Ranch Sustainability Assessment for Business Planning

“Incorporation of Business Planning and Assessment into NRCS Conservation Programs”

Society for Range Management Annual Meeting – Billings, MT

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Mark Parson
EQIP Program Specialist
mark.parson@wdc.usda.gov
(202) 720-1840
Objectives

- Build on NRCS support
- Basic overview of NRCS programs
- Review of statute requirements
- What are:
  - Conservation practices?
  - Resource concerns?
  - Payment schedules?
- Putting it all together!
- Questions?
What do you think?

- NRCS Programs *do not* provide financial payments that support conservation activities on ranch operations
- NRCS Programs *can & do* provide financial payments that support conservation activities on ranch operation
- Something “in between”?
Key to your answer to this question may be a good understanding of USDA program statute and policy.

Typical programs:

- EQIP
- CSP
- EWP
- AWEP
- WHIP
- WRP
- MRBI
- CIG
- AM
- FRPP
- CCPI
- GRP
Environmental Quality Incentives Program (EQIP)

Program Statutory Purpose

“Provide flexible assistance to producers to install and maintain conservation practices that sustain food and fiber production while enhancing soil, water, and related natural resources, including grazing land, forestland, wetland, wildlife, conserving energy; and
Environmental Quality Incentives Program (EQIP)

..assisting producers to make beneficial, cost effective changes to production systems (including conservation practices related to organic production), grazing management, fuels management, forest management, nutrient management associated with livestock, pest or irrigation management, or other practices on agricultural and forested land;”
Environmental Quality Incentives Program (EQIP)

What does this purpose & statute mean?

NRCS is authorized to:
- Provide technical assistance
- Provide financial assistance to:
  - Implement conservation practices which address an identified natural resource concern.
  - Develop conservation plans.
Environmental Quality Incentives Program (EQIP)

- **Payment** means financial assistance provided to the participant based on the estimated costs incurred in performing or implementing conservation practices, including costs for: planning, design, materials, equipment, installation, labor, maintenance, management, or training, as well as the estimated income foregone by the producer for designated conservation practices.
Environmental Quality Incentives Program (EQIP)

What is a conservation practice?

http://www.nrcs.usda.gov/technical/efotg
Environmental Quality Incentives Program (EQIP)

Environment Quality Incentives Program (EQIP)

Practice Design:

**Definition:** Managing the harvest of vegetation with grazing and/or browsing animals.

**Purpose:** This practice may be applied as a part of conservation management system to achieve one or more of the following:
- Improve or maintain desired species composition and vigor of plant communities.
- Improve or maintain quantity and quality of forage for grazing and browsing animals' health and productivity.
- Improve or maintain surface and/or subsurface water quality and quantity.
- Improve or maintain riparian and watershed function.
- Reduce accelerated soil erosion, and maintain or improve soil condition.
- Improve or maintain the quantity and quality of food and/or cover available for wildlife.
- Manage fine fuel loads to achieve desired conditions.

- the physiological needs of forage plants and the nutritional needs of the animals.
- Adequate quantity and quality drinking water will be supplied at all times during period of occupancy.
- Adjust intensity, frequency, timing and duration of grazing and/or browsing to meet the desired objectives for the plant communities and the associated resources, including the grazing and/or browsing animal.
- Manage kind of animal, animal number, grazing distribution, length of grazing and/or browsing periods and timing of use to provide grazed plants sufficient recovery time to meet planned objectives. The recovery period of non-grazing can be provided for the entire year or during the growing season of key plants. Deferral (non-grazing period less than one year) and/or rest (non-grazing period equal or greater than one year) will be planned for critical periods of plant needs.
- Provide deferral and/or rest from grazing or browsing to ensure the success of prescribed fire, brush management, seeding or other conservation practices that cause stress or damage to key plants.
- Manage grazing and/or browsing animals to maintain adequate vegetative cover on the landscape.

Practice Design criteria states this practice involves managing grazing intensity, frequency, timing and duration in order to address the purposes related to the resource concerns.
Environmental Quality Incentives Program (EQIP)

*Resource Concern* means a specific natural resource problem that represents a significant concern in a State or region, and is likely to be addressed successfully through the implementation of the conservation activities by producers.

- Soil, Water, Animals, Plants, Air & Energy (SWAPA & Energy)
Environmental Quality Incentives Program (EQIP)

- Soil Erosion:
  - Sheet and Rill Erosion
  - Irrigation-induced Erosion
  - Roads, Road Sides and Construction
  - Streambank
  - Classic Gully Erosion
  - Wind Erosion
Environmental Quality Incentives Program (EQIP)

EQIP statute provides NRCS authority to provide payments and EQIP rule defines payment as:

“Payment means financial assistance provided to the participant based on the estimated costs incurred in performing or implementing conservation practices, including costs for: planning, design, materials, equipment, installation, labor, maintenance, management, or training, as well as the estimated income foregone by the producer for designated conservation practices.”

