

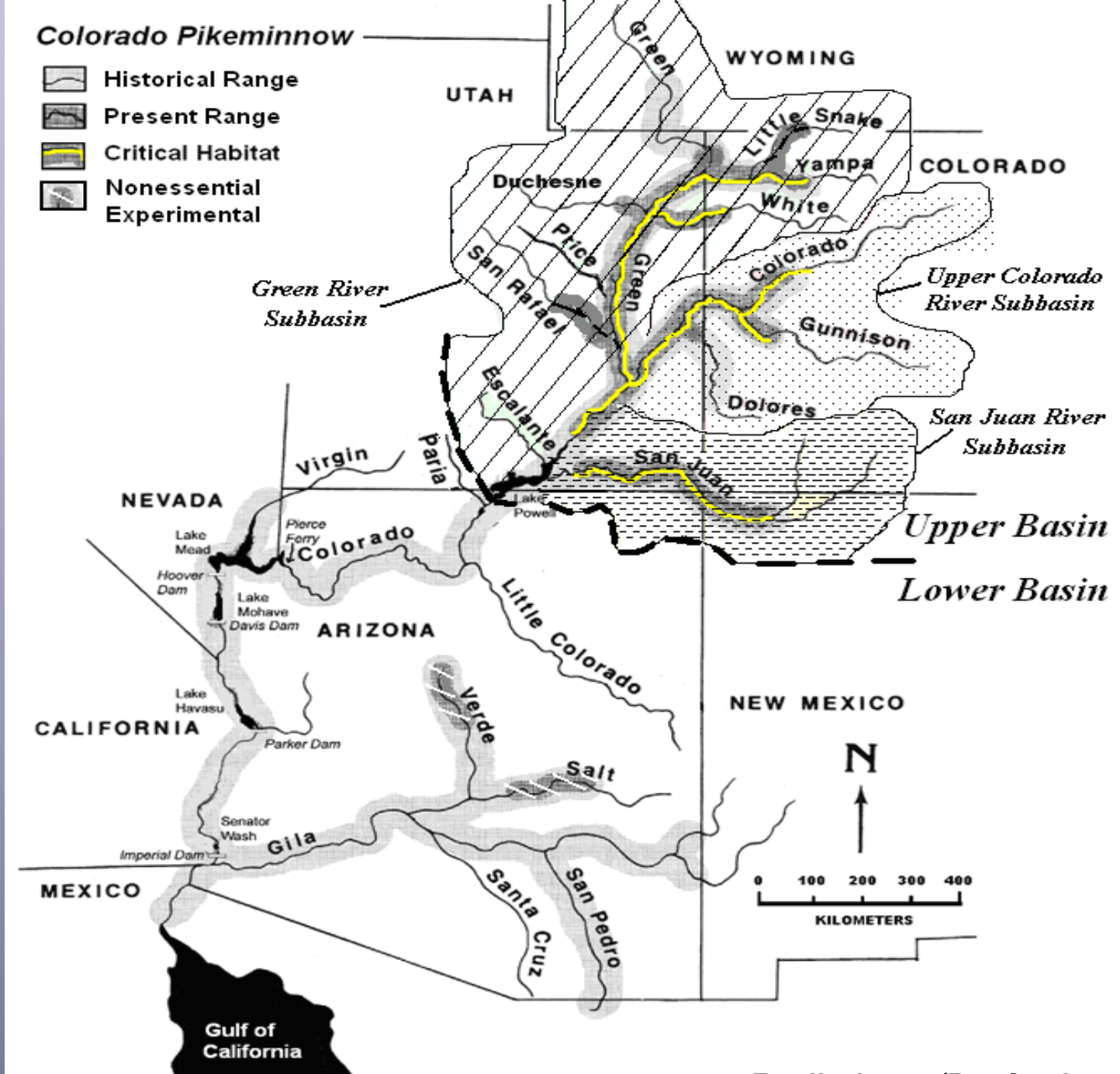
Conservation/Recovery of Colorado Pikeminnow in Grand Canyon Biological Feasibility



