Good Afternoon

- Aquatics
  - Fish
  - Macroinvertebrates
- Invasive Species
- Diseases
- Species of Conservation Concern (SCC)

Aquatics - Fish

- Assessing current fish assemblages by watershed (intersect Gila NF)
- Determine departure of stream system
  - Natives vs. Non-native distribution
  - Current vs. Historic distribution
- Identifying conditions, trends, and threats to species and habitat

Aquatics - Fish

- 17 Native fish historically
- 15 Native fish currently
- 21 Non-Native fish
- 957 stream miles on Gila NF
  - 88 stream miles native fish only
  - 741 stream miles both

Aquatics - Macroinvertebrates

- Macroinvertebrate diversity using a reference condition approach
  - comparing an individual water body to a reference condition for class or group of water bodies to which that water body belongs
- New Mexico only defined streams in Mountain ecoregions (Gila NF)
- Mountain Stream Condition Index (M-SCI) used by NMED for water quality assessments

Aquatics - Macroinvertebrates

- M-SCI
  - Twelve metrics from five different categories
  - Represent community and species attributes
    - Taxanomic composition
    - Taxanomic richness
    - Tolerance
    - Habit
    - Functional feeding group

Aquatics - Macroinvertebrates

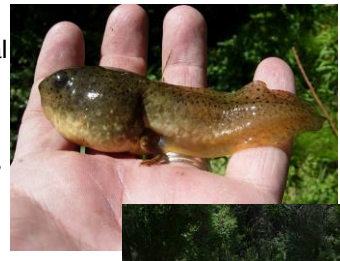
- M-SCI scores normalized (0-100)
- Assigned category from Very Poor – Very Good
  - Score ≤ 37.2 (Poor/Very Poor)=Impaired compared to reference condition
  - Score 37.2-56.7 (Fair)=May be modified beyond natural range of reference condition
  - Score > 56.7 (Good/Very Good)=Not modified beyond natural range of reference condition

Aquatics - Macroinvertebrates

- Total 27 sites for M-SCI on Gila NF
  - 15 (56%) – Good/Very Good
  - 10 (37%) – Fair
  - 2 (7%) – Poor
- Seven of 27 sites only had one M-SCI sample
  - Considered not fully assessed until 2nd sample can be taken

Invasives and Disease

- Describing invasive species
  - Aquatic and terrestrial
    - 21 non-native fish
    - Crayfish
    - Bullfrogs
    - Bull thistle, watercress, Eurasian watermilfoil
- Describing diseases
  - Chytrid fungus (amphibians)
  - Bacterial kidney disease (salmonids)
  - Rabies
  - Elaeophorosis (ungulates)



Diseases possibly on Gila NF

- Sylvatic plague (rodents)
- Tularemia (leporids, small mammals)
- Parvovirus, distemper(small carnivores)
- Pneumonia complex (bighorn sheep)
- Hemorrhagic disease (ungulates)
- Barber's pole worms (pronghorn, mule deer)
- Mycoplasma (turkeys)

Sources of Information

- New Mexico Environment Department
- New Mexico Department of Game and Fish
- US Fish and Wildlife Service
- Gila NF survey records and expertise
  - Survey data, contracted survey, research
- FISHNET Database
- Regional Office data and expertise
- National Wild Fish Health Survey

At-Risk Species

- 2012 Planning Rule Final Directives Chapter 10, Section 12.5 states:
  - Interdisciplinary team (IDT) shall identify and assess available information relevant to the Gila NF for threatened, endangered, proposed, and candidate species and potential species of conservation concern
- Based on this information, the IDT shall identify and document the set of at-risk species and assess Gila NF ecological conditions for these species in the assessment. At-risk species are:
  - Federally recognized threatened, endangered, proposed, and candidate species
  - Potential species of conservation concern

Species of Conservation Concern

Currently have a list of threatened, endangered, proposed, and candidate species

Developing a list of potential species of conservation concern (SCC)

List will be used at later stages of the plan revision process to develop specific plan components to maintain species diversity in the Gila NF.

Species of Conservation Concern

- Definition:
  - Species, other than federally recognized threatened, endangered, proposed, or candidate species, that best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the Gila NF
  - Known to occur in plan area and is established

Species of Conservation Concern

- Species should NOT be on the potential SCC list if:
  - The species is secure and long-term persistence on the Gila NF is not at risk
  - Insufficient scientific information available to conclude concern for persistence
  - Occurrence thought to be "accidental"

Species of Conservation Concern

- Use a system based approach
  - Take care of ecosystem, species viability, or persistence through time, will follow
- Assumptions:
  - Species were viable in the reference condition
  - Species viability risk is proportional to the system departure from reference condition

Species of Conservation Concern

- Coarse Filter:
  - Species are associated with a system, and risks to viability are addressed through providing for system integrity.
- Fine Filter:
  - Additional measures needed when system integrity is insufficient to provide for species viability.

Species Lists Used to Identify SCC's

- New Mexico Species of Greatest Conservation Need
- New Mexico BISON database
- New Mexico Listed species
- New Mexico Heritage database
- Arizona species list (adjacent to Gila National Forest)
- NatureServe database
- Partners in Flight bird list
- Gila National Forest bird list
- New Mexico Rare Plant database
- US Forest Service Region 3 sensitive species list
- US Fish and Wildlife Service species list

NatureServe Rankings

- **NatureServe conservation status ranks are based on a scale of one to five, ranging from critically imperiled (G1) to demonstrably secure (G5).**
- **Status is assessed and documented at three distinct geographic scales: global (G), national (N), and State/province (S).**

Status Rank	Status Rank Definition
1	Species is Critically Imperiled At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
2	Species is Imperiled At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
3	Species is Vulnerable At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
4	Species is Apparently Secure At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
5	Species is Secure At very low risk or extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.

NatureServe Rankings

Common Name	Scientific Name	NatureServe Status	State Status
Gila Woodpecker	*Melanerpes uropygialis*	G5	S2B,S2N State NM: Threatened
Dashed Ringtail	*Erpetogomphus heterodon*	G2G4	SNR
Western Red Bat	*Lasiurus blossevillii*	G5	S3

SCC List Development

- List of all species from all lists
- Determined if species occurs on Gila NF
- NatureServe rankings (Chapter 10, section 12.52d)
  - G/T 4 & 5 and S 3-5 not on SCC list
  - G/T/S 1's and 2's are on draft SCC list
    - State Threatened or Endangered

SCC List Development cont.

- G/T/S 1's and 2's can be removed from list if threats are not present or relevant in Gila NF
- G/T 3's (Vulnerable) are currently being evaluated
  - Associating with systems and/or habitat attributes

SCC List Development cont.

- Determination on inclusion based on:
  - abundance
  - distribution
  - threats to persistence
  - trends in habitat
  - responses to management
- Species may be grouped
  - Features
  - Similar ecological conditions

Species of Conservation Concern

- Birds
- Fish
- Insects
- Mammals
- Mollusks
- Plants
- Reptiles

Risk Assessment

A risk assessment will be conducted on all at-risk species to assess habitat, population, and threat factors for each species in terms of historical, current, and future trends.

Characterize the risk to:

- Establish what is in need of "Ecological Change" at the end of this process.
- Evaluate current plan components to determine how these are or are not working

Next Steps

- Complete assessing SCC
- Conduct risk assessment for at-risk species
- Review of draft SCC list by natural resource specialists on Gila NF
- Regional office review of draft SCC list
- Draft Gila NF Assessment Report

Thank You!