
Control of surface transport may increase leaching of pollutants.

phosphorus and sediment delivery to water bodies, also serve as habitat for many species of birds and plants.

Sometimes, however, management practices used to control one pollutant may inadvertently increase the generation, transport, or delivery of another pollutant. Conservation tillage, because it creates increased soil porosity (i.e., large pore spaces), may increase nitrate leaching through the soil, particularly when the amount and timing of nitrogen application is not part of the management plan. Tile drains, used to reduce runoff and increase soil drainage, can also have the undesirable effect of concentrating and delivering nitrogen directly to streams (Hirschi et al., 1997). In order to reduce the nitrogen pollution caused by tile drains, other management practices, such as nutrient management for source reduction and biofilters that are attached to the outflow of the tile drains for interception, may be needed. On the other hand, practices which reduce runoff may contribute to reduced in-stream flows, which have the potential to adversely impact habitat. Therefore, management practices should only be chosen after a thorough evaluation of their potential impacts and side-effects.

Water Quality Effects of USDA-NRCS Practices

USDA-NRCS conservation practices can be structural (e.g., Waste Treatment Lagoons; Terraces; Sediment Basins; or Fences) or agronomic (e.g., Prescribed Grazing; Nutrient Management; Pest Management; Residue Management; or Conservation Cover.) Not all USDA-NRCS conservation practices are applicable in all areas of the United States. When and where applicable, their effects on water quality may vary based on many factors. Some of these factors include climate, soils, topography, geology, existing cultural and management activities, as well as modifications made to the practice standards that govern how the practices are to be applied in local settings.

Guidance identifying expected effects of USDA-NRCS conservation practices has been prepared and is being kept up to date by discipline and resource specialist in each state. Technical guidance for water quality effects is found in the Conservation Practice Physical Effects (CPPE) documents in Section V of the NRCS Field Office Technical Guide (FOTG). Table 3-1 is a simplified table developed from the CPPE in the Oregon FOTG Section V. This table shows the kind of information available at the local level that can be used to help evaluate the effects of specific conservation practices. For example, in the area for which this guidance was prepared it has been determined that Contour Buffer Strips (NRCS Practice Code 332) can be expected to have beneficial effects on surface water quality, but because the practice increases infiltration it can be expected to have detrimental effects on ground water quality.