MARCH 14, 2019

- **A little background**
- **What, How & Why?**
- **Stakeholder Involvement**





Background:

Pikeminnow Archeological Records



**Stanton's
Cave 4,000 ya**

**LCR -
Salt Can.
Cave**



**Catclaw Cave
below Hoover**



**Homolovi
Site**

Background:
Pikeminnow Historical
Collect



Glen Canyon/Paria “Salmon”: Settlers – 1880s
Stanton Christmas Meal – 1889
Dynamite Fishing – Loper early 1900s
*Museum specimen (UM) - 1934

Tapeats Creek “Salmon”
– Nevills 1948
- J. Doerr 1948

Below Lava 14-16 “Salmon” – Kolb 1911

Shinumo Creek “Salmon”
- Nevills 1940; 1942
- Goldwater 1940

Havasu Creek
*Angler 1972

LCR @ Grand Falls
“Salmon”
– Miller (via Sykes) –
early 1900s



Background:

“...These salmon were old friends of ours, being found from one end to the other of the Colorado, and on all its tributaries. They sometimes weigh twenty-five or thirty pounds, and are common at twenty pounds; being stockily built fish, with large, flat heads. They are not gamey, but afford a lot of meat with a very satisfying flavour.”

Ellsworth L. Kolb 1915. Through the Grand Canyon...

■ What & How?

Phased Conceptual Approach:

- Phase 1 Pikeminnow Viability/Feasibility Assessment
- Phase 2 - If Viable/Feasible (based on phase 1) Experimentation to Assess Feasibility.
- Phase 3 - If Viable/Feasible (based on phase 2 experimentation) Plan Development and Implement Recovery Actions (translocation(s) & monitoring etc.).

