



Nonnative Fishes Control Plan

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**USGS/SBSC/Grand Canyon Monitoring and Research
Center**

AMWG update April 29, 2009

History & Schedule

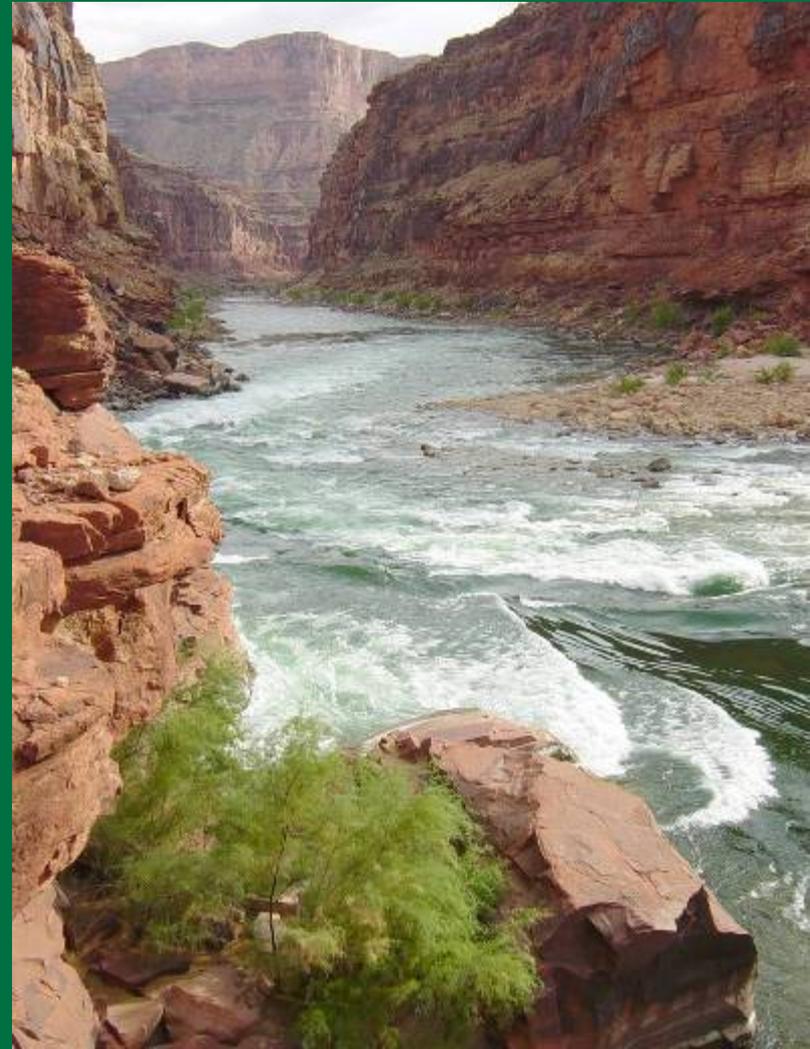
- **2004 Assigned by AMWG**
- **2005-2009**
 - **Multi-agency workshops**
 - **Draft plans**
 - **Pilot projects**
- **2009 Draft reviewed by AMP Science Advisors**
- **2009 GCMRC completes Revised Draft**
- **June 2009 review Revised Draft with TWG**
- **August 2009 present Final to AMWG**

Revised Plan (Science Advisor Revisions)

- Clarify Purpose
- Distinguish Science and Management Actions
- Include Contingency
- Include Estimated Costs
- Single Plan

Revised Plan Outline (Science Advisor Revisions)

- Introduction and Purpose
- Background
- Review
 - Historical introductions
 - Available methods
 - Current activities
- Recommendations



Revised Plan Outline (Science Advisor Revisions)

- Introduction and Purpose
- Background
- Review
- **Recommendations**
- Appendix: Species Descriptions

Recommendations

- Assumptions
- Monitoring - mainstem and tributaries
 - PEP review
- Removal
- Research
- Contingency

Recommendations

- Assumptions
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Removal Recommendations

- **Mainstem – LCR reach**
 - Continue nonnative removal
 - Monitor native fish response
- **Tributaries**
 - Channel catfish removal in LCR
- **Other tributaries**
 - Bright Angel Creek – electrofishing, weir, chemical renovation
 - Shinumo Creek and other translocation sites



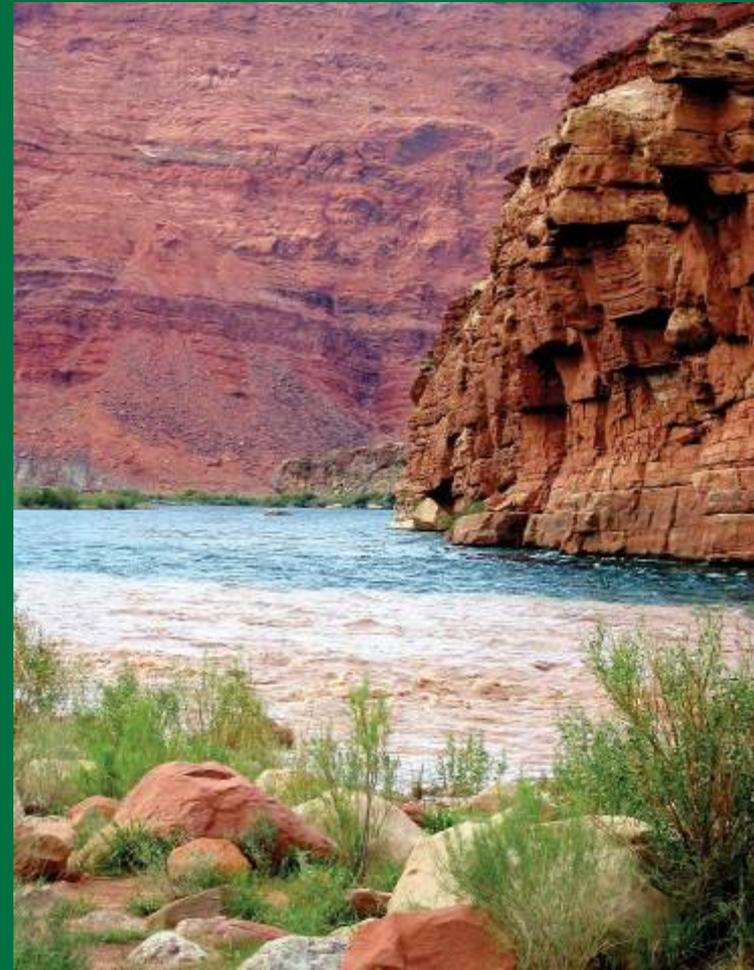
Research Recommendations

- Risk Assessment – which species pose the greatest risk to humpback chub?
- Occupancy Model – where are nonnatives found? May support catch rate, abundance
- Source Identification – where are nonnatives coming from?
- Others



Contingency Recommendations

- **Response Triggers – Changes in:**
 - Catch rates
 - Distribution
 - Species composition
 - Length composition
- **Interagency consultation**
- **Nonnative Contingency Response Fund**



Monitoring and Research

Recommendations –

Next Steps for GCMRC 2009-11

- Ongoing mainstem and LCR monitoring (PEP review)
- Research
 - Risk assessment
 - Occupancy model
 - Source identification