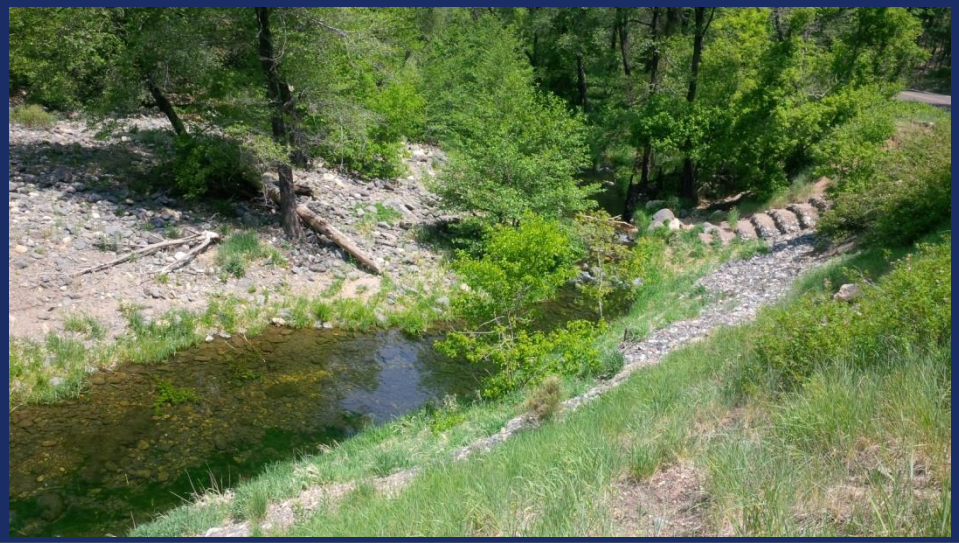
ADOT Environmental Planning Group:

State Route 89A Oak Creek Bank Protection Environmental Awareness Training



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Arizona Department of Transportation
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Environmental Awareness Training

Outline

- Project background
- Species of concern
  - Narrow-headed gartersnake (*Thamnophis rufipunctatus*)
  - Mexican Spotted owl (*Strix occidentalis lucida*)
- Issue Resolution
- Contact List

Project Background

- Located on State Route 89A, milepost 385.1, approximately 10 miles north of Sedona.
- The project is located on an existing easement from the Coconino National Forest. However, a temporary construction easement will be required to complete the repairs.
- In 1981 efforts to control erosion included the installation of gabion baskets along the eastern banks of Oak Creek. High flow events in 2004 and 2005 overtopped the gabion baskets causing the baskets to slump downhill toward the active channel. Without immediate attention, ADOT Flagstaff District engineers believe the existing gabions will fail completely.

Project Background

- 2014 Slide Fire
  - Increased flows within the entire Oak Creek watershed are anticipated

Photo: Courtesy of Coconino National Forest

Project Background

- Project Development
  - July 2014: Due to the risk associated with increased flows, the project was fast-tracked.
- Water Quality Permitting
  - Previous designs from 2010 called for the removal of the existing gabion baskets and replacement with gabions anchored into the bedrock. This work would require the diversion and dewatering of Oak Creek
  - Working in the wetlands would require extensive permitting for water quality and sensitive species.
  - The design team worked to find a solution to stabilize the bank without working in the waters of Oak Creek

Project Background

- Revised Design
  - Designers came up with a design solution to install a rail bank wall with additional rock armament
  - New design kept work out of the active channel and adjacent wetlands
  - Nationwide Permit= A short review period but all construction activities must remain out of water.

Endangered Species

- Section 7: Biology Concerns
  - Threatened and Endangered Species
    - Narrow-headed gartersnake
    - Mexican spotted owl

Narrow-headed gartersnake (*Thamnophis rufipunctatus*)

- Legal Status
- Species Description
- Habitat
- Behavior
- Project Mitigation

Narrow-headed gartersnake

- Legally Protected
  - Endangered Species Act: **Listed Threatened** (79 FR 38677, July 8, 2014)
    - **Proposed critical habitat** pending
  - What is a threatened species?
    - Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
  - Cause of decline in population
    - Loss of native fish prey
    - Water table modification
    - Habitat modification: livestock grazing along streambeds, increased recreational use in riparian corridors and introduction of non-native invasive species (crayfish, bullfrogs and predatory fish).

