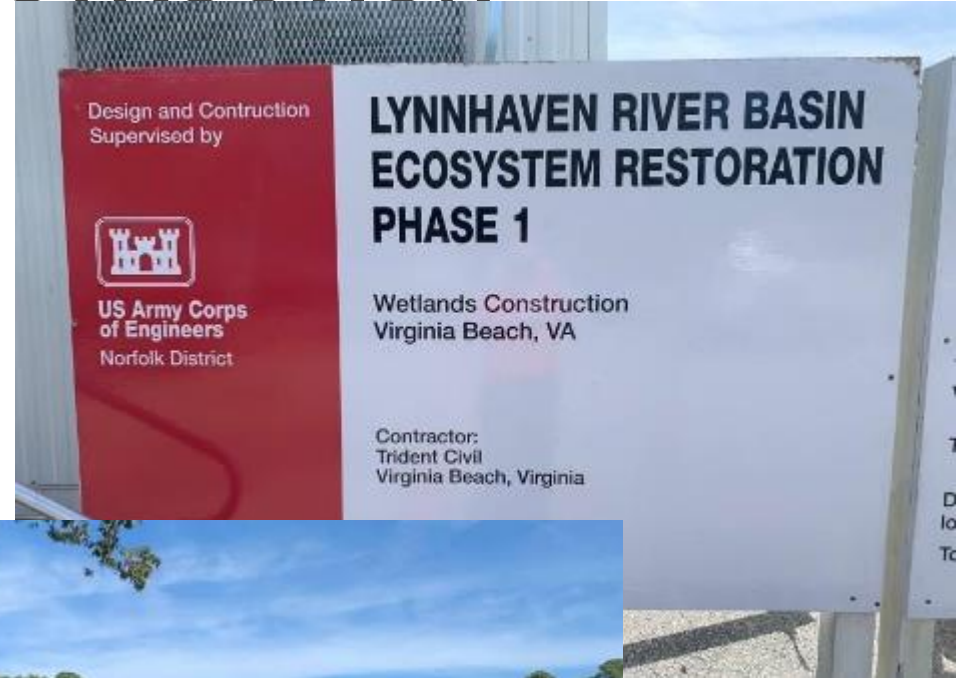
With three different benefit types, Multi Criteria Decision Analysis was key to the CE/ICA analysis.

An USEPA model was used for wetlands - comparing with project to without. Separate CE/ICA run for the wetlands.



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LYNNHAVEN IS UNDER CONSTRUCTION





QUESTIONS?



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