

Trails and Natural Resources

Effects to Wildlife, Fish, and Plants

Species of Concern

- Some diurnal species
- Riparian obligates
 - Bald Eagle
 - Blackhawk
 - Yellow-billed cuckoo
 - Narrow-headed garter snake
- Aquatic species
- Peregrine falcons
- Mexican spotted owls
- Bats and their roosts
- Rare plants
- Invasive weeds

F.S. Biologists' Legal Responsibilities

- Biological Analyses on:
 - Threatened and Endangered Species
 - Proposed, Candidate, and Sensitive species
 - Management Indicator Species
 - Migratory Birds
 - General Wildlife
- Mitigate Project Effects
- Consult with Fish and Wildlife Service

Riparian Areas and Fish/Wildlife Concerns

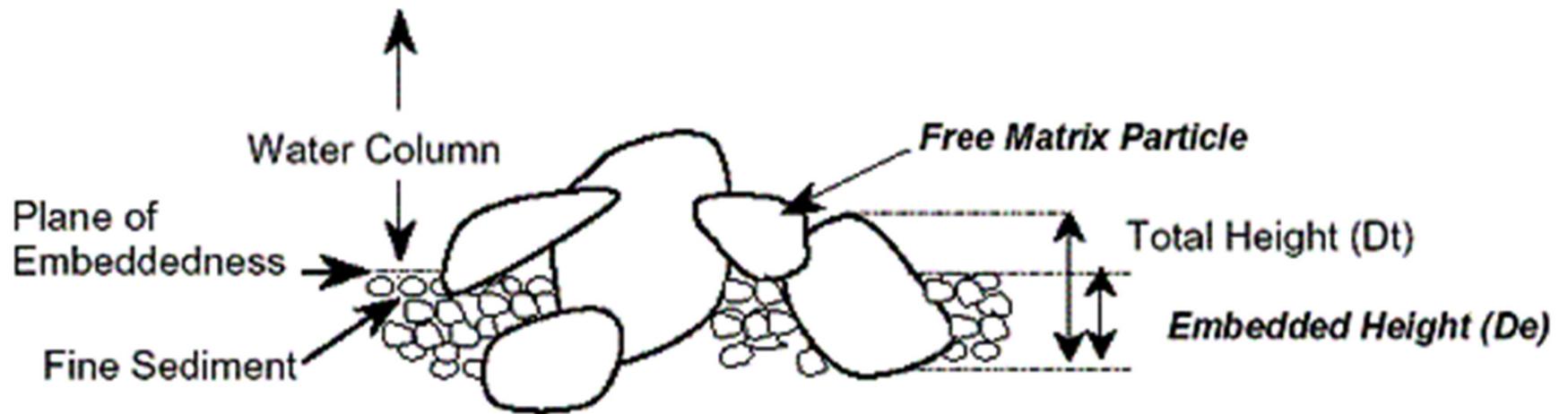


- **On the Coconino National Forest, riparian areas represent less than 1% of total area**
- **Upwards of 80% of southwestern wildlife species are dependent on riparian areas**
- **Arizona is ranked 1st in the U.S. for number of fish species at risk (86%)**

