**Conservation Practice Effects**

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| **Forage and Biomass Planting (Ac) 512****Definition: Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production.****Major Resource Concerns Addressed: Plant productivity.****Benchmark Condition: Low yield hayland.****Date: October, 2016 Developer/Location: Hal Gordon, OR** |
| **Positive Effects** | **Negative Effects** |
| **Soil*** **Reduced sheet, rill, wind, gully erosion with an increase in vegetative cover.**
* **Improved soil organic matter with enhanced biomass production, root development, litter accumulation, increased biological activity, and reduced tillage (if associated with change in land use).**
* **Reduced soil compaction.**

**Water*** **Reduced runoff, flooding and ponding with an increase in cover and infiltration.**
* **Reduced pesticides, nutrients, pathogens and other agricultural chemicals in surface and ground water.**

**Air*** **Permanent vegetation reduces the potential for generation of particulates by wind erosion.**
* **Vegetation removes CO2 from the air and stores it in the form of carbon in the plants and soil.**

**Plants*** **Increased crop yield with better plant species mix and plant density.**
* **Improved plant community structure and composition with adapted and suited plants.**

**Animals*** **Planted species may provide food, cover and shelter for certain wildlife species.**
* **Plant species will be selected that accommodate seasonal livestock production and nutritional needs.**

**Energy*** **Use of biomass as an alternative energy source can greatly reduce the use of fossil fuels.**

**Human*** **Improved agricultural operation flexibility and timing with higher quality crop.**
* **Decrease in labor from annual cropping.**
* **Increase yields/reduce costs as land becomes more productive.**
* **Create sustainability of natural resources that support your business.**
* **Increase the property value (real estate) of your property.**
* **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.**
 | **Land*** **No change in land use if currently hayed/grazed.**
* **Increase in land in production if land is brought into production.**

**Capital*** **No additional field equipment required.**
* **Materials and planting costs.**
* **Annual operation and maintenance costs to maintain vegetation and manage pests.**

**Labor*** **No Change.**

**Management*** **Increased management of crop production.**

**Risk*** **Reduced agricultural operation flexibility, timing and income if converting from annual to perennial crop.**
* **During the establishment period, there may be an increase in soil erosion, depending on seedbed preparation, seeding method, and species planted.**
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| **Net Effect: Improves soil productivity and air quality at a low cost.** |

**Commonly Associated Practices:** Access Control, Conservation Crop Rotation, Forage Harvest Management, Herbaceous Weed Control, Integrated Pest Management, Nutrient Management, Prescribed Grazing, Upland Wildlife Habitat Management.

**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.