

Arizona's Bioassessment Program: Status update



Patti Spindler, Aquatic ecologist
Arizona Department of Environmental Quality

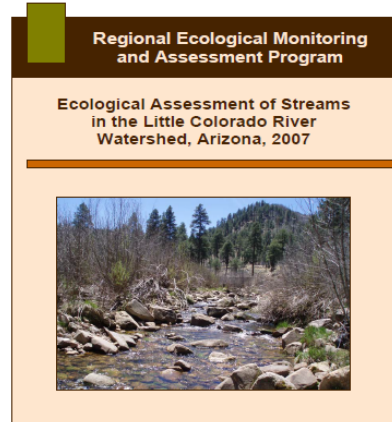
A Short History: REMAP

REMAP grant projects (2007-10)

- Comparison study (Riffle vs. Reachwide macroinvertebrate samples in coldwater streams)
- Pilot probabilistic assessment – Little Colorado River basin
- Perennial stream map update – USGS modeling



Publication Number OPR 10-05



Publication Number OPR 10-04



Prepared in cooperation with the Arizona Department of Environmental Quality

Predictive Models of the Hydrological Regime of Unregulated Streams in Arizona

By David W. Anning and John T.C. Parker

Open-File Report 2009-1269

U.S. Department of the Interior
U.S. Geological Survey

A Short History: Biocriteria

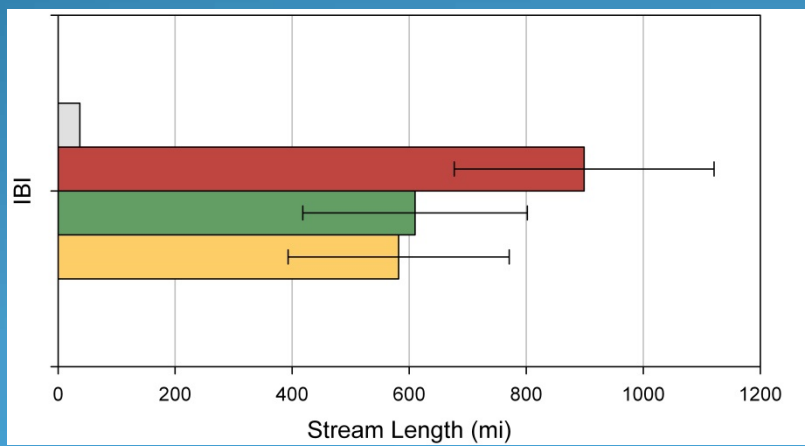
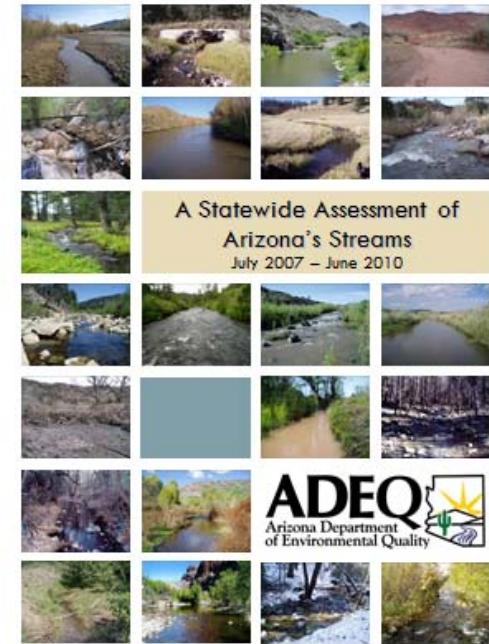
- Biocriteria established 2009
- Implementation Procedures crafted 2009 but not formally adopted
- AZ Impaired Waters Implementation Rule prevents 303d listing of waters failing A&W use due to biocriteria, until
 - IP is formally adopted
 - IWIR rules are updated & approved
- Rules moratorium at State level prevent any progress

A Short History: Assessments

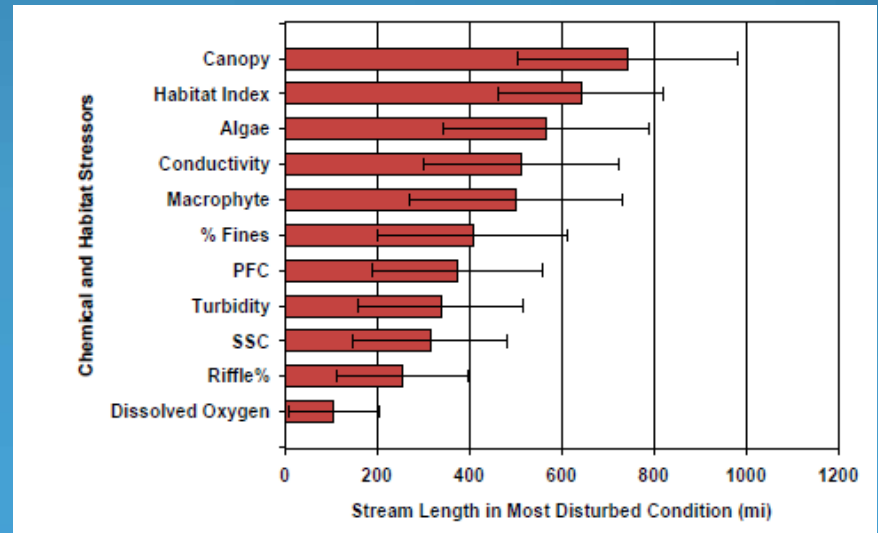
- Uploaded bio & habitat data successfully to WQX 2011
- Participated in NRSA monitoring 2008-9 & current 2013-14 survey
- First statewide probabilistic assessment using AZ methods completed 2013
- Wallow Post-Fire Study

ADEQ First Probabilistic Assessment using State Methods

- Used AZ monitoring protocols & IBI
- 42% stream miles biologically impaired
- Fine sediment & habitat pose greatest relative risk



■ Intermediate
■ Least Disturbed
■ Most Disturbed
■ No Data



Wallow Fire Study

FIRE IMPACTS ON WATER QUALITY AFTER THE WALLOW AND HORSESHOE 2 FIRES



Prepared by



Site ID	Stream Name	IBI Before Fire	IBI After Fire 2012
Wallow Sites			
LCWLR000.92	WEST FORK LITTLE COLORADO RIVER - AT GOVERNMENT SPRINGS	Meets	Meets
SRBLR070.45	BLACK RIVER - AT WHITE CROSSING (WMAT)	No Data	Violates
SRCKN001.61	CONKLIN CREEK - ABOVE FOREST ROAD #25	Meets	Violates
SREFB008.27	EAST FORK BLACK RIVER - ABOVE DIAMOND ROCK CAMPGROUND	Inconclusive	Meets
UGCMB004.23	CAMPBELL BLUE CREEK - ABOVE KE CANYON	Meets	Violates
UGKPK011.18	KP CREEK - BELOW KP CIENEGA	Meets	Violates
UGSFR019.04	SAN FRANCISCO RIVER - ABOVE CLIFTON, AZ	Meets	Meets
Horseshoe 2 Sites			
SPTUR028.53	TURKEY CREEK - ABOVE UPPER CAMPGROUND	No Data	Violates
UGCAV016.84	CAVE CREEK - ABOVE HERB MARTYR CAMPGROUND	Meets	Violates

Current Research Efforts

- Intermittent stream biocriteria development
- Narrative nutrient criteria development (EDW monitoring)
- Physical integrity/stability assessment tool & standard development: Relative Bed Stability
- Biocriteria for perennial streams
- Methods overhaul, including crayfish monitoring