

Evaluating Bids in the U.S. Conservation Reserve Program

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The Bid Process

- General signup periods
- Landowners/Operators submit what land and what rental rate
- Evaluated at local level based on Environmental Benefits Index (EBI) and Soil Adjusted Rental Rate
- Bids sent to Washington, DC for evaluation

The Environmental Benefits Index (EBI)

- **N1 - Wildlife Factor (0 to 100 points)**
- **N2 - Water Quality Factor (0-100 points)**
- **N3 - Erosion Factor (0-100 points)**
- **N4 - Enduring Benefits Factor (0-50 points)**
- **N5 - Air Quality Factor (0-35 points)**
- **N6 - State or National Conservation Priority Area Factor (0-25 points)**
- **N7 - Cost Factor**

Wildlife Factor (0 to 100 points)

- Wildlife cover (0-50 points)--Vegetative Cover assigned points based on the value to wildlife.
- Endangered species (0-15 points)-- Expected benefits to Federal and State Threatened and Endangered (T&E) plant or animal species.
- Proximity to water (0,5,10 points)--< .25 mile, .25 to 1 mile, > 1 mile
- Adjacent protected areas (0,5,10 points)-- < .25 mile, .25 to 1 mile, > 1 mile
- Wildlife enhancement (0, 5 points)-- potential wildlife enhancement by establishing wildlife food plot or restoring wetlands.

Water Quality Factor (0-100 pts)

- **Location (0-30 points)**--Impact of continued crop production on ground or surface water quality. States map approved designated areas.
- **Groundwater (0-30 pts)**--Downward movement of pesticides and nutrients into ground water and the population using groundwater for drinking. Based on soils.
- **Surface water quality (0-30 pts)**--Sediment delivered into streams or other water courses and the population that may be impacted. Determined by potential water erosion, distance to the water, and the county in which the offer is located.
- **Wetlands (0-10 points)**--Water quality improvements associated with wetlands, based on percent of offered acreage that is wetlands.

Erosion Factor (0-100 points)

- Inherent potential for the land to erode as the result of either wind or water.
- Measured using the acreage-weighted average Erodiability Index(EI).

Highly Erodible Land Definition

- $EI(\text{water}) = RKLS/T > 8$
 - R = Rainfall factor
 - K = Soil texture factor
 - LS = slope and slope length factors
 - T = Soil loss tolerance level
- $EI(\text{wind}) = CI/T > 8$
 - C = Climate factor
 - I = Soil texture factor

Enduring Benefits Factor (0-50 pts)

- Likelihood of certain practices to remain in place beyond the contract period and for other purposes, including the capture of CO₂.
 - Tree planting of different species
 - Wetland restoration
 - Endangered species habitat and shrub plantings
 - Contract extensions

Air Quality Factor (0-35 points)

- **Wind erosion impacts (0-25 points)**--Based on potential wind erosion and the amount of population impacted by wind erosion.
- **Wind erodible soils (0-5 points)**--List of soils that are susceptible to wind and contribute significantly to nonattainment of air quality standards. Volcanic or organic soils that are highly erodible and can be transported great distances on the wind.
- **Air quality zones (0-5 points)**--Areas contributing to air quality nonattainment or impacting air quality zones, such as National Parks.

State or National Conservation Priority Area Factor (0-25 points)

- Location of the offer relative to designated national or approved State Conservation Priority Areas.

