**Conservation Practice Effects**

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| **Irrigation Canal or Lateral (Ac) 320****Definition: A permanent channel constructed to convey irrigation water from the source of supply to one or more irrigated areas.****Major Resource Concerns Addressed: Water quality.****Benchmark Condition: Inadequate canal for delivering irrigation water to cropland.****Date: October, 2016 Developer/Location: Hal Gordon, OR** |
| **Positive Effects** | **Negative Effects** |
| **Soil*** **Sheet, rill and gully erosion reduced by a channel constructed across the slope that may intercept runoff water and shorten the slope length.**

**Water*** **Increased water management opportunities.**
* **Increased irrigation efficiency.**
* **Canal may provide outlet for seepage, intercept runoff and act as a floodway.**
* **Canals transport water to areas of irrigation use.**

**Air*** **None**

**Plants*** **Increased water availability enhances plant growth, health and vigor.**

**Animals*** **Vegetated canals may provide food, cover, shelter and habitat for fish and wildlife.**

**Energy*** **None.**

**Human*** **Canals and laterals may protect historic properties from erosion.**
* **Less irrigation labor required.**
* **Improved opportunities for land use and water management.**
* **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.**
* **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.**
* **Slight change in land use if no change in crops irrigated, substantial if water changes landuse.**
* **Minor amount of land taken out of agricultural production.**

**Capital*** **Installation equipment and materials.**
* **Water management equipment.**
* **Annual operation and maintenance costs to clean-out debris, repair and replace equipment and materials.**
* **Forgone income.**

**Labor*** **Additional labor to maintain canal.**

**Management*** **Increase in water planning costs.**

**Risk*** **May provide a source of seepage water and seasonal high water table.**
* **Return flows from canals may deliver dissolved and sediment-attached nutrients, pathogens and agricultural chemicals to surface water.**
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| **Net Effect: Improved water delivery and management at a moderate cost.** |

**Commonly Associated Practices:** Critical Area Planting, Irrigation Ditch Lining, Irrigation Field Ditch, Irrigation Pipeline.

**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.