## Conservation Practice Effects

### Filter Strip (Ac) 393

**Definition:** A strip or area of herbaceous vegetation that removes contaminants from overland flow.

**Major Resource Concerns Addressed:** Water quality, soil erosion, wildlife habitat.

**Benchmark Condition:** Cropland with soil erosion and sedimentation.

**Date:** October, 2016  **Location:** Oregon

<table>
<thead>
<tr>
<th>Positive Effects</th>
<th>Negative Effects</th>
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<tbody>
<tr>
<td><strong>Soil</strong>&lt;br&gt;• Decreased erosion, increased root mass and less oxidation from lack of soil disturbance under permanent cover will increase or maintain organic matter.&lt;br&gt;• Root penetration and organic matter reduces soil compaction.&lt;br&gt;<strong>Water</strong>&lt;br&gt;• Reduced runoff and traps nutrients, pesticides, agricultural chemicals, pathogens, manure and sediment.&lt;br&gt;• Increase in beneficial insects, and trapped insect pests, reducing the need for pesticide applications.&lt;br&gt;• Increase in infiltration and absorption by plant roots and breakdown of pesticides with biological activity.&lt;br&gt;• Solid organics and sediment-attached nutrients are filtered out.&lt;br&gt;• Soluble nutrients infiltrate the soil and may be taken up by plants or utilized by soil organisms.&lt;br&gt;• Slower runoff, which may increase water infiltration, reducing the potential for transport of salts to surface water.&lt;br&gt;• Higher organic matter levels increases buffering capacity of the soil.&lt;br&gt;<strong>Air</strong>&lt;br&gt;• Areas converted to permanent vegetation reduce wind erosion and particulate matter.&lt;br&gt;• Vegetation removes CO2 from the air</td>
<td><strong>Land</strong>&lt;br&gt;• Slight change in land use, cropland converted to strips.&lt;br&gt;• Minor amount of land taken out of agricultural production&lt;br&gt;<strong>Capital</strong>&lt;br&gt;• No additional field equipment required.&lt;br&gt;• Materials, planting costs and foregone income.&lt;br&gt;• Operation and maintenance costs to maintain cover and control pests.&lt;br&gt;• Forgone income.&lt;br&gt;<strong>Labor</strong>&lt;br&gt;• Slight increase in labor for weed control and sediment removal.&lt;br&gt;<strong>Management</strong>&lt;br&gt;• Increased management of crop production.&lt;br&gt;<strong>Risk</strong>&lt;br&gt;• Reduced agricultural operation flexibility and timing with land taken out of production.&lt;br&gt;• Reduced profitability with cropland taken out of production.</td>
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and stores it in the form of carbon in the plants and soil.

**Plants**
- Crop yield increase with reduced sedimentation.
- Filter strips are installed and managed to control target weed species.
- Dense, permanent cover limits invasion by noxious plants.

**Animals**
- Increased quality and quantity of vegetation provides more food, cover, cover and shelter for wildlife.

**Energy**
- None

**Human**
- Labor, management and capital will decrease as land is taken out of production.
- Reduced time cultivating previous crop.
- Cultural resources can be protected with permanent vegetative cover.
- Increase yields/reduce costs as land becomes more productive.
- Create sustainability of natural resources that support farm business.
- Increase the property value (real estate).
- Create open space and improve habitat for wildlife.
- Conserve soil and water for periods of drought and future use.
- Prevent off-site negative impacts.
- Comply with environmental regulations.
- Save time, money and labor.
- Promote family health and safety.
- Make land more attractive and promote good stewardship.
- May be eligible for cost share.
- Increased profitability in the long run.

**Net Effect:** Improves soil productivity and wildlife habitat at a slight cost.

**Commonly Associated Practices:** Access Control, Brush Management, Critical Area Planting, Dust Control on Unpaved Roads and Surfaces, Forest Stand Improvement, Forest Trails and Landings, Fuel Break, Integrated Pest Management, Prescribed Burning, Prescribed Grazing,
Sediment Basin, Silvopasture Establishment, Structure for Water Control, Tree/Shrub Establishment, Windbreak/Shelterbelt Establishment.

**Note:** This worksheet contains general talking points for the conservation planner to discuss with the land user. It is the first step towards an economic or financial analysis. The second step would include identifying a specific site for analysis at the farm or field level, editing the template for local conditions, adding units and quantities of farm inputs and outputs. The third step in the economic analysis is to place a dollar value on as many variables as possible, put all units in the same time frame, using amortization ($/Acres/Year) or net present value ($/Acre), so benefits and costs can be compared. The fourth and final step would be to combine several conservation practices into a conservation system, which is how most conservation practices are applied at the field level. Data for the worksheet comes from the land user, conservation planner, technical specialist and local agricultural supply vendors and contractors. See Economics Technical Note: TN 200-ECN-1, Basic Economic Analysis Using T-Charts (August 2013) for more information.