Cost factor

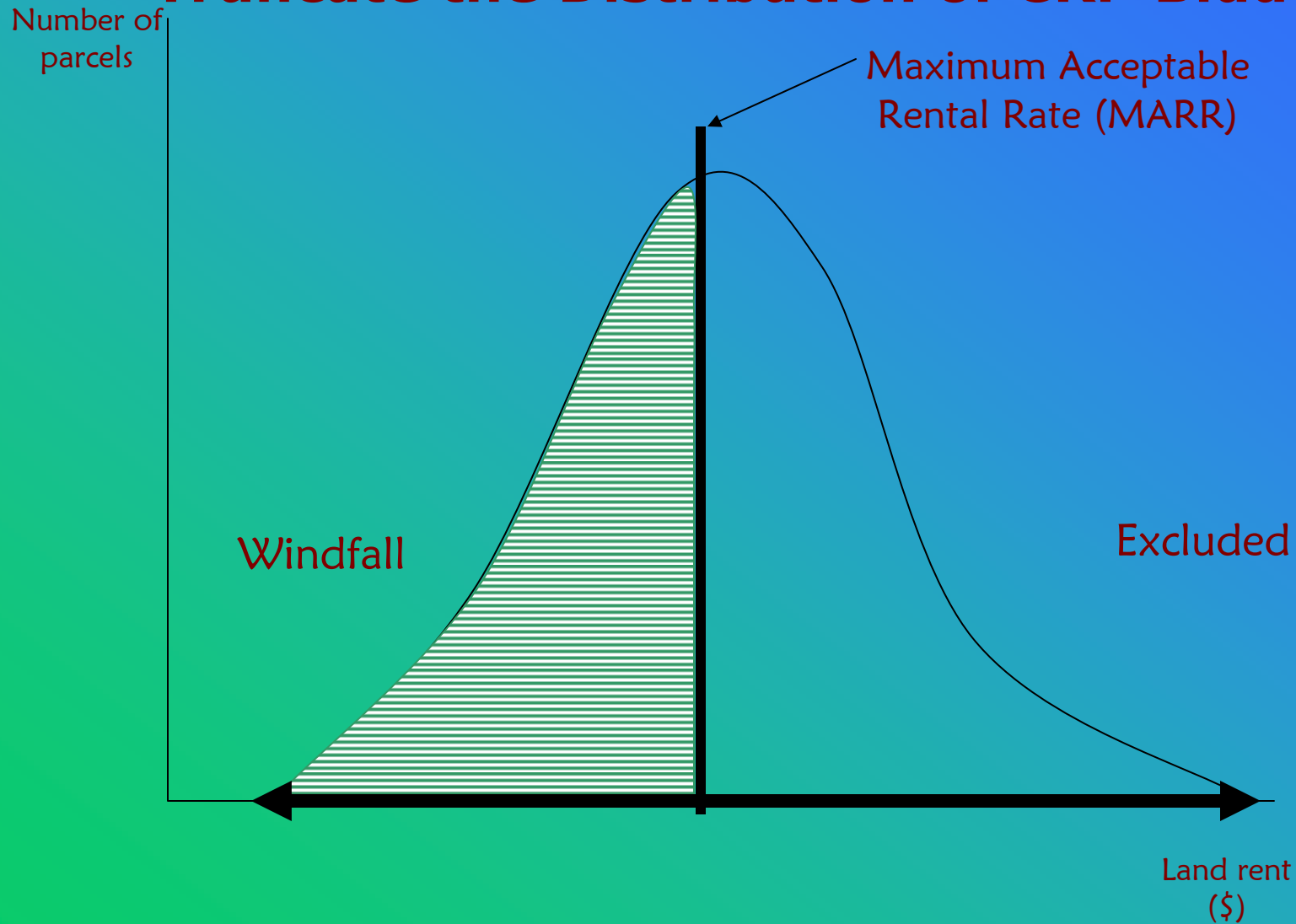
- **Rental rate**--Lower is better.
- **Cost-sharing**--More points if none required.
- **Amount below**--Points for being below Soil Adjusted Rental Rate.

Soil Adjusted Rental Rates (SRR)

- Rent based on County-average rental rate.
- Adjusted for the relative productivity of the soil on the parcel offered.
- More productive soils offered proportionally higher rents than average.

