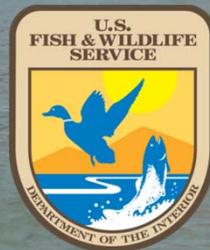
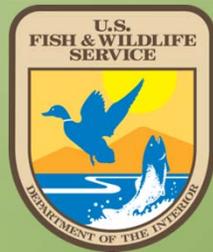


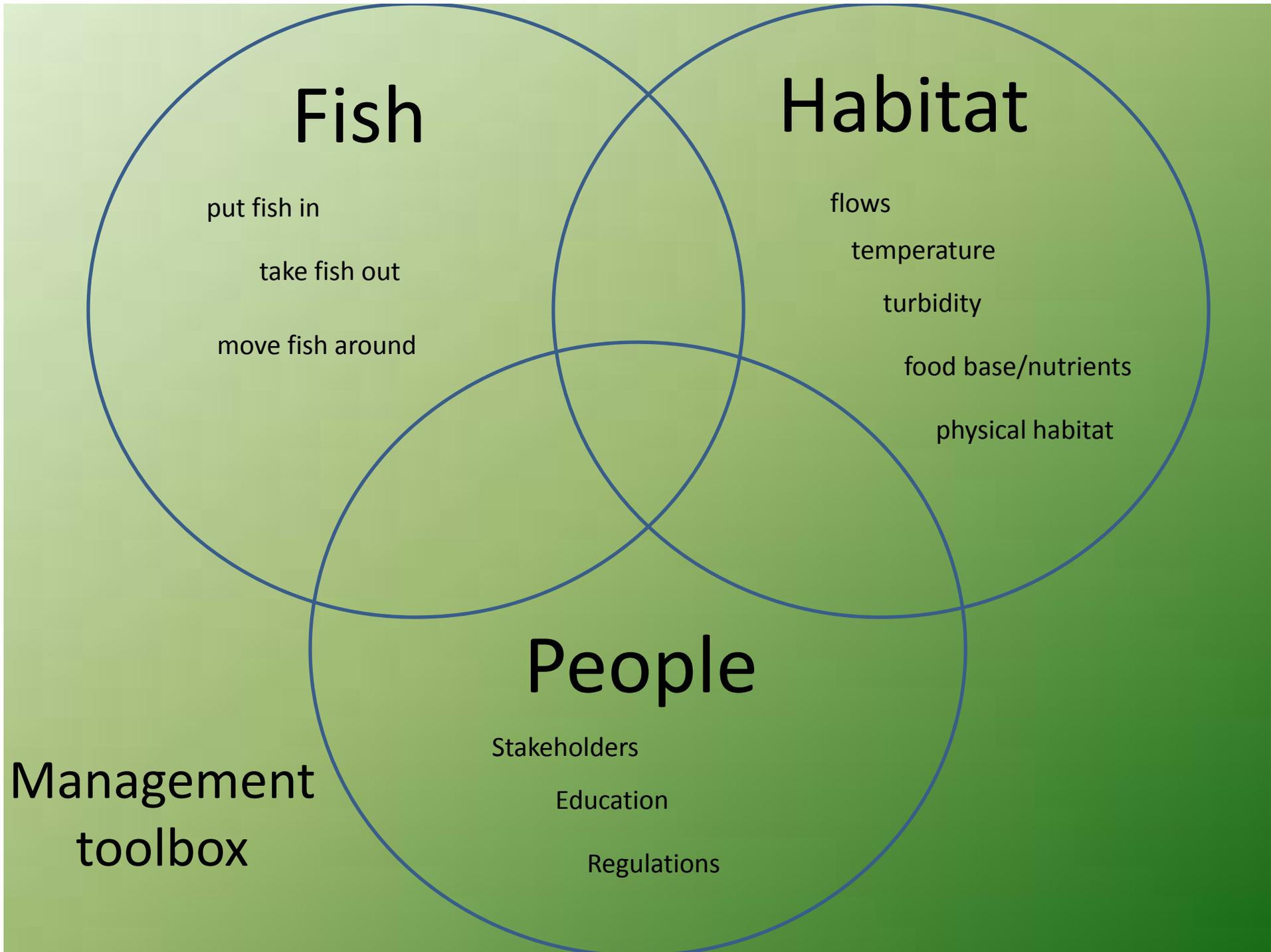
Managing Agencies Perspective



Purpose

- Coordination among cooperators
- Discuss information needs for the next budget cycle
- Focus ideas from a management/resource managers perspective.





