**Conservation Practice Effects**

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| **Brush Management (Ac) 314**  **Definition: The management or removal of woody (non-herbaceous or succulent) plants including those that are invasive and noxious.**  **Major Resource Concerns Addressed: Invasive plants, wildlife habitat, soil erosion.**  **Benchmark Condition: Juniper infested rangeland.**  **Date: October, 2016 Developer/Location: Hal Gordon, OR** | |
| **Positive Effects** | **Negative Effects** |
| **Soil**   * **Sheet, rill, wind, gully erosion is reduced with reduced brush canopy and increase in herbaceous ground cover resulting in increased infiltration, reduced overland flow and reduced soil detachment.**   **Water**   * **Runoff, flooding and ponding is reduced with increased ground cover.** * **Increase in soil moisture and plant use efficiency with a decrease in undesirable species.** * **Reduced sediment in surface water with improved plant cover and less overland flow and runoff.**   **Air**   * **Positive long-term carbon sequestration effect from brush management.**   **Plants**   * **Brush removal increases desirable plant community health, vigor and biodiversity.** * **Reduced wildfire hazard and fuel loadings.**   **Animals**   * **Improved composition, structure, amount and availability of plants for food.** * **Improved fish and wildlife cover/shelter and habitat continuity depending on the amount of brush removed and the enhancement of stand composition and structure.** * **Increased production of forage that meets nutritional and productive needs for livestock.**   **Energy**   * **None**   **Human**   * **Reduced time managing unwanted brush and livestock.** * **Increase yields/reduced 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**   * **Cultural resources may be damaged with mechanical treatment.** * **Land may be utilized more intensely.** * **Land in production may increase.**   **Capital**   * **No additional field equipment required.** * **Treatment costs (chemical, mechanical, grazing or fire).** * **Annual operation and maintenance costs may include spot treatment for reinvading brush.**   **Labor**   * **None.**   **Management**   * **None.**   **Risk**   * **Short term foregone income or change in seasonal use if deferred from grazing.** * **Temporary increase in soil erosion following mechanical treatment.** * **Pesticides in surface water if used to control brush.** * **Removal of vegetation by mechanical means or burning can increase short-term particulate matter emissions, CO2, VOC and/or NOx emissions.** * **Loss of habitat for some wildlife species.** |
| **Net Effect: Improved soil productivity, forage yield, wildlife habitat at a moderate cost.** | |

**Commonly Associated Practices:** Early Successional Habitat Development/Mgt., Herbaceous Weed Control, Integrated Pest Management, Nutrient Management, Prescribed Burning, Prescribed Grazing, Riparian Forest Buffer, Upland Wildlife Habitat Management, Woody Residue Treatment.

**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.