Maximum Acceptable Rental Rates (MARRs)

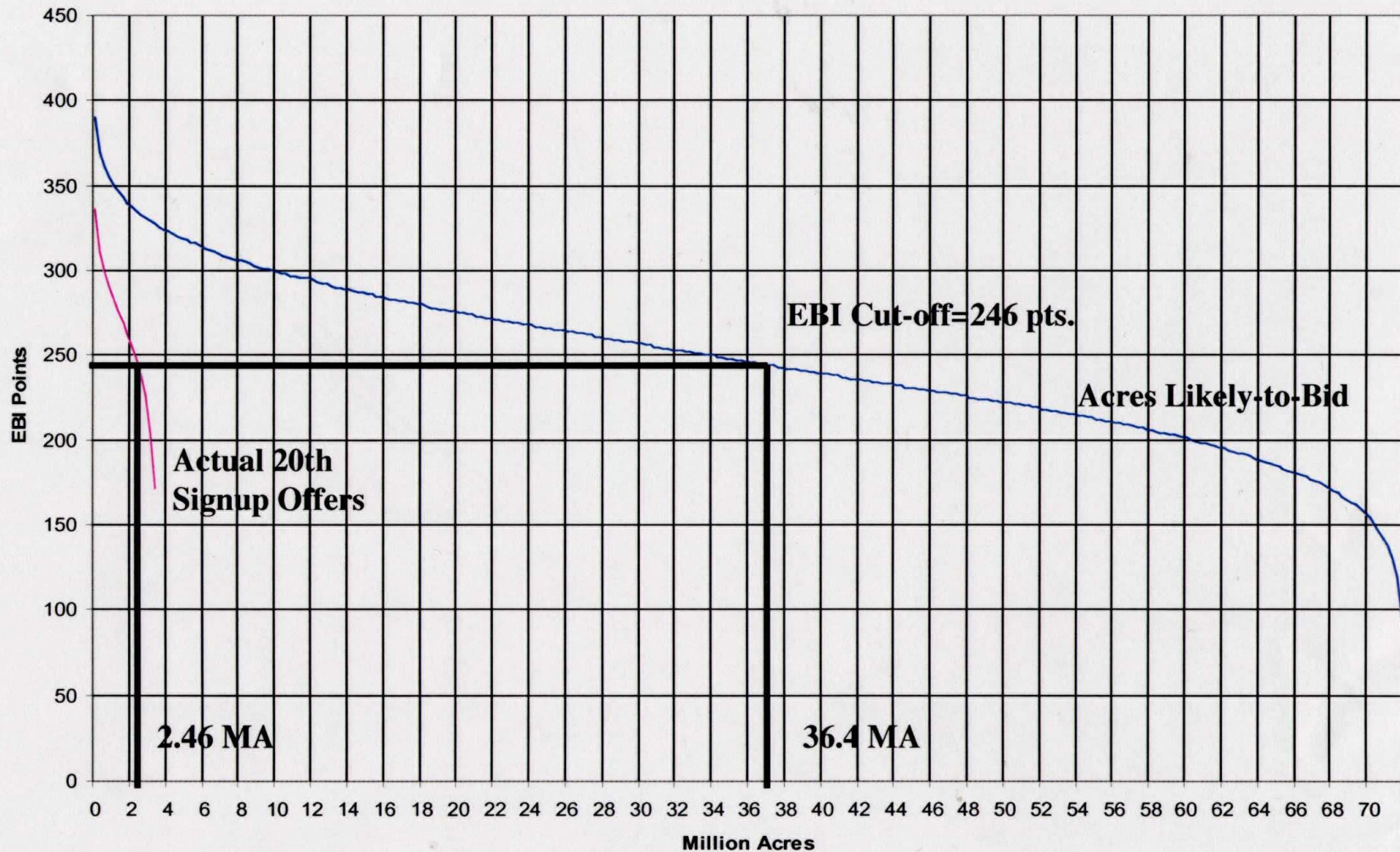
Truncate the Distribution of CRP Bidders



Likely-To-Bid Curves

- Estimate the characteristics of land likely to bid into the program over the entire life.
- Choose an EBI cutoff level based on expectations.
- Evaluate bids actually received in each signup against this cutoff level.

