WRRC
WATER RESOURCES RESEARCH CENTER

THE UNIVERSITY OF ARIZONA | COLLEGE OF AGRICULTURE & LIFE SCIENCES

Drought and Arizona Rivers

Looking into the past and thinking about the future

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How Rivers Change…

- Gila River at Calva Exercise
  - Courtesy of Arizona Cooperative Extension – Understanding Arizona Riparian Areas, Chapter 8: Riparian Areas and Change; G. Zaimes and M. Crimmins

GILA RIVER AT CALVA

March 1932, Picture by W.E. Dickinson

GILA RIVER AT CALVA
June 18, 1964 , R. M. Turner

GILA RIVER AT CALVA
October 1973, R. M. Turner

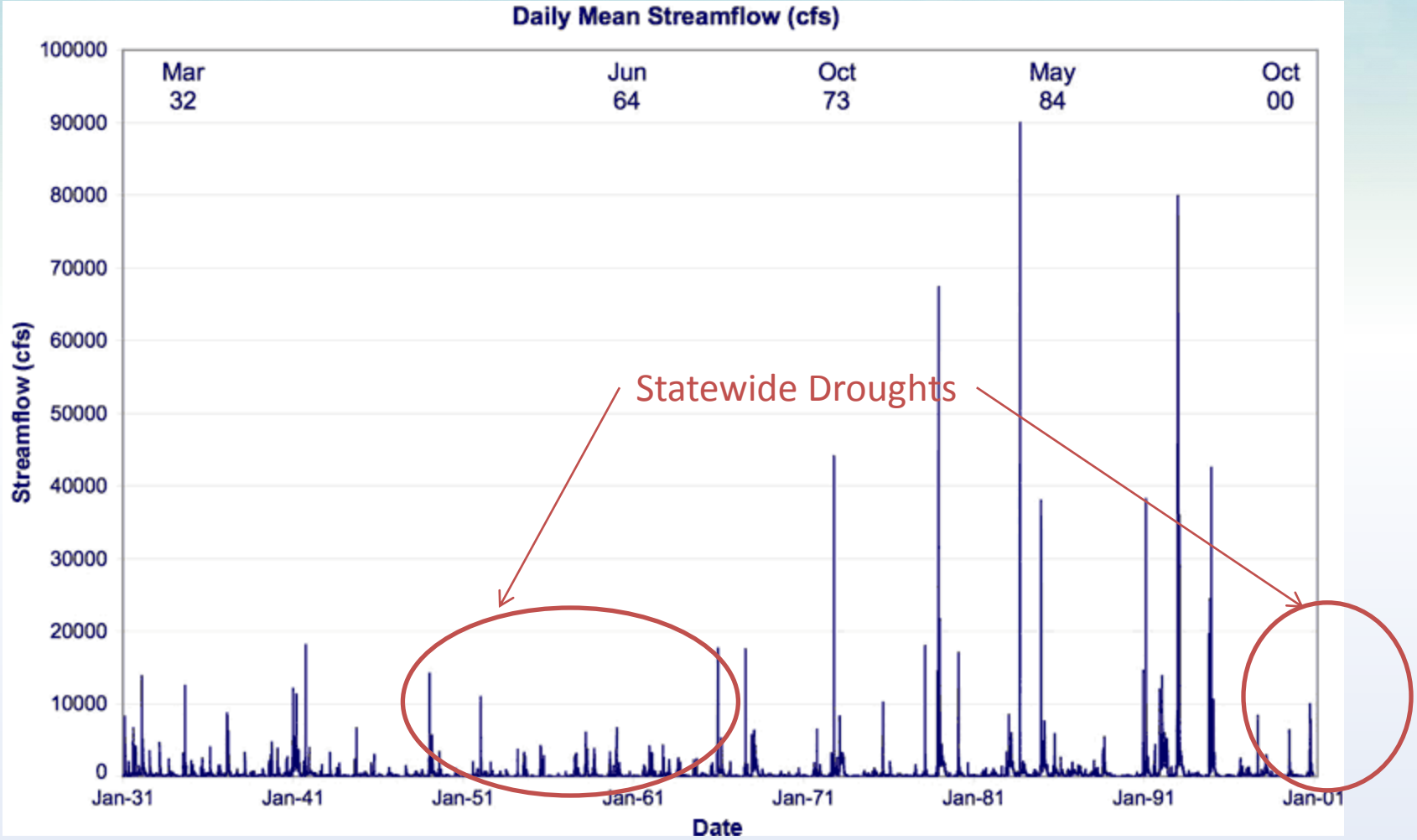
GILA RIVER AT CALVA

May 1984, R. M. Turner