Native Fish



Turbidity and Embeddedness

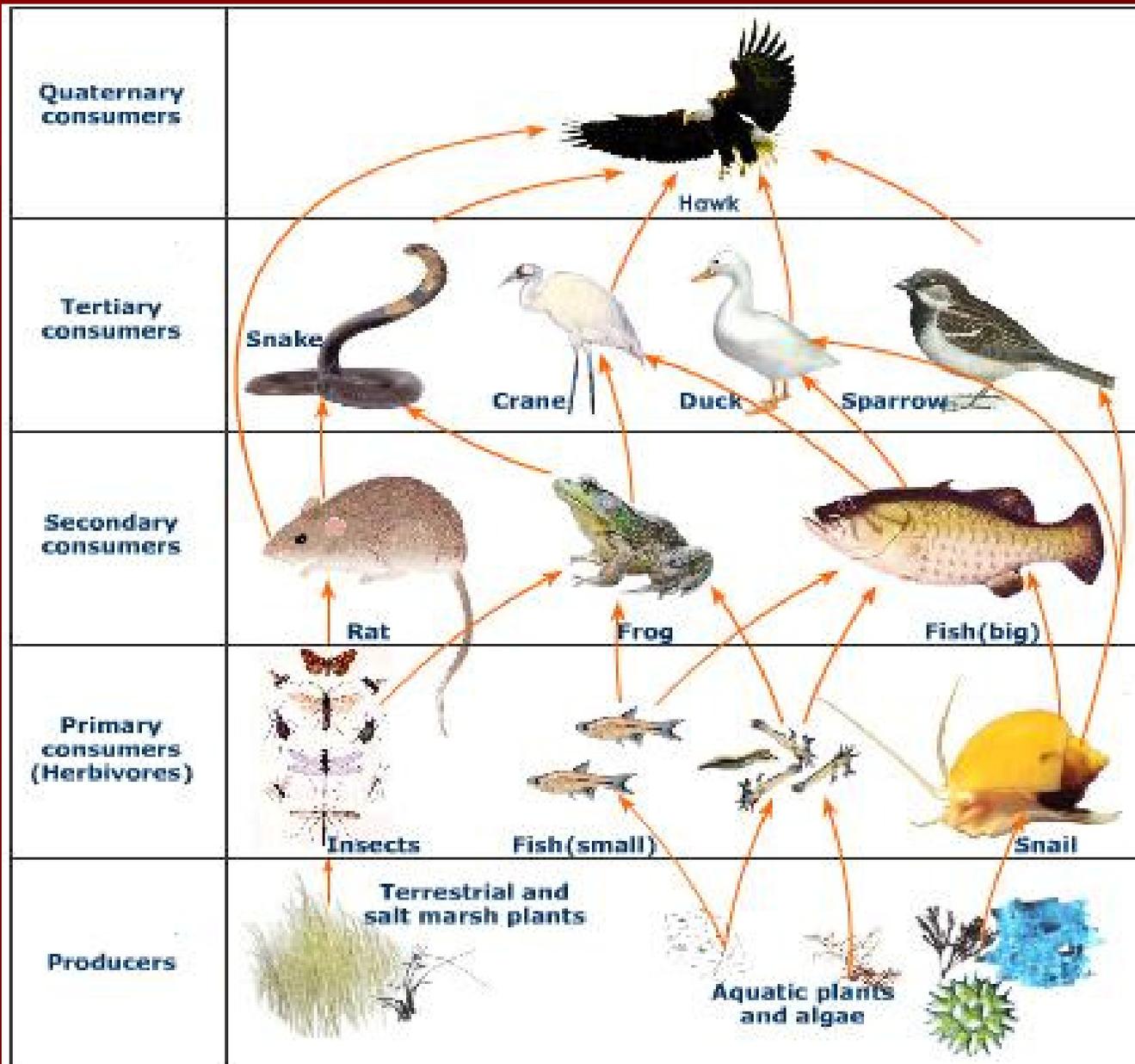


Aquatic Invertebrates

- Species Sensitive to Sedimentation and Embeddedness:
 - Mayfly nymph
 - Stonefly nymph
 - Caddisfly Larvae



The Aquatic Food Chain



Narrow-headed Gartersnake

- Sedimentation/embeddedness issues affect prey species
- Mistaken as venomous and too often killed.
- Overheat and die when handled out of water too long.
- Forages only on soft-rayed fish (not nonnative fish).
- Once present throughout canyon and into middle Oak Creek, now only in canyon and in low numbers.