EBI Scores for Acres Likely to Bid and Actual 20th Signup Offers



Ex-Ante Evaluations

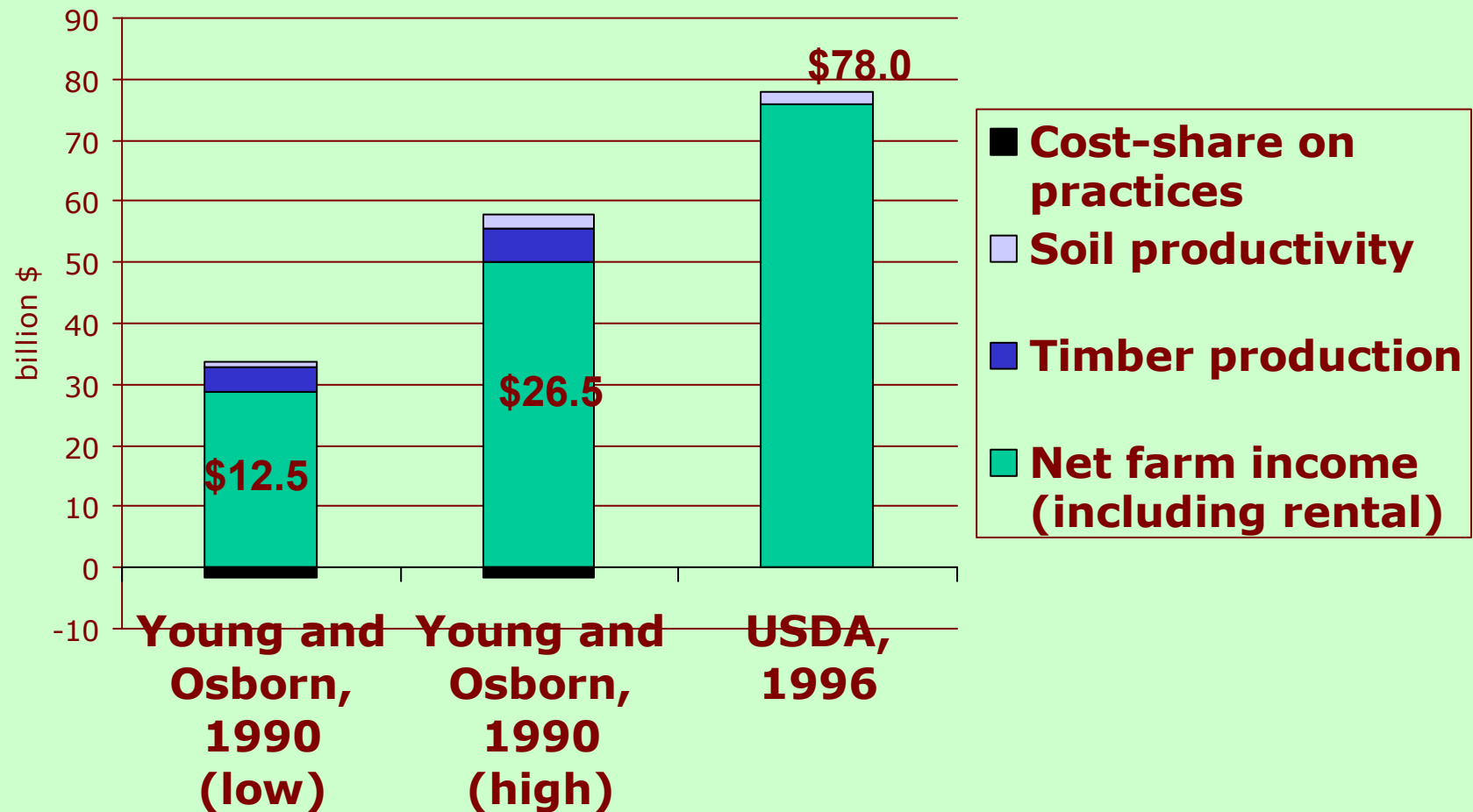
- U.S. GAO, 1989--rental rate levels, MARRs
- Reichelderfer and Boggess, 1988--No cost-effective bid evaluation
- Ogg, et al., 1989--Targeting alternative environmental problems
- Wildlife impacts--Berner, 1989; CAST, 1990; Allen, 1994

