**Conservation Practice Effects**

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| **Riparian Forest Buffer (Ac) 391**  **Definition: An area predominantly trees and/or shrubs located adjacent to and up-gradient from watercourses or water bodies.**  **Major Resource Concerns Addressed: Wildlife habitat and streambank erosion.**  **Benchmark Condition: Degraded riparian area adjacent to cropland.**  **Date: October, 2016 Developer/Location: Hal Gordon, OR** | |
| **Positive Effects** | **Negative Effects** |
| **Soil**   * **Sheet, rill, wind and gully erosion is reduced by vegetation and surface litter.** * **Streambank, shoreline and conveyance channels erosion is reduced.** * **Root penetration and organic matter will reduce compaction and restore soil structure.** * **Increased vegetation and organic matter will increase salt uptake tie up salts and other chemicals.**   **Water**   * **Trees or shrubs may retard flood water movement from the site.** * **Seasonal high water table may be reduced as plants take up excess water.** * **Trees, shrubs and other vegetation may reduce runoff, trap adsorbed pesticides, take up pesticide residues and may intercept pesticide drift.** * **Plants and soil organisms will utilize nutrients, and the buffer will filter out suspended particles to which nutrients are attached.** * **Pathogens, agricultural chemicals and manure will be captured and delayed or removed from waterways.** * **Sediment, pathogens, chemicals, manure, bio-solids or compost will be captured and delayed from entering waterways.** * **Riparian forest canopy shades streams and rivers, cooling water temperatures.**   **Air**   * **Vegetation reduces erosive wind velocities and provides a stable area which stops saltating particles.** * **Vegetation removes CO2 from the air and stores it in the form of carbon in the plants and soil.**   **Plants**   * **Buffer establishment and management creates the desired plant community.** * **Vegetation is installed and managed to control undesired species.**   **Animals**   * **Improved fish and wildlife habitat, food, continuity, space, cover and shelter for wildlife.**   **Energy**   * **None.**   **Human**   * **Decrease in labor with land taken out of production.** * **Reduced labor managing sediment and sloughing shoreline.** * **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 fish and 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**   * **Historic properties may be protected from erosion by permanent cover.** * **Some land may be taken out of agricultural production.**   **Capital**   * **No change in field equipment.** * **Materials, planting and construction costs.** * **Annual operation and maintenance costs to clean-out debris, repair and replace structures, maintain vegetation and manage pests.**   **Labor**   * **None.**   **Management**   * **Increase in developing a habitat management plan, field scouting and record keeping.**   **Risk**   * **Reduced farm flexibility when land is taken out of production.** |
| **Net Effect: Improve wildlife habitat and water quality at a moderate cost.** | |

**Commonly Associated Practices:** Access Control , Brush Management, Early Successional Habitat Development/Mgt., Field Border, Filter Strip, Firebreak, Fish Passage, Forest Stand Improvement, Grassed Waterway, Herbaceous Weed Control, Integrated Pest Management, Multi-Story Cropping, Nutrient Management, Prescribed Grazing, Recreation Area Improvement, Riparian Herbaceous Cover, Shallow Water Development and Management, Stream Crossing, Stream Habitat Improvement and Management, Streambank and Shoreline Protection, Structure for Water Control, Subsurface Drain, Tree/Shrub Establishment, Tree/Shrub Pruning, Tree/Shrub Site Preparation, Underground Outlet, Upland Wildlife Habitat Management, Wetland Creation, Wetland Enhancement, Wetland Restoration, Wetland 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.