Bald Eagles

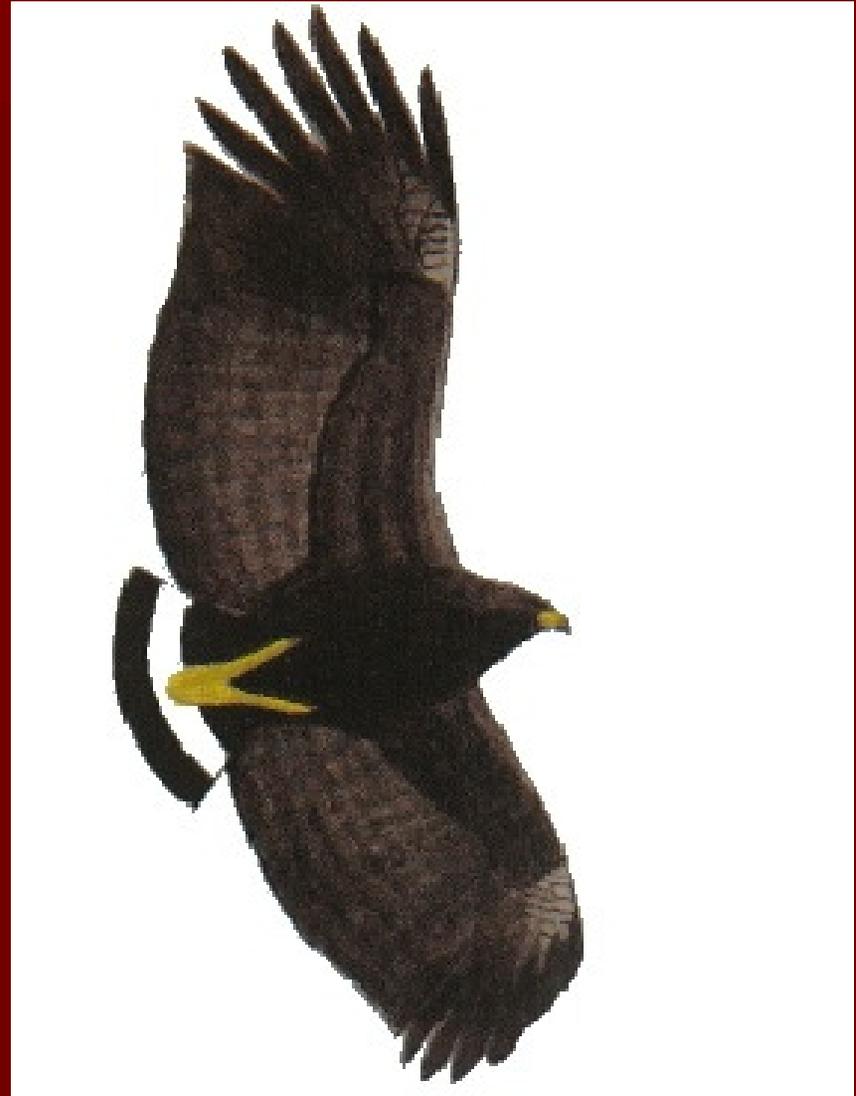
Resident Eagles:

- Stay year-round
- Stay close to nesting areas on Verde and major tributaries
- Any eagles observed last of April through September are nesting eagles!
- In accessible areas, 6 month closures protect eagles from disturbance.



Blackhawk

- Migratory (here Mar – Oct)
- Nest along perennial streams
- Have higher nest success with native fish, frogs, and low levels of recreation.
- Abandon nest sites if recreation levels are too high.



Yellow-billed Cuckoo

- Nests in riparian areas where mesquite woodlands are adjacent
- Forage in Mesquite woodlands
- Very secretive
- Concerns with activities in riparian as well as mesquite woodlands.



Peregrine Falcon



- Nests on cliffs 300' or taller
- We have 2nd highest density (to Grand Canyon)
- Main concerns:
 - trails close by and within line of sight
 - aircraft
 - rock climbing

Mexican Spotted Owl



- Nests in steep-sloped forests and canyons
- Main concerns:
 - Modification to habitat
 - Visual and aural disturbance during the breeding season (March 1 through August 31)

Rare Bat Species

Spotted Bat



Red Bat



Townsend's Big-eared



Cave Myotis



Allen's Lappet-browed Bat



Roost Abandonment Due to Social Trails and Recreation



Rare Plants



Invasive Weed Species



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Additional Wildlife Information:

www.fs.usda.gov/coconino/