GILA RIVER AT CALVA

October 2000, Picture by D. Oldershaw

Gila River at Calva



Changing Riparian Areas

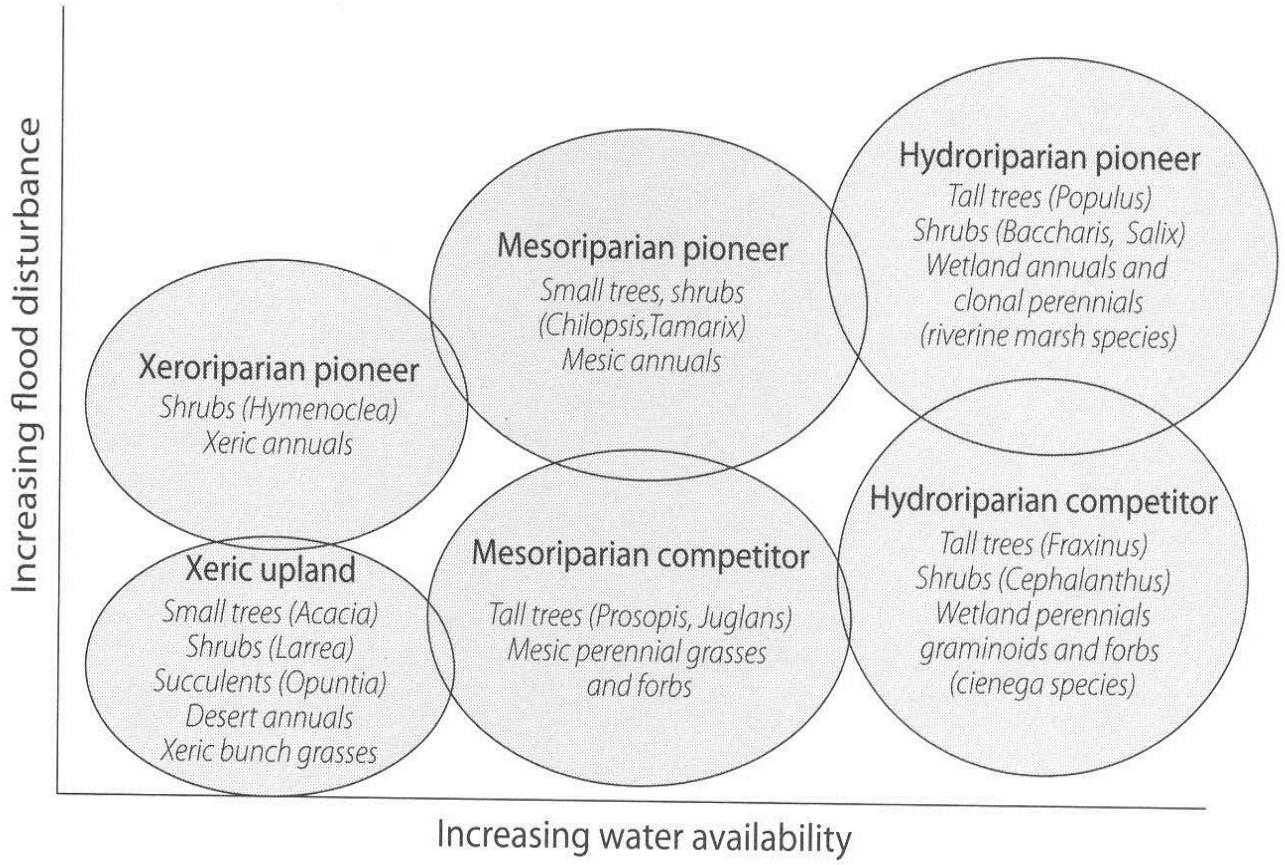
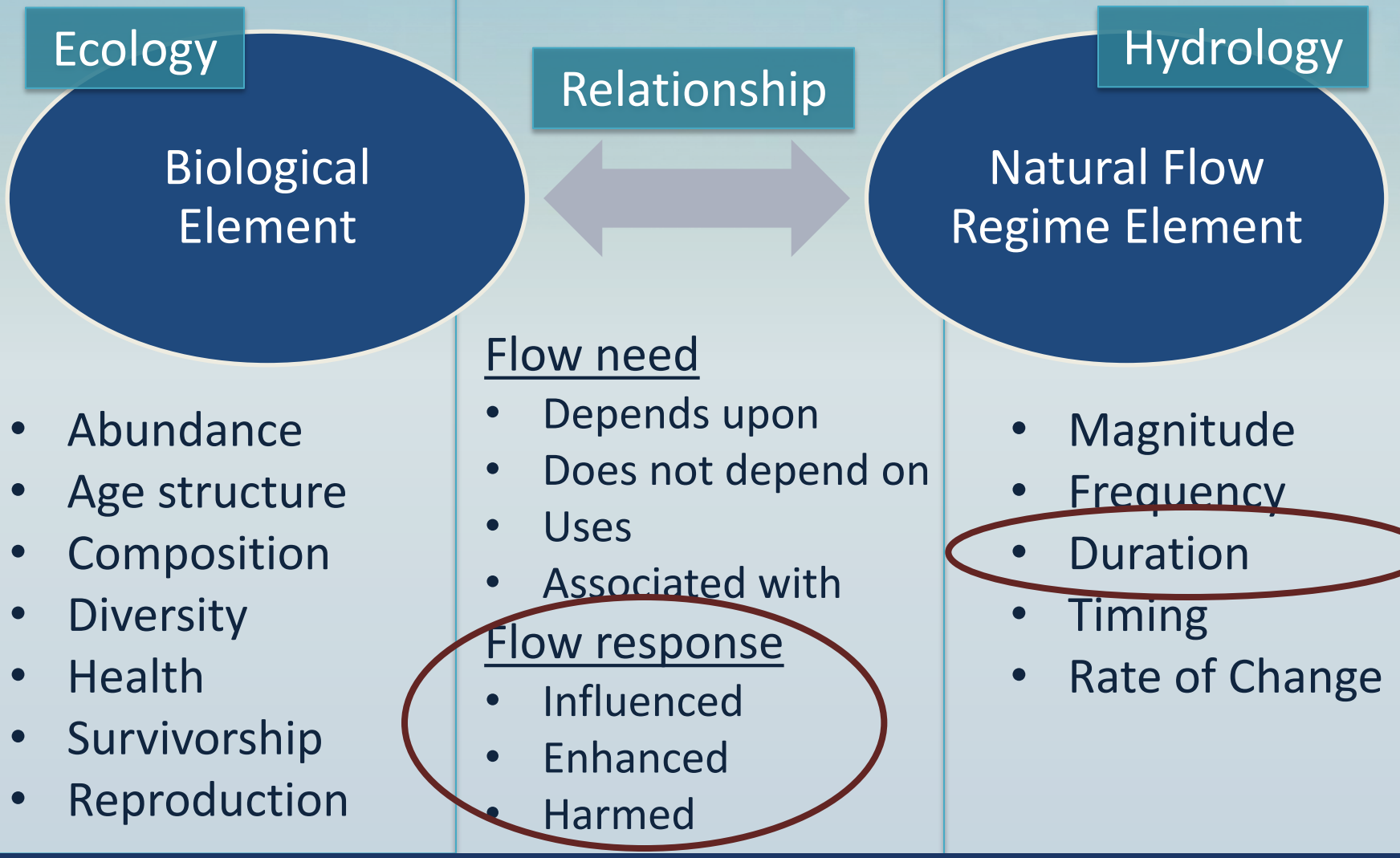


Fig. 1.1. Vegetation types along desert rivers such as the San Pedro are arrayed along gradients of water availability and flood intensity and frequency.