■ What & How? Phase 1

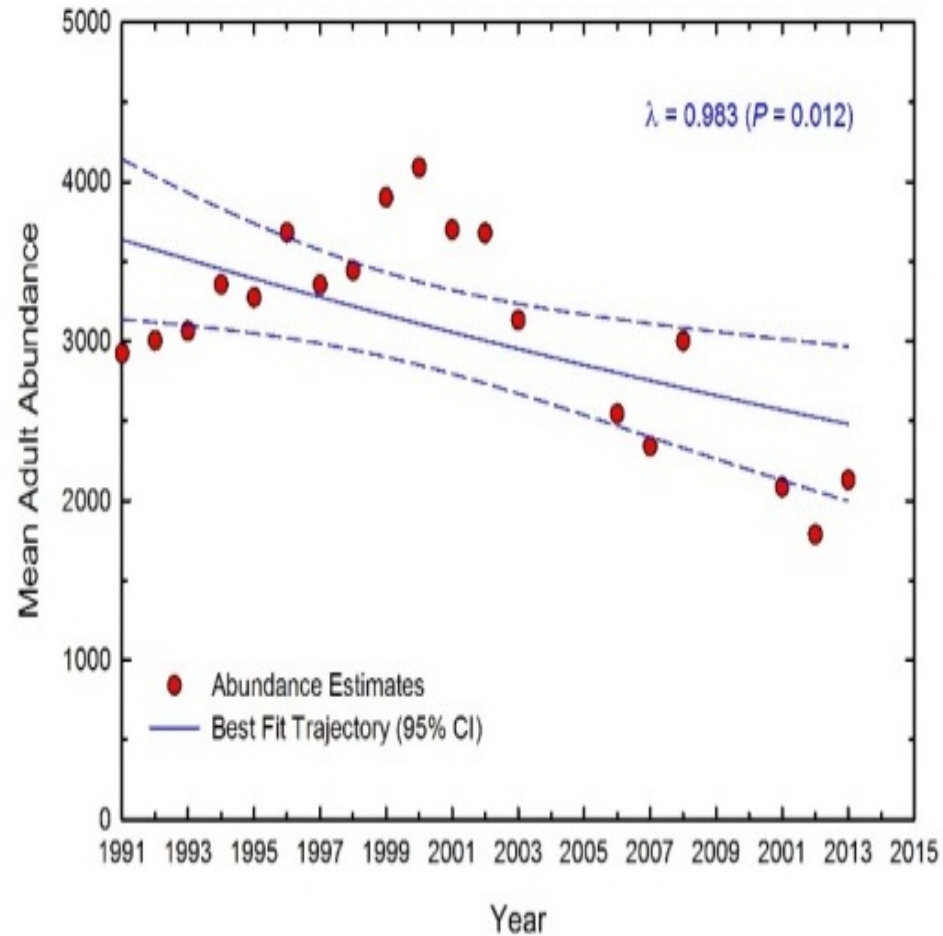
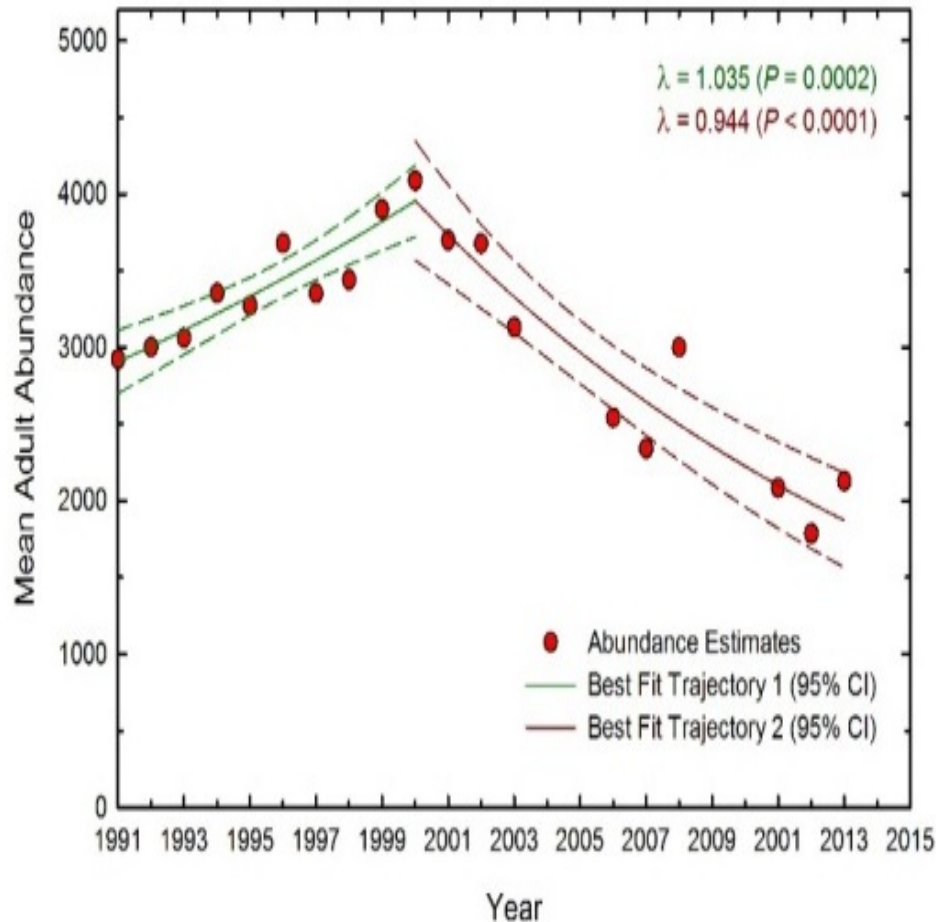
- Pikeminnow Viability/Feasibility Assessment
 - Paper exercise thru agreement with USGS
 - USGS – science provider
 - Steering Committee to guide process – reps with management authorities in GC: AZGFD, NG&F, HG&F, NDOW, NPS, FWS, USBR
 - Expert elicitation (w/field visit)
 - Report (targeted winter 2019/2020)
 - Stakeholder review
 - USGS OFR

■ WHY?