Narrow-headed gartersnake

Photo by: C. Loughran

Species Description

- **NOT POISONIOUS**
- Medium sized snake, up to 112 cm (44 in.)
- Triangular head
- Coloration is slightly varied
- Not striped

Narrow-headed gartersnake

- Species Description
  - Underside is pale creamy yellow grading into grayish brown
  - Varies from light to dark brown w/dull-brick red or orange paired spots on back and sides of body
  - Pointed snout

Photo by: E. Nowak

Narrow-headed gartersnake

- Mostly aquatic
- Found in streams in
  - Conifer Woodlands
  - Interior Chaparral
  - Arizona Upland parts of Sonoran Desertscrub
  - In Arizona, healthiest populations are found in **Oak Creek Canyon.**

Narrow-headed gartersnake

Narrow-headed Gartersnake Habitat- Oak Creek

Narrow-headed gartersnake

- Behavior
  - The snake feeds underwater primarily on native fish.
  - Can mistaken for brown sticks when underwater
  - Often basks on boulders and in vegetation along stream banks (AGFD 2012).
  - Give birth to 8-18 live young in late July to early August.
  - Hibernates from November to April. Generally hibernates in well protected area above the high water mark.

Narrow-headed gartersnake

Narrow-headed gartersnake

- What do I do if I see any snake within the project limits?
  - Safety is the first and foremost concern.
    1. **STOP** - Safely stop equipment or tools.
    2. **TELL** - Notify onsite biology monitor and ADOT Project Supervisor.
    3. **LEAVE IT ALONE** - Do not pursue, attempt to pursue, capture, attempt to capture, or harass the snake.
    4. **WATCH IT** - Observe the snake from a distance or note last location. Pay attention to landmarks (rocks, vegetation etc.) or other signs that could be used to identify location the snake was last observed.
    5. **STAND BACK** - Allow biology monitors to do their work.

Mexican Spotted Owl

(*Strix occindentalis lucida*)

Photo: Bill Radke-USFWS

Mexican Spotted Owl

Mexican Spotted Owl

- Legal Status
  - **Listed Threatened** (58 FR 14248, March 16, 1993) **with critical habitat** (69 FR 53182, August 31, 2004) (FWS 2008).
- Species Description
  - Medium-Sized owl with dark eyes and no ear tufts.
  - Brown plumage with various cream colored spots
  - Approximately 17 in. in length with a wingspan of 3.3 ft. (USFWS 2008).
- Habitat
  - Habit varies, most commonly found in **mature montane wooded forest, mixed conifer and pine-oak vegetation communities**.
  - Prefers **deep wooded canyons** with high canopy closure and tree density.
  - Found in elevation ranges of 4,100 ft. to 9,000 ft. (USFWS 2008).

Mexican Spotted Owl

- There are no project specific mitigation measures associated with the Mexican spotted owl.
  - Breeding areas are located over ¼ mile from project area.
  - Owls may utilize entire canyon a foraging habitat.
  - Still protected under the ESA.

- If you see an Owl land or roosting within the project limits
  1. **STOP** - Safely halt construction activity.
  2. **TELL** - Notify the onsite biology monitor and ADOT Project Supervisor.
  3. **LEAVE IT ALONE** - Do not approach or attempt to scare the owl away.
  4. **WATCH IT** - Observe from a distance.

H7418 Oak Creek Bank Protection

- Things to remember:
  - Safety First
  - Stay out of the water at all times
    - If a snake is spotted in the water, notify the biology monitor and ADOT project Supervisor immediately.
  - Narrow-headed gartersnakes are **NOT poisonous**. However, there are other snake species that could be present within the project limits that are poisonous. BE ALERT!
  - Oak Creek Canyon is an ecologically sensitive area and a very popular tourist destination. **Keep the job site clean**.
  - If you have any questions, do not hesitate to ask an onsite biology monitor, the Flagstaff District Environmental Coordinator or EPG Biologist.

Remember:

1. **STOP!**
2. **Tell**
3. **Leave It Alone**
4. **Watch It**
5. **Stand Back**

If you're not sure, ASK!

Issue Resolution

Level	ADOT	Partner
Step 1. Operation	Biology Monitor	Monitor escalates directly to ADOT District Environmental Coordinator
Step 2. District Environmental Coordinator	Rob Nelson	Contractor Superintendent
Step 3. Resident Engineer	Steve Monroe	Contractor Superintendent or Project Manager
Step 4. Management	Chad Auker Audra Merrick	Contractor Management
Step 5. Senior Management	Todd Emery	Contractor Senior Management

Contacts

Name	Title	Agency	Telephone	E-Mail
Rob Nelson	Flagstaff District Environmental Coordinator	ADOT	480-340-4871	Rnelson@azdot.gov
Steve Monroe	Resident Engineer	ADOT	928-714-2290	smonroe@azdot.gov
Audra Merrick	Flagstaff District Engineer	ADOT	928-779-7596	Amerrick@azdot.gov
Joshua Fife	Biologist	ADOT	602-622-9622	Jfife@azdot.gov
Shaula Hedwall	Senior Biologist	US Fish and Wildlife Service	928-556-2118	shaula_hedwall@fws.gov
Chad Auker	Assistant District Engineer	ADOT	928-779-7551	cauker@azdot.gov

Questions?

Remember:

1. **STOP!**
2. **Tell**
3. **Leave It Alone**
4. **Watch It**
5. **Stand Back**

If you're not sure, ASK!