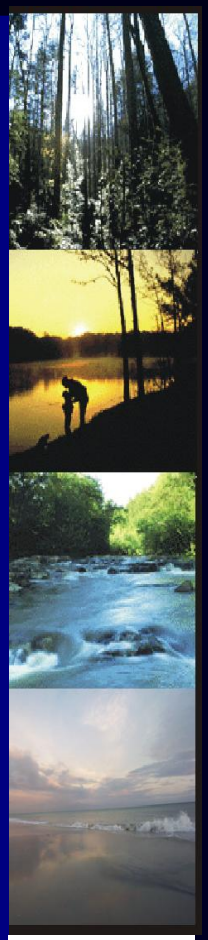

Transitioning the EEP Nutrient Offset Program to an Actual Cost Method

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Ecosystem Enhancement Program

March 25, 2009

- Review Objectives
- Overview of Actual Cost Method
- Review of Issues and Choices
- Detail View Into Calculating Actual Costs

Actual Cost Method Objectives:

- Must use actual costs of generating nutrient reduction credits.
- All costs must be accounted for in the method.
- Must be a self-sustaining financial model.

Actual Cost Method Objectives:

- Rates must change (upwards or downwards) as actual costs change.
- Method must be applicable at either Cataloging Unit (CU), Basin, or State levels.
- Must be applicable to either nitrogen or phosphorus offsets.

Actual Cost Method Objectives:

- Must be understandable and easy to use.
- Must be predictable and equitable.
- Transition Plan by September 2009.

Actual Cost Method

Simple Premise:

Actual Costs / Total Pounds = Actual Cost per pound

Draft Actual Cost Method

$$ActualCostRate = \frac{ActualCosts}{TotalPoundsOffset} + AdjustmentFactor$$

Draft Actual Cost Method

$$ActualCostRate = \frac{ActualCosts}{TotalPoundsOffset} + AdjustmentFactor$$

$$ActualCosts = ProjectCosts + AdministrationCosts$$

Completed Projects
Terminated Projects
Projects in Process

Staff
Supplies
Rent

Draft Actual Cost Method

$$ActualCostRate = \frac{ActualCosts}{TotalPoundsOffset} + AdjustmentFactor$$

Total Pounds of Nutrients that will be offset by Projects

Adjustment Factor

$$AdjustmentFactor = \frac{ActualCosts - ActualReceipts}{NumberofPaymentsDuringAdjustmentPeriod}$$

Differences Between Actual Costs and Actual Receipts are distributed to future payments made into program

- Upward or Downward Adjustments

Review of Issues and Choices

Issues and Choices

- Frequency of Adjustment
- Geographic Application
- Utilizing Inflation to Determine Actual Cost of Projects In Process
- Establishment of Actual Cost Method in Rule

Frequency of Adjustment

Frequently ⟷ Infrequently

Pros and Cons		Pros and Cons
Volatility in Price	⟷	Stable Price During Interval
Reduced Predictability	⟷	Predictable
Intensive Admin	⟷	Low Computation Admin
Smaller Adjustments	⟷	Larger Adjustments
Less Risk of Δ between Receipts and Actual Cost (However, fewer payments)	⟷	More Risk of Δ between Receipts and Actual Cost (However, more payments)

Adjustment Factor

$$AdjustmentFactor = \frac{ActualCosts - ActualReceipts}{NumberofPaymentsDuringAdjustmentPeriod}$$

Frequency of Adjustment

– projected # payments in period

Short Frequency – few payments, could lead to large adjustment
Long Frequency – many payments, adjustment spread out

Frequency of Adjustment

Range of Choices:

Next Payment - Too Volatile, Too Unpredictable

Quarterly

Annually

Moderate Levels of Predictability, Stability, Administration, Risk, Adjustment Amount

More than 12 Months

Increasing Risk that Receipts will deviate from Actual Costs

Geographic Application

SMALL AREA ⟷ LARGE AREA

Pros and Cons		Pros and Cons
Volatility in Price	⟷	Stable Price
Reduced Predictability	⟷	Predictable
Many Rates	⟷	Few Rates
More Complex	⟷	Less Complex
Local Costs Not Distributed	⟷	Localized Costs Distributed
Less Risk of Under Collection in Local Area	⟷	Risk of Under Collection in Local Area

Adjustment Factor

$$AdjustmentFactor = \frac{ActualCosts - ActualReceipts}{NumberofPaymentsDuringAdjustmentPeriod}$$

Geographic Service Area

- size of area also determines # payments
- small areas have few payments

Actual Cost Calculations

Draft Actual Cost Method

$$ActualCostRate = \frac{ActualCosts}{TotalPoundsOffset} + AdjustmentFactor$$

$$ActualCosts = ProjectCosts + AdministrationCosts$$

Completed Projects
Terminated Projects
Projects in Process

Staff
Supplies
Rent

Actual Costs for Projects In Process

- What is a Project In Process?
  - It is an incomplete project. There are two types:

1. Existing Project that has additional Future Contracts to complete project

2. Future Project that is required to be implemented but is composed entirely of Future Contracts

- How do you estimate Future Contracts?