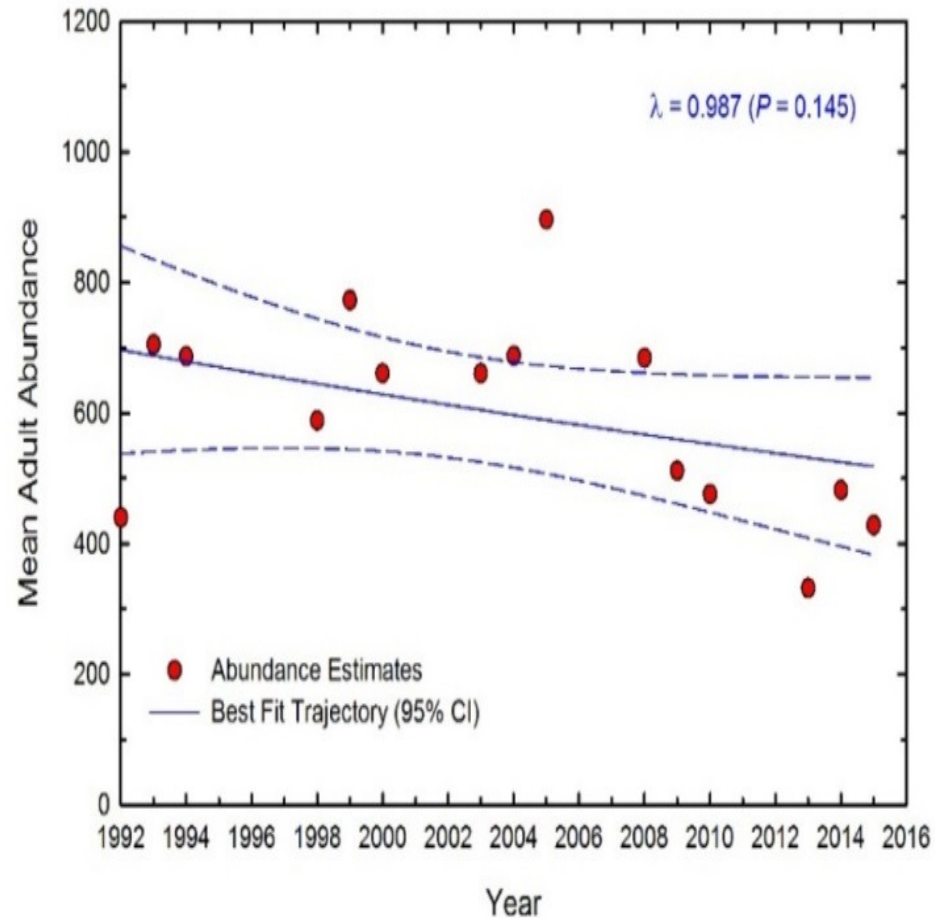
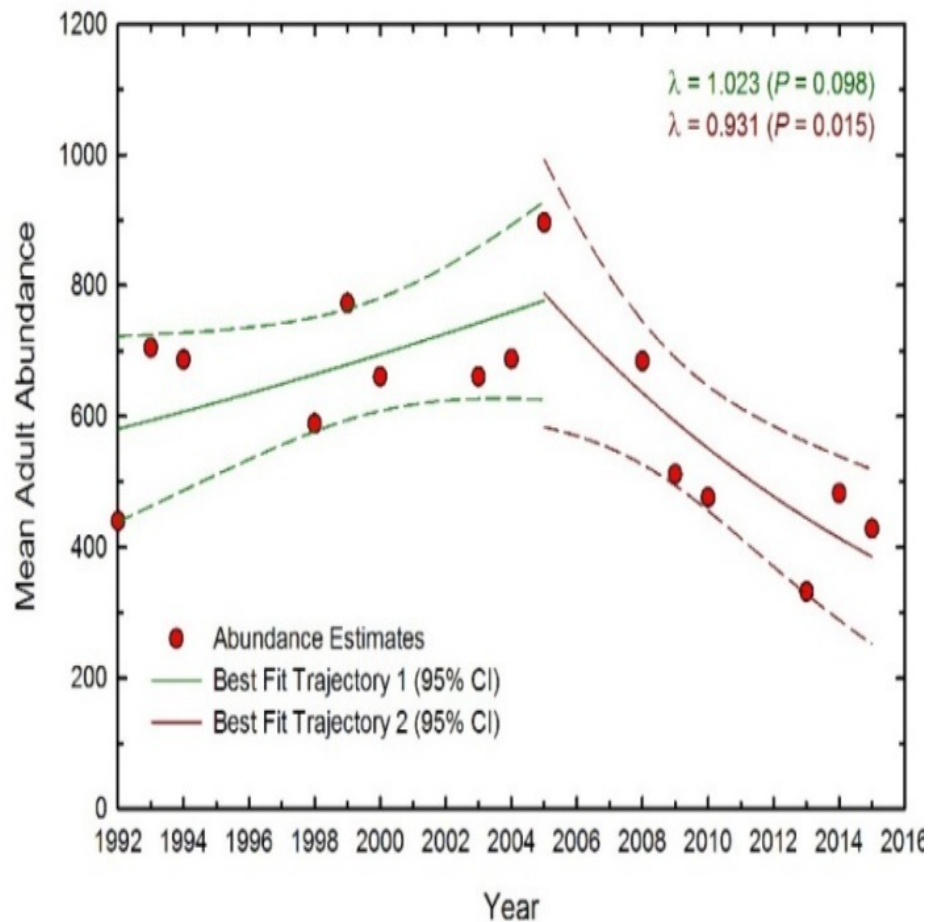
- Additional Conservation and Recovery Options May be Needed.