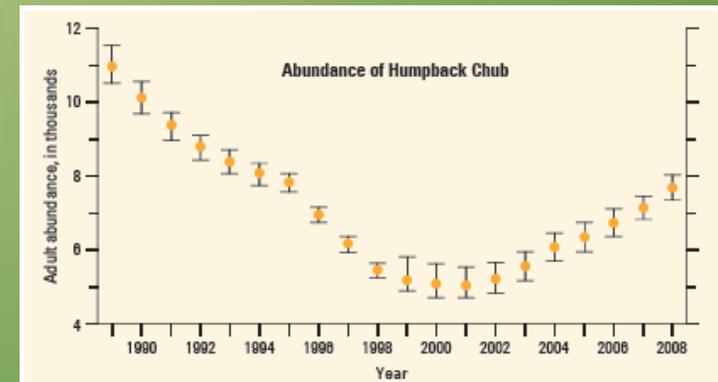
Metrics

- Rainbow Trout Fishery (Lees Ferry)
 - Stocking triggers
 - Low recruitment ($< 20\%$ for 3 years)
 - Electro-fishing catch rates (< 1 fish/hr)
 - Angler catch rates (< 0.5 fish/hr) and fish are small



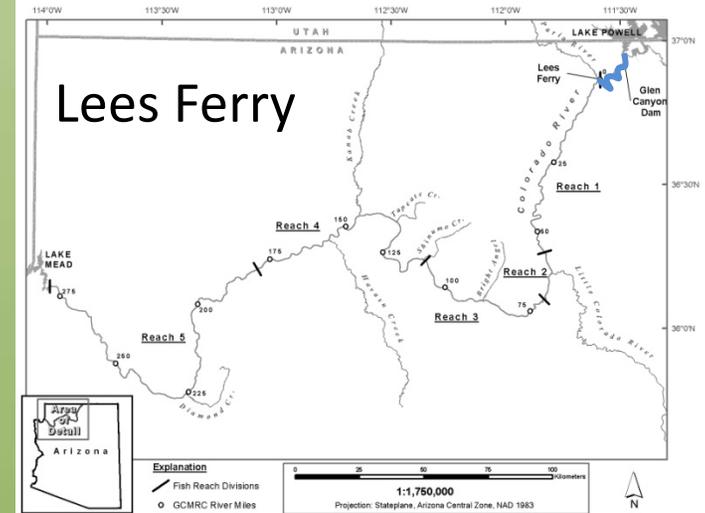
Metrics Cont.

- Humpback chub
 - Translocation numbers
 - Population viability modeling
 - Survival, growth, reproduction
 - Removal Triggers (around LCR)
 - RBT (> 760 fish)
 - BNT (> 50 fish)
and
 - HBC (< 7,000 fish)
or
 - In any 3 of 5 yrs Juvenile HBC (<910 fish)
 - Temps < 12 C for 2 years
 - YOY drop 25% from preceding year.
- Emergency Rapid Response - Expansion in distribution or abundance of high risk nonnative fish species