These estimated costs are documented in “Payment Schedules”.
### Payment Schedule (Blue Box)

“Payment Rate” entered into FA Programs contracting software & posted to web

### Payment Rate (Green Box)

FA Program Manager applies a “Payment Percent” to the cost data to develop the “Payment Rate” (FA Programs & Contracting World)

### Cost Data (Grey Box) Itemized list of all costs to the land user to implement the practice scenario – “Program Neutral” (Technology Specialist World)

### Payment Schedule Worksheet

<table>
<thead>
<tr>
<th>Practice Code</th>
<th>Cost Share Program</th>
<th>Practice/Activity Name</th>
<th>Practice/Activity Type</th>
<th>Unit Type</th>
<th>Payment Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>6200</td>
<td>EQIP</td>
<td>Terrace (Ft.)</td>
<td>Level Terrace</td>
<td>Foot</td>
<td>$0.52</td>
</tr>
<tr>
<td>6200</td>
<td>WHIP</td>
<td>Terrace (Ft.)</td>
<td>Level Terrace</td>
<td>Foot</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Cost/Unit</th>
<th>EQIP Program Payment Percentage</th>
<th>WHIP Program Payment Percentage</th>
<th>EQIP Payment Rate</th>
<th>WHIP Payment Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
<td>$0.00</td>
<td>50%</td>
<td>0%</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Equipment/Installation</td>
<td>$1.75</td>
<td>50%</td>
<td>0%</td>
<td>$0.88</td>
<td>$0.00</td>
</tr>
<tr>
<td>Labour</td>
<td>$2.00</td>
<td>50%</td>
<td>0%</td>
<td>$1.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Mobilization</td>
<td>$0.09</td>
<td>50%</td>
<td>0%</td>
<td>$0.04</td>
<td>$0.00</td>
</tr>
<tr>
<td>Operation &amp; Maintenance (Annual)</td>
<td>$0.04</td>
<td>0%</td>
<td>0%</td>
<td>$0.04</td>
<td>$0.00</td>
</tr>
<tr>
<td>Acquisition of Technical Knowledge</td>
<td>$0.08</td>
<td>0%</td>
<td>0%</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Fencing Income (Annual)</td>
<td>$0.00</td>
<td>0%</td>
<td>0%</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Risk (Annual)</td>
<td>$0.00</td>
<td>0%</td>
<td>0%</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Administration &amp; Permit Costs</td>
<td>$0.00</td>
<td>0%</td>
<td>0%</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Total</td>
<td>$1.07</td>
<td>50%</td>
<td>0%</td>
<td>$0.88</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

**Total Cost Estimate:** $1.07
Typical Implementation Scenario
320 acre field, wheat/fallow rotation, relatively steep slopes with sheet & rill and concentrated flow erosion. Level terrace.
An earth embankment, a channel, or a combination ridge and channel constructed across the slope.

Geographic Area: Statewide

Unit for Cost Estimate: Foot
Practice Life (Years): 10
Discount Rate (%/Year): 5%
### Materials
None

### Equipment/Installation
- **Excavation/Fill (bulk earth moving with road grader)**
  - Units Moved per hour: **20**
  - Units: **CuYd**
  - Equipment Cost w/Operator ($/Hr): **$70**
  - Total Excavation Cost/Unit: **$3.50**
    - Units Moved per LrFt Terrace: **0.5**
    - Total Excavation/Fill Cost: **$1.75**

Data Source: NRCS Engineering Technician & Local Contractor Data, Redmond, Oregon 3/2007

### Labor
- **Excavation/Fill (bulk earth moving with road grader)**
  (Included in Equipment/Installation Costs)

### Mobilization
6% of Materials, equipment and labor costs.

### Operation & Maintenance (Annual)
2% of Installation Costs

### Acquisition of Technical Knowledge
None

### Forgone Income (Annual)
Minimal to no land taken out of production.

### Risk (Annual)
None

### Administrative & Permit Costs
None

**Total Cost Estimate:** **$1,875**
1. **Materials**: Inputs used to make, develop, or implement a practice or activity.

**Examples:**

**Filter Strip (393):**
- Native perennial grass/clover seed mix, 18 Lbs/Acre, $11.60/Lb
- Fertilizer (placed with seed) 16-16-16-0, 100lbs/Ac, $30.00/Acre