  - Use actual costs associated with implementing similar contracts in past
  - Adjust costs for inflation for time when contract will be executed
  - Choice of Inflation Index

Inflation Index Choice

Various Index Choices Available:

- **Property Inflation Indices**
- **Services Inflation Indices**
- **Construction Inflation Indices**
- **Consumer Price Index**

Propose: USACE Civil Works Construction Cost Index

- **Consistent - Same Index used in other ILF Program**
- **Reasonable - Construction costs are 60% or more of total projects costs**
- **Practical - Alternative would be to use composite or multiple indices**

Determining the Cost of Projects In Process

$$ActualCosts_{ProjectsinProcess} = PastExpenditures + CostToComplete$$

$$CostToCompleteProjects = Cost_{CostToCompleteExistingContracts} + Cost_{FutureContracts}$$

$$Cost_{FutureContracts} = f_{(Inflation)} * CostofPastContracts$$

Detailed Actual Cost Calculations

Calculating Actual Costs for Projects In Process

- **Procurement Type Specific**
- **Operates at Contract level**

Existing and Future Projects

$$Costof ExistingProject = ExistingContracts + FutureContracts$$

$$Costof FutureProject = Costof FutureContracts$$

Procurement Type Important

1. **Design Bid Build Project**
2. **Full Delivery Projects**
3. **Direct Purchase Projects**
4. **Best Management Projects**

Actual Costs by Procurement Type

(1 Construction, 1 Monitoring, and 16 Stewardship Future Contracts Estimated)

	Neuse		Tar Pamlico	
Procurement Type	**N $/lb**		**N $/lb**	**P $/lb**
DBB	**$4.64**		**N/A**	**N/A**
FD	**$12.57**		**$4.76**	**$73.86**
BMP	**$14.30**		**$64.22**	**$599.41**
Direct Purchase	**$12.91**		**$6.39**	**$99.27**

Procurement Types and Contracts

Procurement Type	Contract Types							
	Acquisition	Design	Construction	Maintenance	Monitoring	Stewardship	Full Delivery	Direct Purchase
Design Bid Build	√	√	√		√	√		
Full Delivery						√	√	
Best Management	√	√	√	√				
Direct Purchase								√

Example FD Contract Costs

Full Delivery Projects	River Basin	CU	Full Delivery	Total Lbs N	Actual FD Cost / Pound	Year of Contract	Inflation Index Value	2008 FD Costs	2008 FD Cost/ Pound
Moccasin Creek-Buffer (G)	Neuse	03020201	$487,538.88	$45,917.00	$10.62	2005	$113.96	$555,599.31	$12.10
Little Buffalo (G)	Neuse	03020201	$676,922.39	$42,052.00	$16.10	2005	$113.96	$771,420.76	$18.34
Big Bull Creek (G)	Neuse	03020201	$1,116,807.99	$79,558.00	$14.04	2005	$113.96	$1,272,714.39	$16.00
Brogden Road (G)	Neuse	03020201	$478,632.00	$34,096.00	$14.04	2005	$113.96	$545,449.02	$16.00
Whitley Site (G)	Neuse	03020201	$1,112,534.49	$62,510.00	$17.80	2005	$113.96	$1,267,844.31	$20.28
Little Contentnea-Buffer (G)	Neuse	03020203	$1,252,252.00	$123,111.00	$10.17	2005	$113.96	$1,427,066.38	$11.59
Howard Farm (G)	Neuse	03020203	$485,537.97	$59,783.00	$8.12	2005	$113.96	$553,319.07	$9.26
Hargett/Tucker Farm (G)	Neuse	03020204	$443,138.84	$36,370.00	$12.18	2002	$133.98	$593,717.41	$16.32
McCotter-Raines (G)	Neuse	03020204	$496,905.01	$55,464.00	$8.96	2002	$133.98	$665,753.33	$12.00
Grand Total			**$6,550,269.57**	**$538,861.00**	**$12.16**			**$7,652,883.98**	**$14.66**

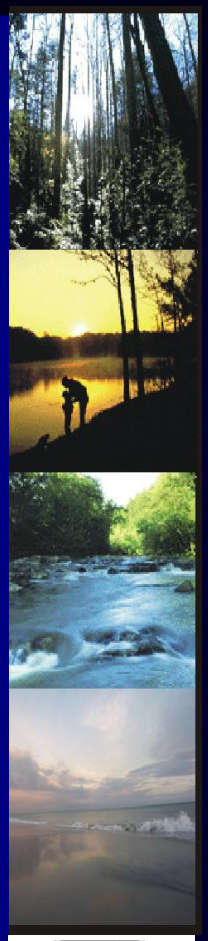
Other Issues

- Calculating Future Contract Costs
  - When no historic contracts exist in geographic area
- Use of Historic Data when Regulatory Change Occurs
  - If Credit Yields change, additional adjustment needed to calculate Cost / pound

Other Issues

- Calculating Number of Payments in Adjustment Period
  - Using Trend Analysis Over Several Years, or
  - Using Previous Year's Payment Data

- Smaller Geographic Application (Smaller than Basin Level)
  - Most payments made as a Basin Requirement
  - These payments/requirements would have to be assigned to CUs
    - Location of impact would not work
    - To calculate Adjustment Factor, Actual Costs of Projects used to meet requirements would have to be used
    - Smaller Geographic Application



Questions?

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