Central Yavapai Highlands Water Resources Management Study

List of Potential Impacts to Water-Dependent Natural Resources based on Proposed Water Development Alternatives

Note: Impacts may be positive or negative, or minimal/non-applicable depending on alternative.

Hydrologic

Three main hydrologic issues were identified as the main drivers of impacts to the environment from particular water development alternatives.

1. Impact to Water Quality
    a. Increased Contaminants
    b. Emerging Contaminants
    c. Temperature
    d. Channel and/or Floodplain Sedimentation/Turbidity
    e. Algal Blooms

2. Impact to Streamflow
    a. Timing, Magnitude, Duration and Frequency
    b. Flood Flow
    c. Baseflow
    d. Water Evaporation
    e. Vegetation Evapotranspiration
    f. Spring Discharge

3. Impact to Depth to Groundwater

Biological

Based on potential impacts to hydrologic conditions of groundwater and surface water systems from proposed water development alternatives, the following three environmental / biologic impacts may be anticipated.

1. Impact to Vegetation
    a. Riparian vegetation establishment/maintenance
    b. Wetland vegetation establishment/maintenance
    c. Non-native vegetation establishment

2. Impact to Riparian-obligate Species
    a. Habitat Quality (loss, degradation, conversion)
    b. Habitat Size/Distribution
    c. Habitat integrity (e.g. fragmentation)
    d. Trophic Interactions (food web impacts or food availability)
    e. Species viability in the affected area

3. Impact to Fish/Aquatic species

a. Habitat Quality (loss, degradation, conversion)
b. Habitat quantity
c. Stream system fragmentation
d. Non-native species introduction/increases
e. Introduction of disease, pathogens, parasites
f. Food availability
g. Viability in the affected area

Landscape

In addition to hydrologic and biologic categories of impacts, there may be broader watershed impacts to consider based on proposed water development alternatives.

1. Impact to Watersheds
    a. Ephemeral and Intermittent Channels (Stream morphology)
    b. Forest and Rangeland Health
    c. Soil Impacts (salinity, erosion, infiltration/runoff)
    d. Land Subsidence
    e. Micro-Climate