



# **Erosion Control Strategies for Runoff & Erosion Control**

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# Soil Erosion Types:

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- Raindrop Splash
- Sheet and Rill
- Ephemeral
- Gully
- Streambank
- Slope Instability



# Factors That Influence Soil Erosion

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- Soil Type
- Slope/Topography
- Vegetation
- Rainfall
  - (Amount & Intensity)
- Human Impacts



# Farming (“Human”) Activities Influencing Runoff

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- Infrastructure
- Land Grading
  - Affects natural drainage, soil & plant conditions...
- Impervious Surfaces
- On-going Operations
  - Soil compaction, water mgt, maintenance, etc



# Runoff Control Strategies

*"Runoff Control Reduces Erosion"*

- 4-D Formula:
  - Decrease
  - Detain
  - Dissipate
  - Divert



# Decrease Volume and Concentration of Runoff

- Capture & Reuse
- Reduce Slope Length
- Water Mgt
- Reduce Impervious/  
Compacted Surfaces
- Vegetation
- Increase Infiltration



# Detain

## (and/or Retain) Runoff

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- Detention v.s. Retention
- Detain & Meter Runoff
- Retain, Clean & Reuse



# Dissipate Runoff

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- Reduce Erosive Velocities
- Improve Infiltration
- Protect Water Quality





# Divert Runoff

*Use with Caution*

*Diversions Cause  
Concentration &  
Increased Volume*

- Redirect
  - To a Safe Outlet
- Divert & Spread
- Divert & Capture



# Erosion Control Strategies

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- Management
- Vegetative
- Structural
- Combination
- Temporary/  
Emergency



# Management Practices

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- Irrigation Water Management
- Nutrient Management
- Pest Management
- Wildlife Habitat Management
- Ag Energy Management
- Conservation Practice Operation & Maintenance

# Vegetative Practices

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- Vegetated Treatment System
- Stream Habitat & Riparian Restoration
- Grass Waterway
- Critical Planting
- Hedgerow
- Cover Crop
- Windbreak



# Structural Practices

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- Water Developments
- Irrigation Systems, Pumps
- Access Roads
- Drainage Systems
- Tail Water Recovery
- Water Filtration Systems
- Water & Sediment Control Structures



# Temporary/Emergency Practices

## Use with Caution

- Can cause other problems
- Makes problem worse
- Waste of time & money
- Short lived
- High maintenance
- False sense of security



# For More Information

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## USDA Natural Resources Conservation Service

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