EBI Evaluation

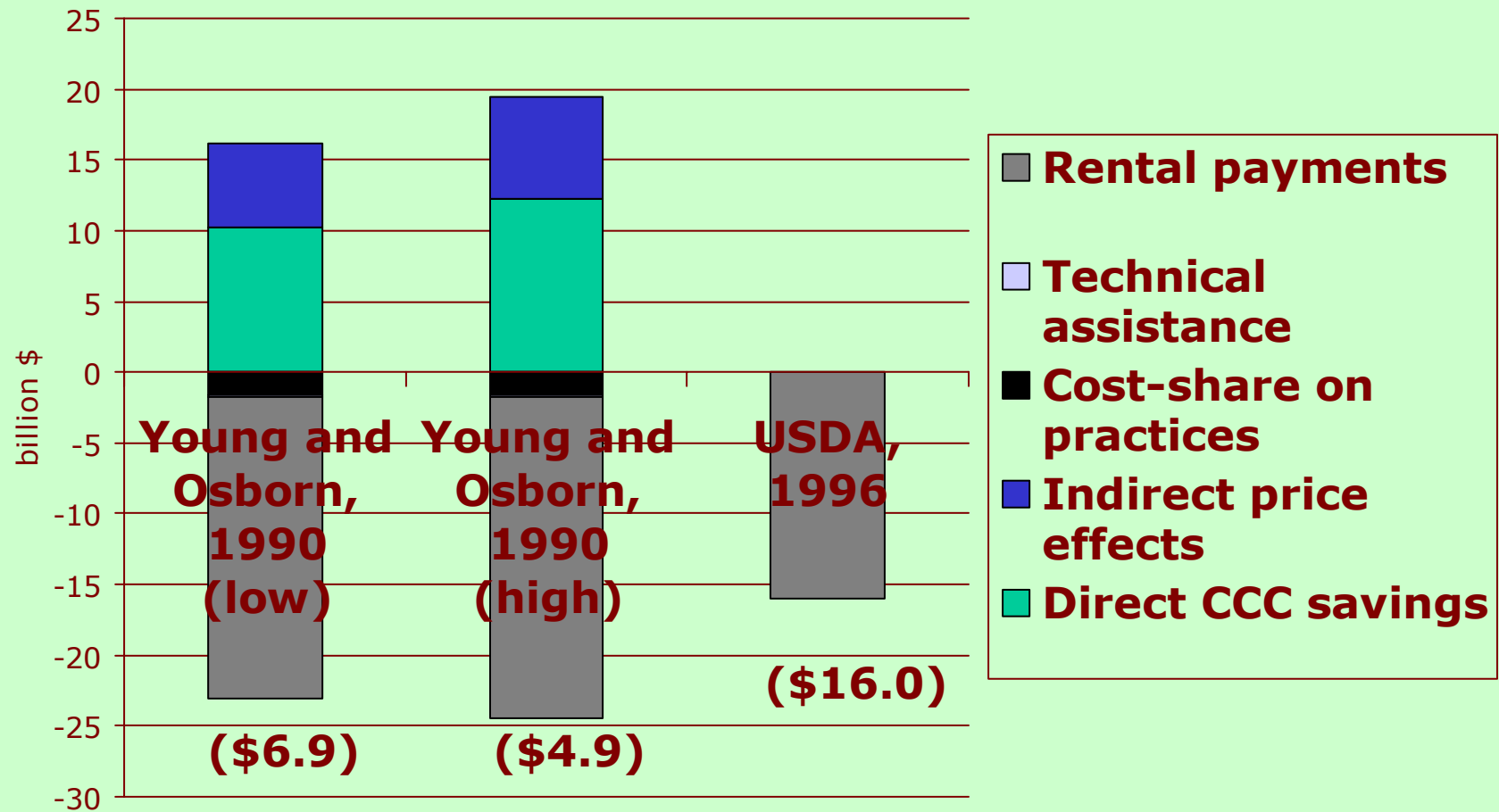
	Pre-1990—No EBI	Post-1990 EBI
Enrolled in Great Plains	59 %	27 %
Rent per acre	\$49	\$60
Planted to trees	6 %	12 %
Erosion reduction	14 TAY	16 TAY
Erosion type	Mostly wind	2/3 water
Enrolled in Conservation Priority Areas	2 %	15 %

Source: Osborn, 1993; Barbarika, et al. 1994

Costs and Benefits of CRP To Landowners



Costs and Benefits of CRP To Government



Costs and Benefits of CRP To Nonfarm Consumers