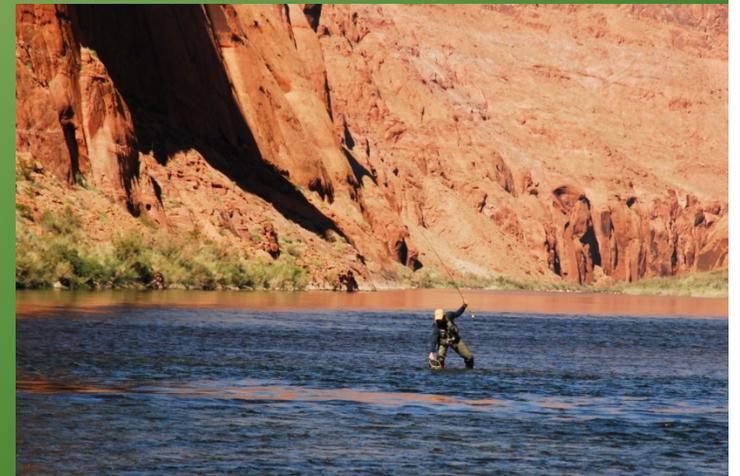
Lees Ferry

- Rainbow trout
 - Monitor to assess trout stocking triggers
 - Relative comparison of other tailwater fisheries (Fish conditions, angler catch rates, food base)
 - Identify link between RTELLS and AGFD monitoring
 - How can we get larger trout? (strains, food base)
- Rare non-native surveillance
- Foodbase
 - Develop long term foodbase monitoring (also applies downstream)
 - Identify conditions that would support extirpated taxa
 - Take advantage of existing trips/citizen science



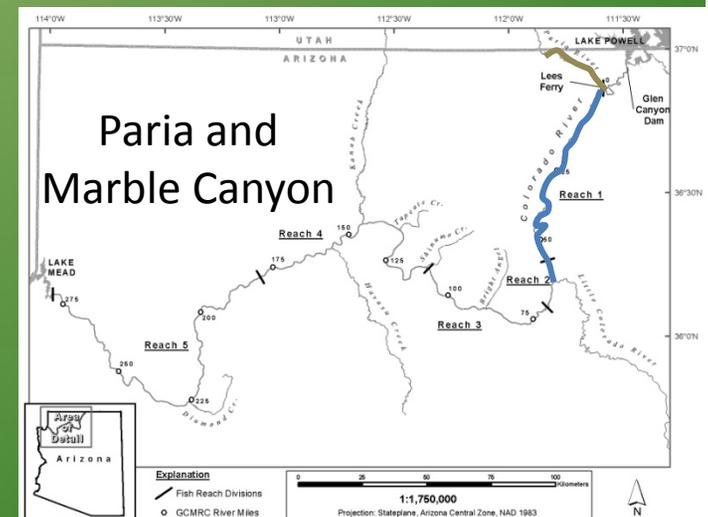
Lees Ferry Continued

- Monitoring that can be done as part of existing activities
 - Quagga mussel
 - Nematodes
 - Whirling disease (is present)
 - Periodic survey (3-5 years) unless symptoms increase
- AZGFD/GLNRA - Monitoring plan development



Downstream (Marble Canyon)

- Alternatives to Paria to Badger trout removal
 - Targeted angling effort in Marble Canyon
- Trout movement from Lees Ferry (Implications for trout management flows)
- RBT reproduction and recruitment
 - Feasibility of identifying redds through channel mapping (side scanning sonar)
 - Fall mainstem survey to detect young of the year



Downstream (Grand Canyon)

- Juvenile chub and trout monitoring near LCR.
- Humpback chub aggregations
 - Costly to estimate
 - Scale back to one trip from two
 - Focus sampling efforts (Key sites and new sites)
 - Include other sampling methods (seining, PIT antennas)
 - Augment aggregations
 - Identify natal origins of humpback chub

Downstream (Grand Canyon)

- Natives and non-natives
 - Continue spring mainstem electrofishing
 - Add a seasonal component & integrate Hualapai to Diamond Creek downstream surveys (add spring and continue fall surveys)
 - Consider and continue additional sampling methods (ex. angling for catfish)
 - Coordinate Biowest razorback sucker monitoring

Little Colorado River

- Continue
 - USFWS mark/recapture humpback chub in spring and fall
 - Translocations
 - Develop standard operating procedures for collecting and transporting larval fish
 - Translocation into mainstem aggregations
 - LCR aquatic food base monitoring
- Modifications to research/monitoring
 - Evaluate need for summer hoop net sampling and consider not including this in the FY15/16 work plan.
 - Phase out AGFD lower 1200m hoop net sampling and incorporate elements in to USFWS sampling.
 - Add remote PIT tag antennas at Salt and Coyote camps.

System wide

- Water Quality
- HBC genetics monitoring
- Natal origins of HBC
- Natal origins of BNT
- Non-native surveillance
- Invasive species threat assessment/surveillance of LCR watershed



Thank you