Planning Guidance ER 1105-2-100
(22 April 2000)

- ***Requires CE/IC analyses for all mitigation and ecosystem restoration projects***
- **"Selecting the NER plan requires careful consideration of the plan that meets planning objectives and constraints and reasonably maximizes environmental benefits while passing tests of cost effectiveness and incremental cost analyses, significance of outputs, acceptability, completeness, efficiency, and effectiveness." (Appendix E, E-41)**
- **CE/ICA helps support selection of mitigation plans**

What are CE/ICA?

Tools to inform and support environmental investment decision-making

Why use CE/ICA?

To make more informed decisions…

document economic efficiency,

make sound financial investments

CE/IC Analyses are NOT….

- **A substitute for the planning process**
- **A measurement technique**
- **Methods to provide a single "right" answer**
- **Basis for a Benefit Cost Ratio (BCR) - (Flood Control Act 1936)**

Measurements of Environmental Outputs Can Include:

- Habitat units (HU's and AAHU's)
- Physical dimensions (acres, LF of riverine habitat)
  - But must include quality dimension

Cost Effective Plans:

- No other plan produces ***same*** level of output for less cost.
- No other plan produces ***more*** output for same or less cost.
- Unique regarding least cost per level of output.

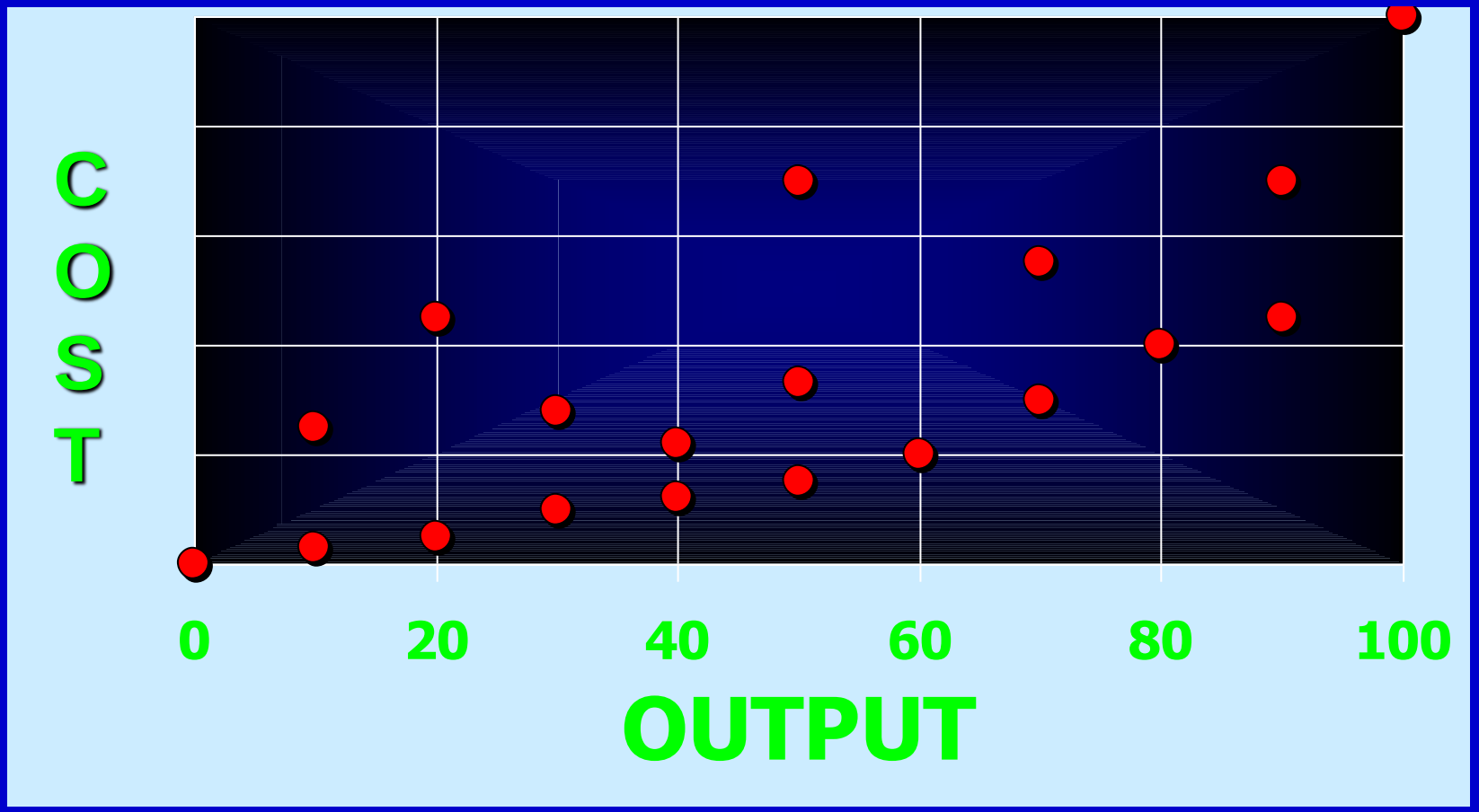
Plan Comparison: Costs & Outputs

Alternative Restoration Plans	Plan Outputs	Plan Costs
No Action Plan	0 Habitat Units	$0
Green Plan	950 Habitat Units	$500,000
Blue Plan	950 Habitat Units	$ 750,000
Red Plan	1,000 Habitat Units	$ 1,000,000

Results of Cost Effectiveness Analysis

Alternative Restoration Plans	Plan Outputs	Plan Costs
No Action Plan	0 Habitat Units	$0
Green Plan	950 Habitat Units	$500,000
Red Plan	1,000 Habitat Units	$ 1,000,000

Solutions Incur Costs and Produce Outputs



Best Buy Plans:

- Lowest incremental cost per unit of output
- Form a subset of cost effective plans
  - Most efficient in production at given levels of output
  - Greatest increases in output for least increase in cost
  - Incrementally the most cost effective plan at a given level of output

Results of Incremental Cost Analysis

Alter-natives Plans	Plan Costs	Plan Outputs	Incre-mental Cost	Incre-mental Output	Incre-mental Cost/Unit Output
No Action Plan	$0	0 HU's	$0	0 HU's	$0
Green Plan	$500,000	950 HU's	$500,000	950 HU's	$526
Red Plan	$1,000,000	1000 HU's	$500,000	50 HU's	$10,000

Is the alternative worth it?

Decision making guidelines:

- **Output target.**
- **Output thresholds.**
- **Cost limit.**
- **Breakpoints.**
- **Does it make sense? Remember there is no BC consideration !**

Take Away Points

- CE/ICA are required for all ecosystem restoration and mitigation projects
- Environmental outputs must be significant and linked to resource quality
- CE/ICA do not "pick" the selected plan, they simply aid in decision making