

# A Quick Lesson on Environmental Flows

Definition: "Water that is left in a river system, or released into it, for the specific purpose of managing the condition of that ecosystem." (King et al. 2003)

Water systems have **LIMITS** to how much they can be altered before people who depend on them lose the services that they provide . . .

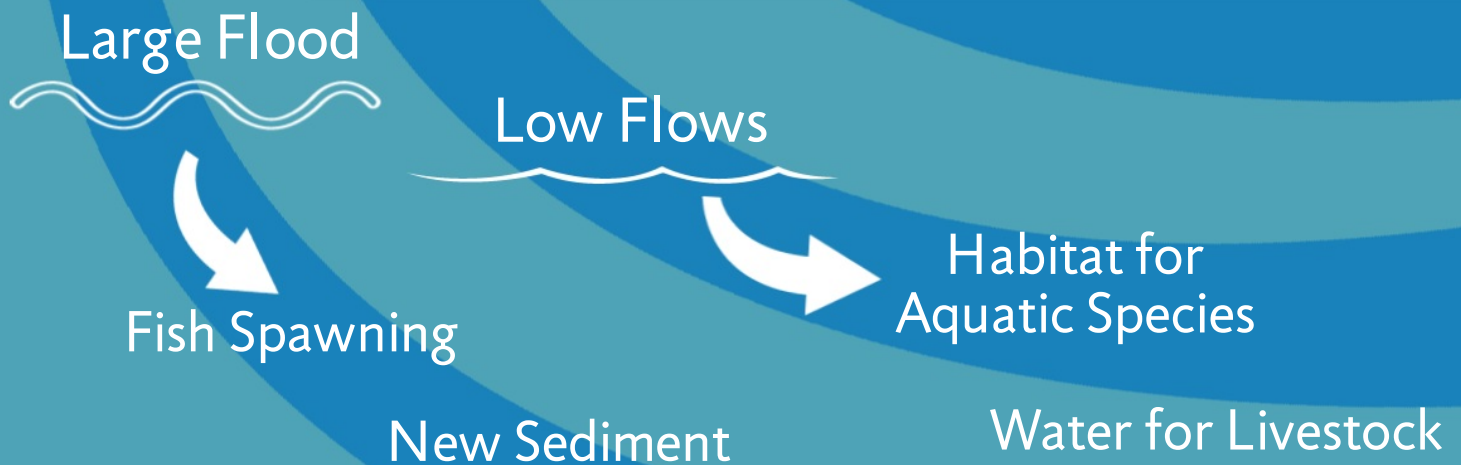
## Environmental Flows Can Support:

- Fishing
- Farming
- Drinking Water Supply
- Grazing Land
- Pollution Control
- Navigation
- Endangered Species
- Cultural & Spiritual Values

## The Science

Water systems have natural patterns of flow. Specific flows support certain ecological processes. These flows can be simulated using environmental flows.

# Examples of Important Flows



**Environmental flows can be provided at increasingly comprehensive levels**

Set minimum flow levels.

Provide flows mimicking natural flow variability

Integrated consideration of socio-economic factors

**Simplest**



**Most Holistic**

There now exist over **200** methods to set environmental flows from over **40** countries

**A COMPLEX PROCESS . . .**

**Transforming environmental flow studies and policies into action is not easy.**



Whether or not environmental flows are provided is ultimately decided by societal priorities, and often political realities.

# Important factors for effective environmental flow processes include:



Commitment from governments and stakeholders



Sufficient resources



Training and institutional capacity to manage water resources

## RECOMMENDATIONS FOR PRACTITIONERS



Start the process as early as possible!



Conduct activities suitable to the resources and capacity available.



Set clear goals for the eflows policy.

Involve stakeholders in all stages of the process.



Secure reliable funding for activities.



Make the links between environmental variables and socio-economic consequences clear.



Write environmental flows into policies and legislation to give them legal standing.



Consider the whole hydrological cycle.



Acknowledge that provision of environmental flows is a long-term commitment.

Make sure all participants understand the term "environmental flows" and associated concepts.



Demonstrate the benefits from environmental flows after they are implemented through monitoring and active management.

## References

King, J., Brown, C., and Sabet, H., 2003, A scenario-based holistic approach to environmental flow assessments for rivers: *River Research and Applications*, v. 19, p. 619-639.

Le Quesne, T., Kendy, E., and Weston, D., 2010, *The Implementation Challenge: Taking stock of government policies to protect and restore environmental flows*, World Wildlife Fund and The Nature Conservancy.

Hirji, R., and Davis, R., 2009, *Environmental Flows in Water Resources Policies, Plans, and Projects*: Washington D.C., The World Bank.

[www.internationalrivers.org](http://www.internationalrivers.org)