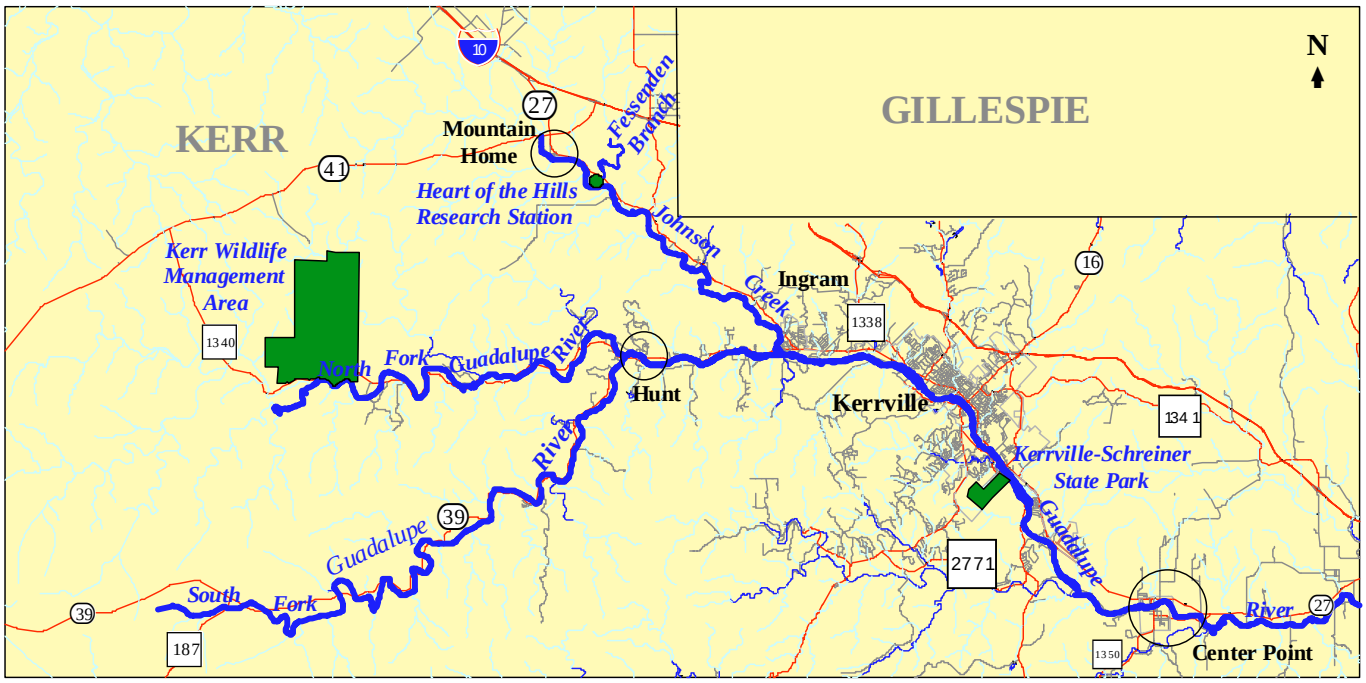

Figure 12. Location of the ecologically significant Johnson Creek (TNRCC stream segment 1816), Guadalupe River (within TNRCC stream segment 1806), North Guadalupe River (TNRCC stream segment 1817), South Guadalupe River (TNRCC stream segment 1818), and Fessenden Branch stream segments in Kerr County (Scale: 1inch = 8 miles; Base map source: TxDOT county files).

Johnson Creek

Johnson Creek rises north of Mountain Home in northern Kerr County. It flows southeast for 21 miles into the Guadalupe River at Ingram[24]. The significant stream segment on Johnson Creek is within the Edwards Plateau ecoregion. The segment begins 0.7 mile upstream of the most upstream crossing of SH 41 in Kerr County and extends downstream to its confluence with the Guadalupe River at Ingram in Kerr County (Fig.12). The ecological significance of the segment is based upon the following criteria:

1. Biological function – The aquatic and riparian habitats associated with the stream (Fig. 13) support an exceptionally diverse assemblage of invertebrates, fish, reptiles, and birds characteristic of the Edwards Plateau ecoregion. The riparian and canyon forests are dominated by sycamore, willows, green ash, bald cypress, pecan, sugarberry/hackberry, plateau live oak, Texas oak, Ashe juniper, and many other deciduous trees and shrubs.

2. Hydrologic function – The baseflow of Johnson Creek is greatly increased below Fessenden Branch because of the output of Fessenden Springs. In turn, Johnson Creek contributes significantly to baseflow of the mainstem Guadalupe River. The fringing riparian habitats function to improve the quality of runoff and groundwater discharge into the river, attenuate peak flood flows, and to some extent, stabilize base flows. Johnson Creek is entirely within the Edwards Aquifer drainage area.

3. Riparian conservation area – The Heart of the Hills Research Station (TPWD) is located at the confluence of Fessenden Branch and Johnson Creek (see Fessenden Branch account).

4. High water quality/exceptional aquatic life/high aesthetic value – Because of the perennial spring-fed flow below Fessenden Branch, Johnson Creek has very high water quality and is designated an exceptional aquatic life stream[19]. The stream also has very high aesthetic value (Fig. 13).

5. Threatened or endangered species/unique communities – The following rare species associated with aquatic or riparian habitats may occur in or along this segment although most would not be restricted only to the segment habitats: Zone-tailed hawk (St.T), Golden-cheeked warbler (Fed.E, St.E), Black-capped vireo (Fed. E, St.E), Cagle's map turtle (Fed. Candidate, category 1), Tobusch fishhook cactus (Fed.E, St.E).

Figure 13. Johnson Creek downstream of Fessenden Branch from SH 27 in Kerr County (11/22/00).