

HUC 1107

Neosho/Grand Sub-basin

The Neosho/Grand sub-basin (4-digit hydrologic unit 1107) is situated in the northeast portion of the state. It originates in the west central portion of Osage County, continues eastward through portions of Washington, Tulsa, Nowata, Rogers, Wagoner, Muskogee, Craig, Mayes, and Cherokee Counties and terminates in Ottawa and Delaware Counties. Major cities and County seats located within the basin include Pawhuska, Dewey, Bartlesville, Skiatook, Collinsville, Sperry, Owasso, Tulsa, Nowata, Oologah, Port of Catoosa, Claremore, Pryor, Chouteau, Locust Grove, Wagoner, Fort Gibson, Vinita, Langley, Miami, Grove, and Jay. Minor cities of note include South Coffeyville, Adair, Quapaw, Afton, and Ketchum.

The sub-basin is subdivided into nine 8-digit hydrologic units (HUC) within the state. These HUC's are the Middle Verdigris (11070103), the Lower Verdigris (11070103), the Caney (11070106), the Bird (11070107), the Middle Neosho (11070205), the Grand Lake (11070206), the Spring (11070207), the Elk (11070208), and the Lower Neosho (11070209). The major surface waters in the basin are the Verdigris and Grand/Neosho Rivers. Major tributaries include Caney River, Little Caney River, Spring River, Elk River, Sand Creek, Bird Creek, Big Creek, Dog Creek, Tar Creek, Honey Creek, Big Cabin Creek, Spavinaw Creek, Pryor Creek, and Spring Creek. Nine major lakes are located in the basin—Hulah Lake formed by the Caney River, Copan Lake formed the Little Caney River, Bluestem Lake formed by the headwaters of Bird Creek, Skiatook Lake formed by Hominy Creek, Oologah Lake formed by the Verdigris River, Grand Lake formed by the Neosho, Spring, and Elk Rivers (among other creeks), Lake Eucha formed by Spavinaw Creek, Spavinaw Lake formed by Spavinaw Creek, Lake Hudson formed by the Neosho River and Spavinaw, Rock, and Saline Creek, and Fort Gibson Lake formed by the Neosho River and Clear and Fourteen Mile Creek. Fifteen active permanent water quality-monitoring stations are located in the basin. Three inactive water quality-monitoring stations (Verdigris River near Nowata, Big Cabin Creek near Pensacola, and Pryor Creek near Sportsman Acres) are located in the sub-basin. Verdigris River near Nowata and Big Cabin Creek near Pensacola were last assessed in the 1999 BUMP report while Pryor Creek near Sportsman Acres was last assessed in the 2000 BUMP report.

The sub-basin is characterized by four ecoregions. The Central Irregular Plains is the primary ecoregion covering the central portion of the sub-basin, the majority of Ottawa and Cherokee Counties, and part of Delaware County. The Central Oklahoma/Texas Plains covers the majority of Osage County and parts of Tulsa and Washington Counties. The Ozark Highlands typify the majority of Delaware County, one-quarter (¼) of Ottawa County, and a small part of western Mayes County. The Boston Mountains ecoregion is represented in a small part of eastern Cherokee County. The primary land usage in the sub-basin is rangeland (open grasslands and woody areas). It dominates the western and north central portions of the sub-basin and is further interspersed throughout the southern, central and east central portions of the sub-basin. The secondary land uses are pastureland and forestland. Pastureland is interspersed throughout the eastern, central, and southern portions of the sub-basin with concentrations in Ottawa, Cherokee, Delaware, Craig, Rogers, Tulsa, and Washington Counties. Forestland (post oak–blackjack oak, hickory, and bottomland hardwoods) is interspersed throughout the entire sub-basin with heavy concentrations in Cherokee and Delaware Counties. The tertiary land use is cropland with heaviest concentrations in the central and east central portions of the sub-basing. Other land uses of note include farmsteads, major urban areas, wetlands, and confined animal feeding operations.

STATION NAME	FWP	PBCR	PPWS	AG	AES
BIG CABIN CREEK, OFF US 69, BIG CABIN	S	N/A	S	NS (12)	S
BIRD CREEK, SH 266, PORT OF CATOOSA	NS (5)	NS (6,7, 8)	S	S	S
CANEY RIVER, OFF US 75, RAMONA	NS (5)	NS (8)	S	S	NS(18)
ELK RIVER, SH 43, TIFF CITY (MO)	S	S	S	S	NT
HONEY CREEK, OFF SH 25, GROVE	S	NS (7)	S	S	T(15)
NEOSHO RIVER, OFF US 66, COMMERCE	NS (5, 16, 18)	NS(8)	S	S	NT
NEOSHO RIVER, OFF SH 137, CONNOR BRIDGE	NS (2, 3, 5)	S	S	S	NT
NEOSHO RIVER, SH 82, LANGLEY	NS(1, 3)	S	S	S	NT
NEOSHO RIVER, US 412, CHOUTEAU	NS(1, 3)	S	NS(15)	S	T(13, 15)
SPRING CREEK, OFF US 412, MURPHY	S	S	S	S	S
SPRING RIVER, OFF SH 137, QUAPAW	NS (3, 5)	NS (8)	S	S	NT
VERDIGRIS RIVER, US 412, INOLA	NS (5)	NS (8)	S	S	NT
VERDIGRIS RIVER, SH 10, LENEPAH	NS (5)	NS (8)	S	S	NT
VERDIGRIS RIVER, SH 20, KEETONVILLE	S	NS (8)	S	S	NT
VERDIGRIS RIVER, SH 51, WAGONER	NS (5)	NS (8)	S	S	NT
ASSIGNED OWQS BENEFICIAL USES					
FWP = FISH & WILDLIFE PROPAGATION			PBCR = PRIMARY BODY CONTACT RECREATION		
PPWS = PUBLIC AND PRIVATE WATER SUPPLY			AG = AGRICULTURE		
AES = AESTHETICS					
SUPPORT CODES					
S—FULLY SUPPORTING		NS—NOT SUPPORTING		T—THREATENED (NUTRIENTS)	
NT—NOT THREATENED (NUTRIENTS)		NEI—NOT ENOUGH INFORMATION		N/A—NOT APPLICABLE	
WATER QUALITY VARIABLES					
1—DISSOLVED OXYGEN		2—METALS (ACUTE)		3—METALS (CHRONIC)	
4—PH		5—TURBIDITY		6—FECAL COLIFORM	
7— <i>ESCHERICHIA COLI</i>		8— ENTEROCOCCI		9—METALS	
10— TOTAL DISSOLVED SOLIDS		11— CHLORIDES		12— SULFATES	
13— TOTAL PHOSPHORUS (TP)		14—TP OK SCENIC RIVER CRITERION		15— NITRITE + NITRATE	
16—BIOCRITERIA		17—SESTONIC CHLOROPHYLL-A (TSI)		18—SEDIMENTATION	