Estuarine Ecology	Biological Information	Physical Information
Summarize biological data that have been collected in the study area. Who collected these data, over what time frame, how often, and by what methodology?	✓	
What is known about biological components of the estuarine ecosystem (e.g. fish, shellfish, oysters, benthic organisms, aquatic plants, other flora and fauna)? What is known about the estuary's aquatic primary productivity, decomposition processes, and nutrient dynamics? What habitats are characteristic of the bay system?	✓	✓
Has the abundance or distribution of certain species changed over time? Are these changes thought to be linked to changes in estuary inflows? Are data available to document these trends and linkages?	✓	✓
What species (fish, shellfish, oysters, benthic organisms, invertebrates, birds, mammals, riparian and aquatic vegetation, other flora and fauna) are of greatest concern from either ecological, socioeconomic or recreational standpoints? Identify 10 to 20 species or assemblages of species and summarize what is known about their physical and chemical (salinity, etc.) needs and preferences by life stage, their trophic function(s), and food habits.	✓	
What is known about the linkages between inflow variations and the life histories of the identified species of concern? When are their peak abundance seasons, when are they in the estuary and when are they in the Gulf of Mexico? What times of year are most critical for the species of concern and their life stages?	✓	✓
Can the flow needs of certain indicator species be used to represent the flow needs of assemblages of organisms in the estuary (e.g. assemblages of fish, shellfish, oysters, or benthic organisms)?	✓	✓
If the estuarine inflow regime has been altered by human influences, are necessary inflow conditions still properly sequenced to enable successful life cycle completion for indicator species and the habitats they depend upon? In the absence of certainty, can we reasonably infer from the literature what the proper inflow sequence should be for a given species or develop an approximate range of inflows?	✓	✓
Which habitats are most limiting, and what is the importance of drought, intermediate flows, high flow pulses, and floods for developing and maintaining these habitats?	✓	✓
Do marginal wetland habitats have an important role in maintaining fish, shellfish, and other estuarine species?	✓	

Is the aquatic ecosystem dependent upon material subsidies (e.g. detritus, nutrients) that are brought into the estuary from rivers and floodplains during intermediate flows, high flow pulses, and floods?		✓
Are specific inflows required by key species during particular time periods in order to facilitate movements within the bay system and adjoining habitats?	✓	
Have certain species of fish, shellfish, or other organisms detected in the estuary been identified as salinity-sensitive? Are they positively or negatively impacted by changes in salinity? Identify life history requirements and summarize salinity preferences.	✓	
Have endangered, threatened, or otherwise at-risk species been identified in the estuary or in riparian areas? What is known about their physical and chemical requirements, and what factors adversely affect them?	✓	
What is known about key physical and chemical processes in the ecosystem as they relate to key biological components (e.g. hydrology, geomorphology, nutrients, sediments, water quality, productivity, connectivity of habitats).		✓
What is known about the hydrology of estuary inflows (historical, naturalized, contemporary, future modeled inflows)? Summarize existing estuary inflow recommendations along with their goals and objectives.		✓
What is known about changes in bay conditions resulting from changes in estuary inflows (e.g. salinity gradients, maintenance of and access to habitat, changes in primary productivity, decomposition processes, nutrient dynamics, and water quality)?		✓
Have topographical surveys been conducted of the estuary and surrounding areas? (e.g. surveys for pipelines, industry and GIWW activity, environmental protection, roads, bridges, floodplains, etc.)		✓
What is known about the circulation patterns, geomorphology, bathymetry, sediment dynamics and physical alterations of the estuary? Are there trends in elevation indicating degradation or aggradation?		✓
What is known about the effects of human activity and land use alterations on estuary inflows, habitats, water quality, and other estuarine processes?		✓
Which shoreline and bay habitats are important for growth, reproduction, recruitment, and survival of estuarine fish and shellfish populations (e.g., tidal zones, marshes, wetlands, submerged vegetation, etc) and what inflows are protective of those habitats?	✓	✓
What is known about water quality within the estuary and regionally? What are the major water quality concerns, contaminants, spatial and temporal trends, and sources of problems?		✓

What water quality components are of greatest concern to the indicator organisms, their life stages, and riverine processes? Are species distributions or abundance thought to be affected by anthropogenic activities?	✓	✓
What is known about estuarine organism responses to extreme events such as flood, droughts, and hurricanes?	✓	
What is known about potential changes to estuary inflows, water level elevations, or other physical conditions, due to climate change?		✓

Estuarine Riparian Ecology	Biological Information	Physical Information
What is known about the composition, extent, and distribution of plant communities and wildlife habitats around the estuary? Have riparian plants, wildlife, and wildlife migratory routes been mapped, surveyed, or otherwise characterized? What are the plant communities and habitats that characterize the estuary riparian ecosystem? Have plant communities, habitats, wildlife, or migratory routes changed over time and what factors are thought to have contributed to those changes?	✓	
Which estuarine (aquatic and riparian) habitats are most sensitive to physical or chemical changes (e.g. salinity, water depth, frequency of inundation), and what is the importance of a variable inflow regime for developing and maintaining these habitats (e.g., seasonal, monthly, annual, interannual variation)?	✓	✓
What is known about relationships between estuary inflows and floodplain inundation patterns as they relate to biologically relevant estuarine processes?		✓
What is known about invasive flora and fauna located in and around the estuary? How do they impact estuarine and riparian habitats and wildlife? What specific conditions discourage their growth and expansion? Are there species not yet detected in the estuary but are located in the region and considered a potential threat to the ecosystem or a particular industry?		✓
Which riparian plants and wildlife depend upon physical conditions that are, at least in part, shaped by estuary inflows?	✓	✓
What is known about transient or migratory fishes or wildlife that utilize the estuarine environment?	✓	✓