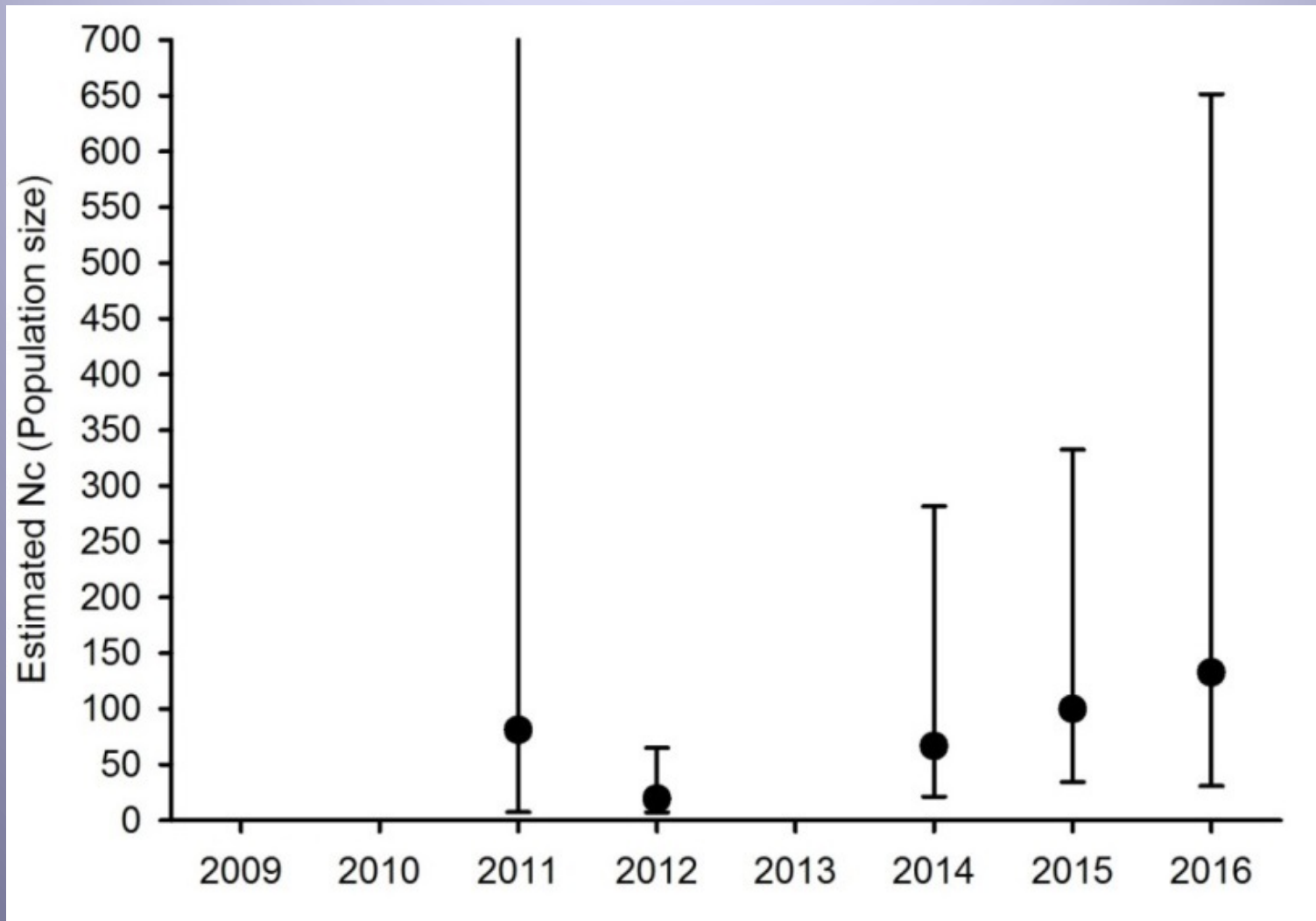
Status - Green River Subbasin



Status – Col. River Subbasin



Status – San Juan Subbasin



Commitment:

IF future actions (e.g. Phase 2 or 3) are proposed – at the table with stakeholders to work together openly and responsibly.



Thank You



Background

■ Recovery Criteria:

Self-Sustaining –

Green River Subbasin > 2,600 adults

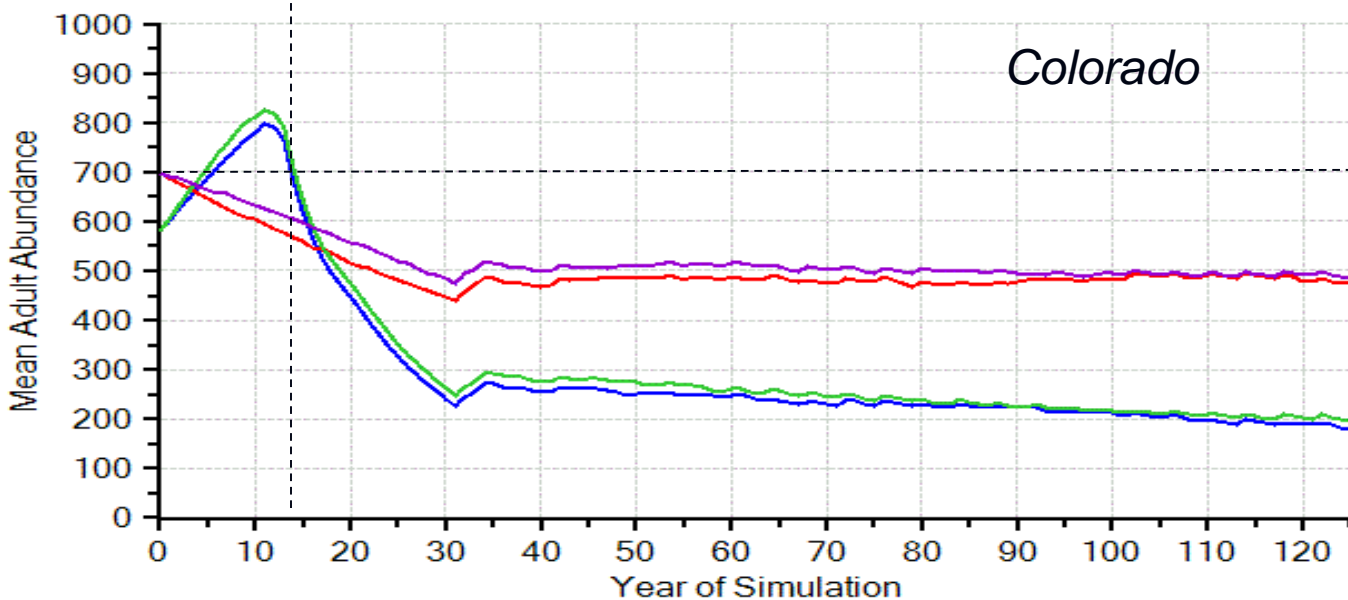
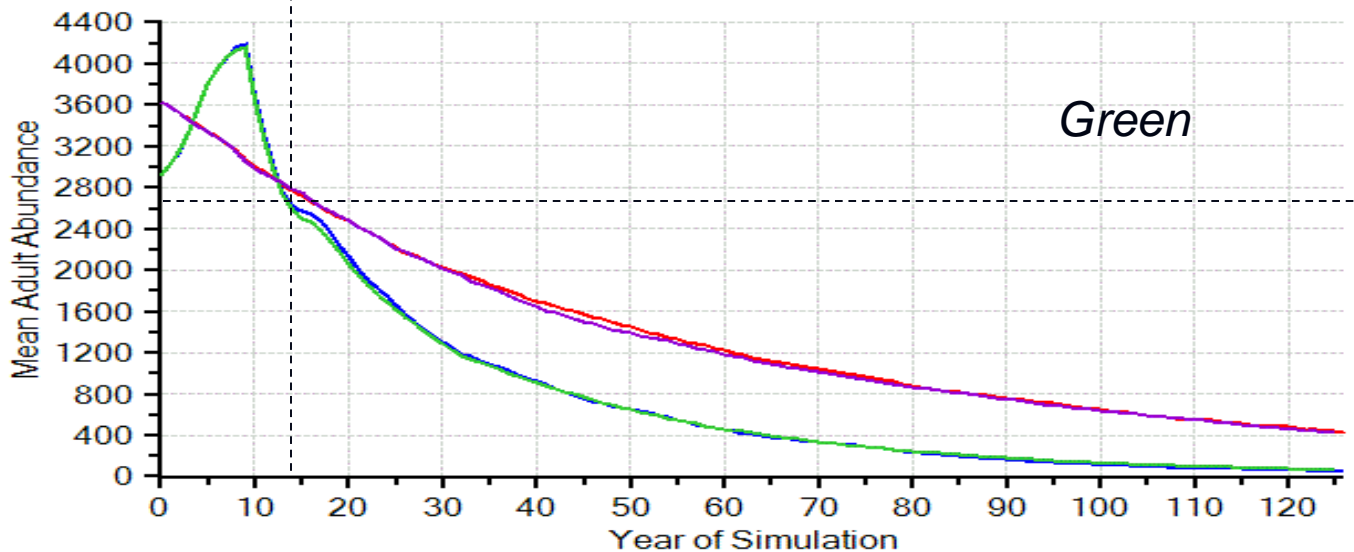
Colorado Subbasin >1,000

OR

Col. SB > 700 AND >800 in San Juan

Future Trends Status Quo

Single Population - Dual Phase Single Population - Single Phase
Metapopulation - Dual Phase Metapopulation - Single Phase



Preliminary/Draft; do not cite