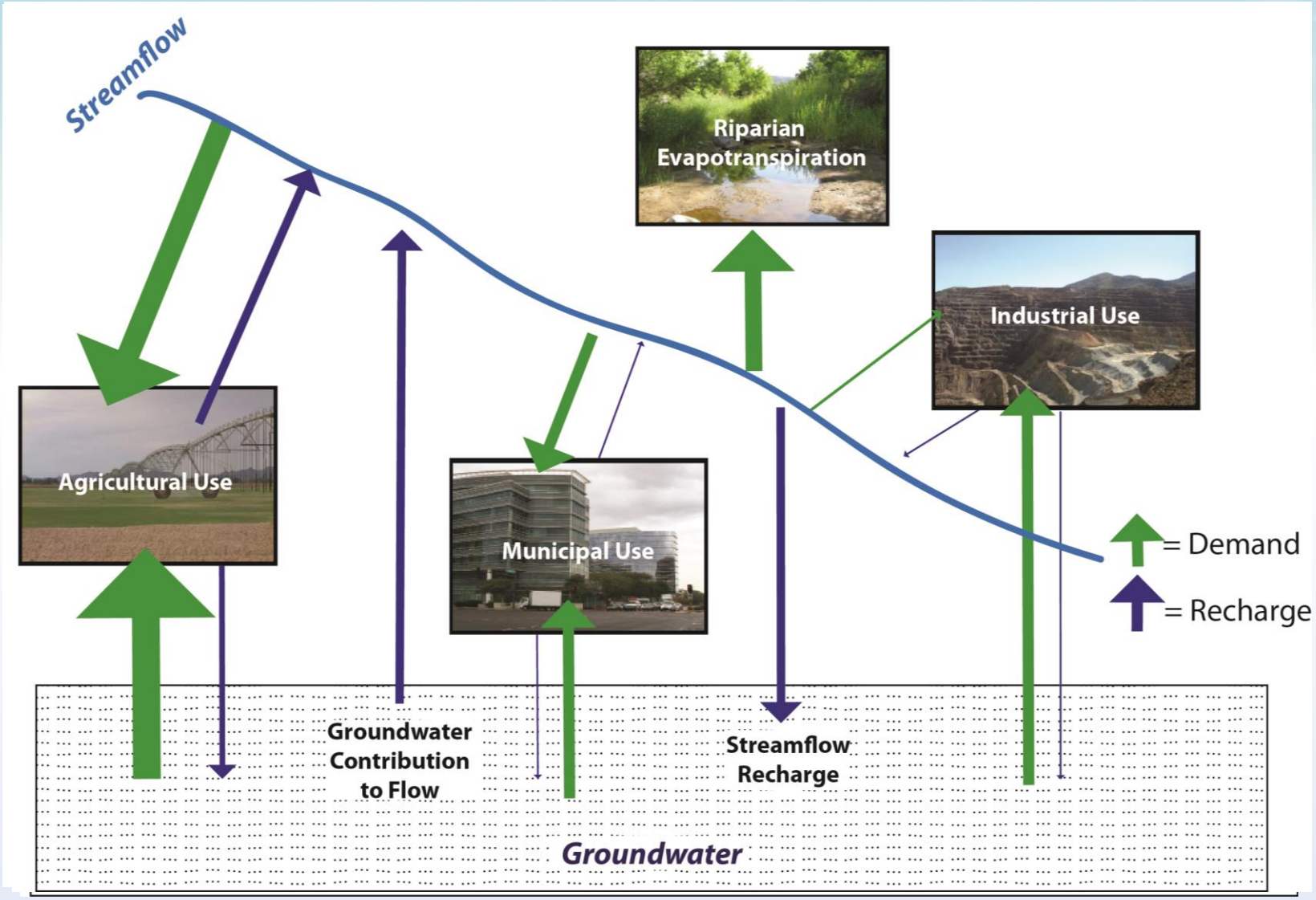
Source: Stromberg, Lite, Dixon, and Tiller (2009)

