## Efforts to Save Chiricahua Leopard Frogs on the Coconino National Forest



### **Threats**

- Reduction of Range
- Predation by non-natives
  - Small mouth bass
  - Crayfish
  - Bullfrogs
- Bd fungus, potential for other disease
- Impacts to occupied habitat
  - Introduction of non-native crayfish and fish
  - Sedimentation into tanks
  - Tanks drying during drought years
  - Livestock grazing at occupied sites

## Chronology of Efforts

- Monitoring
- Crayfish Control
- Drought Emergency Response
  - Hauling water
  - Collecting frogs to avoid dessication
- Nonnative Fish Control
- Temporary Livestock Removal
- Filter Sock Installation
- Predator Control
- Watershed Erosion Control
- Captive Breeding
- Re-introduction of new progeny
- Planned:
  - Wedge fencing
  - Continued monitoring

## **Threats**

- Reduction of Range
  - Natural springs have dried up or become invaded with non-native pedators
  - Earthen stock tanks have changed water availability
- Predation by non-natives
  - Non-native fish such as green sunfish
  - Crayfish
  - Bullfrogs
- Bd fungus, potential for other disease
- Impacts to occupied habitat
  - Introduction of non-native crayfish and fish
  - Erosion accelerates sedimentation into tanks
  - Tanks drying during drought years
  - Livestock grazing at occupied sites

## Chronology of Efforts

- Monitoring
- Crayfish control
- Drought emergency response
  - Hauling water
  - Collecting frogs to avoid dessication
- Tank deepening
- Predator control
- Temporary livestock removal
- Filter sock installation
- Nonnative fish control
- Removal of encroaching junipers in uplands
- Captive breeding
- Re-introduction of new progeny
- Habitat Protection Fencing
- Obliteration of unauthorized roads



## Drought Response













## Crayfish Control















## **Habitat Protection**

- Wedge Fencing
  - Protect a portion of tank vegetation from livestock:
    - Floating vegetation = basking platforms
      - = hiding cover
    - Emergent vegetation = supports egg masses
    - Submergent vegetation = tadpole food





## Removal of Encroaching Junipers





## Obliteration of Unauthorized Roads





# Captive Breeding & Re-introduction of Progeny



