

Summary of SAC Biological Overlay:

- 1) Establish clear objectives for support of a sound environment
- 2) Compile data and information for sites and their boundaries (upstream and downstream extent)
- 3) Parameterize the hydrological analyses, ex. period-of-record
- 4) Evaluate and refine the flow regime produced by the hydrological analyses

This process above can be facilitated by an integration workshop to review focal species and guilds, linkages between biology, water quality, geomorphology, important cycles, life history requirements, and flow.

Questions to ask/steps to take:

- 1) Summarize biological data for the area.
- 2) What species (fish, reptiles, birds, mammals, invertebrates, mussels, aquatic plants) is there the most concern about ecologically, recreationally, or socioeconomically?
- 3) What do we know about linkages between these species and flow?
- 4) What times of years are most important for these species and their life stages?
- 5) Has abundance or distribution of species changed and are changes linked to changes in flow?
- 6) Can the flow needs of certain species (or guilds) represent the flow needs of communities or assemblages or organisms?
- 7) If the natural flow regime has been changed, can flows still enable successful life cycle completion for indicator species or guilds?
- 8) Which habitats are critical?
- 9) How do flow regime components develop and maintain those habitats?
- 10) Are floodplain habitats critical for maintaining aquatic populations in rivers?
- 11) What are the extent and distribution of riparian areas in the study area?
- 12) What is known about relationships between river flows, alluvial water tables, floodplain inundation patterns and influence of these hydrologic conditions on riparian areas?
- 13) How does the riparian corridor depend on physical habitat conditions that are shaped by river flow? Is lateral channel migration or bar formation important in forming these physical habitats?