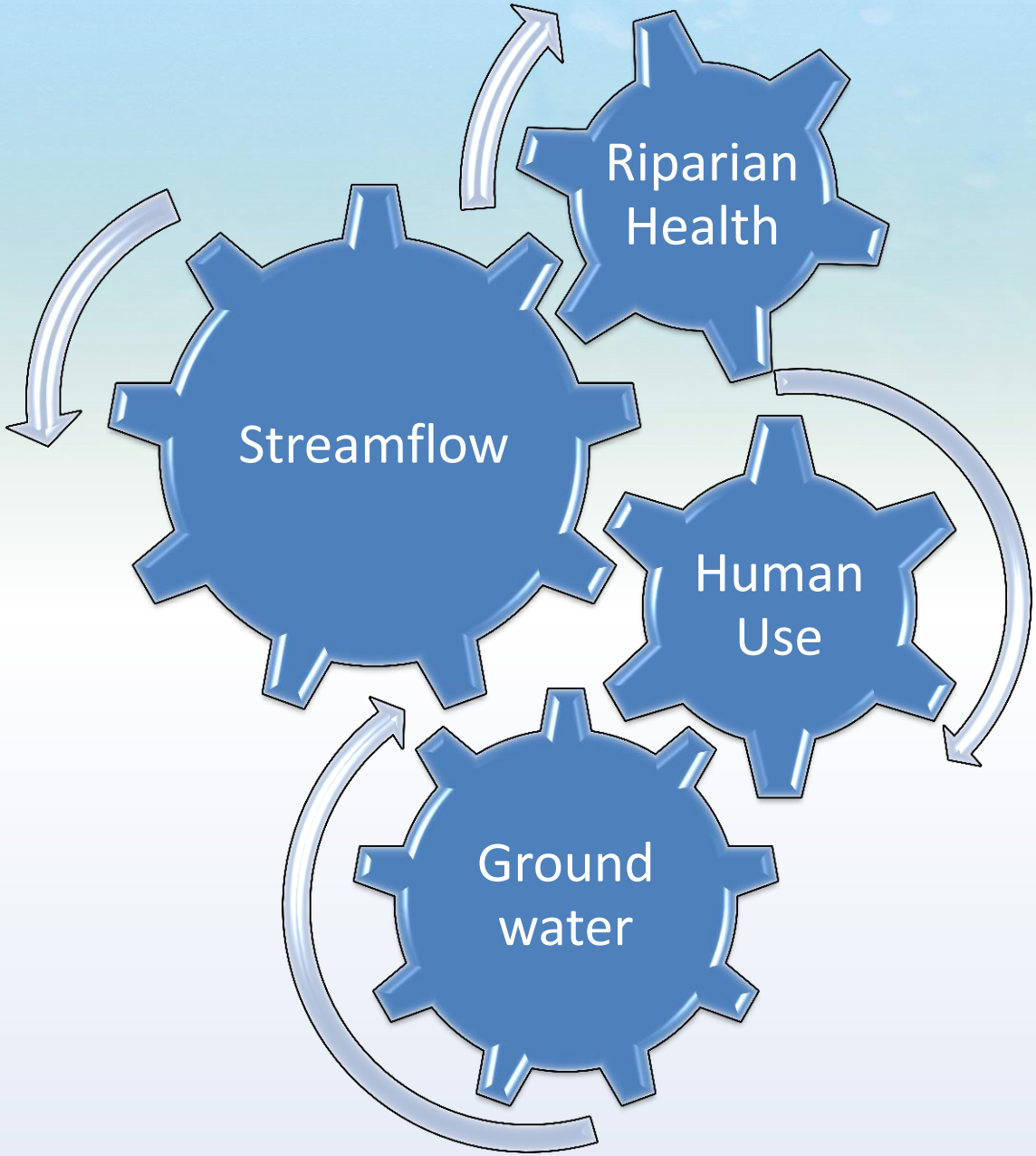
Environmental Flows Database



What do we know about how riparian species (might) respond to drought?

What about other water demands during drought?




Riparian Health
Streamflow
Human Use
Ground water

In conclusion drought impacts on rivers…

- Can be counterintuitive
- Differ by species: more species decline then benefit
- Require understanding of both ecological and social change

Questions?

Santa Cruz River Headwaters
Kelly Mott Lacroix Arizona Water Atlas, 2010

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