**Spring Development (574):**

<table>
<thead>
<tr>
<th>Materials</th>
<th>Units</th>
<th>Unit</th>
<th>$/Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavation/Fill, On-Site</td>
<td>5</td>
<td>CuYd</td>
<td>$18.00</td>
<td>$90.00</td>
</tr>
<tr>
<td>Geotextile Fabric</td>
<td>200</td>
<td>SqFt</td>
<td>$1.10</td>
<td>$220.00</td>
</tr>
<tr>
<td>Collection Pipe</td>
<td>20</td>
<td>Foot</td>
<td>$5.00</td>
<td>$100.00</td>
</tr>
<tr>
<td>Gravel, Sand</td>
<td>5</td>
<td>CuYd</td>
<td>$40.00</td>
<td>$200.00</td>
</tr>
<tr>
<td>Rock</td>
<td>2</td>
<td>CuYd</td>
<td>$40.00</td>
<td>$80.00</td>
</tr>
<tr>
<td>Concrete Work, Reinforced</td>
<td>2</td>
<td>CuYd</td>
<td>$200.00</td>
<td>$400.00</td>
</tr>
<tr>
<td>Spring Collection Box</td>
<td>1</td>
<td>Each</td>
<td>$750.00</td>
<td>$750.00</td>
</tr>
</tbody>
</table>

**Total Cost**: $1,840.00
2. **Equipment**: Tools, machinery or similar items need to implement a practice.

**Examples:**

**Pond (378):** Excavation/fill, bulk earth moving with dozer
- Units Moved per hour: 70
- Unit: CuYd
- Equipment Cost w/Operator ($/Hr): $90.00
- Total Excavation Cost/CuYd: $1.29
- Units Moved per Pond: $1,000.00
- Total Excavation/Fill Cost/Pond: $1,290.00

**Conservation Cover (327):**
- Seeding Machinery $/Pass Passes $/Ac/Yr
- Tractor 200 HP $7.59 4 $30.37
- Disk $2.56 3 $7.69
- Grain Drill $4.53 1 $4.53
  - $42.59
Payment Schedule Cost Categories

3. Labor: The time and wage rate for hiring individuals or self labor needed to implement the practice or activity.

Example:

Fence (382): 65% of installed Materials Cost = \(0.65 \times \$4.61/\text{Foot} = \$3.00/\text{Foot}\)

Labor cost can also include the cost for hiring a consultant to provide a service.
Payment Schedule Cost Categories

4. **Mobilization**: The cost of moving equipment, materials and labor to and from the installed practice site. It may also include site access costs such as a temporary road, bridge, or trail.

5. **Operation & Maintenance**: Operation includes the administration, management, and performance of actions needed to keep the completed practice/activity safe and functioning as intended.

- **Example**: Filter Strip (393): Inspect, remove settled sediment, control invasive species and noxious weeds, re-seed to maintain plant cover and density. Estimated to be 5% of installation costs = \(0.05 \times $75/\text{Acre} = $3.75/\text{Ac/yr}\)
6. **Acquisition of Technical Knowledge**: Includes typical expenditures by the producer to obtain direct technical assistance for services obtained from sources other than NRCS.

Cost category provides many potential opportunities to support implementation of conservation practices.
Payment Schedule Cost Categories

Examples:

- **Feed Management (592):** Hire a dairy feed nutritionist, \( \$0.05/\text{Day}\times 365\text{ Days} = \$18.25/\text{Year} \)

- **Prescribed Grazing (528):** Grazing management software acquisition and training \( \$500/200\text{ A} = \$2.50/\text{A} \)

- **Pest Management (595):** Hire certified pesticide advisor, \( \$2.00/\text{Acre} \)

*This cost category has many opportunities!*
Payment Schedule Cost Categories

7. Foregone Income: The net income lost by taking land taken out of production or a change in land use. Foregone income may be a one-time cost during the installation year or an annual cost occurring each year after the installation year. However, even though Foregone Income may occur over many years, it is documented as a one-year annual cost in the payment schedule process:

Total Installation Cost = Implementation Costs + 1 Year “Annual Costs”
Payment Schedule Cost Categories

The last two payment schedule cost categories are:

8. Risk, and
9. Administrative-Permit Costs
Put it all together!

NRCS programs provide technical and financial assistance to help producers implement conservation practices which address natural resource concerns.

1. Identify resource concerns
2. Conservation practices
3. Payment Schedules
4. Program application/implementation
5. You can help!
More Information?

- NRCS National Website: www.nrcs.usda.gov/programs/
- NRCS State & Local Offices: http://offices.sc.egov.usda.gov/
Thank You!

Mark Parson
EQIP Program Specialist
mark.parson@wdc.usda.gov
(202) 720-1840

Questions?