Geographic Scope of Instream Flow Recommendations

Texas Environmental Flows Science Advisory Committee

April 3, 2009

1. Goal: Choose sites where it is appropriate to develop environmental flow regimes
2. Information/Data Considerations
    a. Spatial scale: sub-basin, water quality segments, and reaches
    b. National Hydrography dataset: represents surface water features and attributes like ave precipitation, ave temperature, velocity, cumulative drainage area,
    c. TCEQ Classified Segments: reaches of similar water quality
    d. Geomorphic zonation: headwaters, transfer, and deposition zones
    e. Ecoregions: geology, physiography, vegetation, climate, soils, land use, wildlife, hydrology
    f. USGS Core Network:
        i. Regional gages – provide flow for regions with similar hydrology
        ii. Major flow gages – define spatial/temporal changes in streamflow
3. **Questions to answer**
    a. **Hydrology**
        i. **Is there sufficient period of record for the gage to be used?**
        ii. **Is the gage redundant to a gage already chosen?**
        iii. **Can the downstream-most gage be used to evaluate both instream flows and freshwater inflows to the bays and estuaries?**
        iv. **Are segments that perform hydrologic functions accounted for, i.e. flood attenuation, flow stabilization, groundwater recharge and discharge**
        v. **How far can the analysis at a gage be extended spatially?**
    b. **Biology**
        i. **Is there a gage in each ecoregion?**
        ii. **Is there a gage in each biologically important stream?**
        iii. **Are ecologically significant stream segments, unique habitats, riparian zones with special conservation status, species of concern, etc., accounted for?**
    c. **Water Quality**
        i. **Are TCEQ water quality segments accounted for?**
        ii. **Are there basin-specific water quality concerns?**
        iii. **Are the major geomorphic process zones represented?**
        iv. **Are unique fluvial geomorphic features (e.g. avulsions, distributaries, etc) accounted for?**
4. **Document sites considered and rationale for inclusion or exclusion**

08155200	Barton @HWY 71			
08123800	Beals Ck nr Westbrook			
08158810	Bear nr Driftwood			
08145000	Brady @ Brady			
08154700	Bull nr Austin			
08117995	Colorado nr Gail			
08121000	Colorado at Colorado City			
08123850	Colorado nr Silver			
08124000	Colorado @ Robert Lee			
08127000	Colorado nr Ballinger			
08136700	Colorado nr Stacy			
08138000	Colorado nr Winchell			
08147000	Colorado nr San Saba			LCRA
	Colorado nr Bend			LCRA
08158000	Colorado @ Austin			
08159200	Colorado nr Bastrop			
08161000	Colorado @ Columbus			
08136500	Concho @ Paint Rock			
08128000	S. Concho @ Christoval			
08128400	Middle Concho nr Tankesley			
08134000	N Concho nr Carlsbad			
0816000	Dry Ck nr Smithville			
08127000	Elm Ck @ Ballinger			
08164600	Garcitas nr Inez			
08164000	Lavaca nr Edna	LNRA		
08151500	Llano nr Junction		M. Hess (also nr Llano)	LCRA
	Llano nr US 87			LCRA
	Llano nr Llano			LCRA
08121500	Morgan Ck nr Westbrook			
08137500	Mukewater at Trickham			
08164503	W. Mustang nr Ganado	LNRA		
08164504	E Mustang nr Louise	LNRA		
08164300	Navidad nr Hallettsville			
08164390	Navidad nr Edna	LNRA		
08158700	Onion nr Driftwood			
08159000	Onion nr Austin			
08143600	Pecan Bayou nr Mullin			
08131400	Pecan Ck nr San Angelo			
08152900	Pedernales nr Fredricksburg			LCRA
08153500	Pedernales nr Johnson City		M. Hess	LCRA
08164800	Placedo nr Placedo			