

2019 summary of data collection within the Central Pine Barrens Region

This document provides a summary of surface water-quality, streamflow, and groundwater data collected by the U.S. Geological Survey (USGS) within the Central Pine Barrens (CPB) Region of Suffolk County, New York. The data were collected in cooperation with the Central Pine Barrens Commission and the Town of Brookhaven as part of a five-year comprehensive water resources monitoring program.

Water Quality

The surface water-quality data within the CPB for the 2019 water year (October 1, 2018 to September 30, 2019) includes data from the Carmans River and the Peconic River. The streams were sampled several times throughout the year at seven pre-determined locations. The Carmans River was sampled at five locations: 1) CARMANS RIVER AT MIDDLE ISLAND NY (01304990; Bartlett), 2) CARMANS RIVER NEAR YAPHANK NY (01304995; Upper Lake), 3) CARMANS RIVER BELOW LOWER LAKE AT YAPHANK NY (01304998; Lower Lake), 4) CARMANS RIVER AT YAPHANK NY (01305000; Carmans Gage), and 5) CARMANS RIVER AT SOUTHHAVEN NY (01305040; Tidal). The Peconic River was sampled at two locations: 1) PECONIC RIVER NEAR CALVERTON NY (01304440; Connecticut Ave) and 2) PECONIC RIVER AT RIVERHEAD NY (01304500; Peconic Gage).

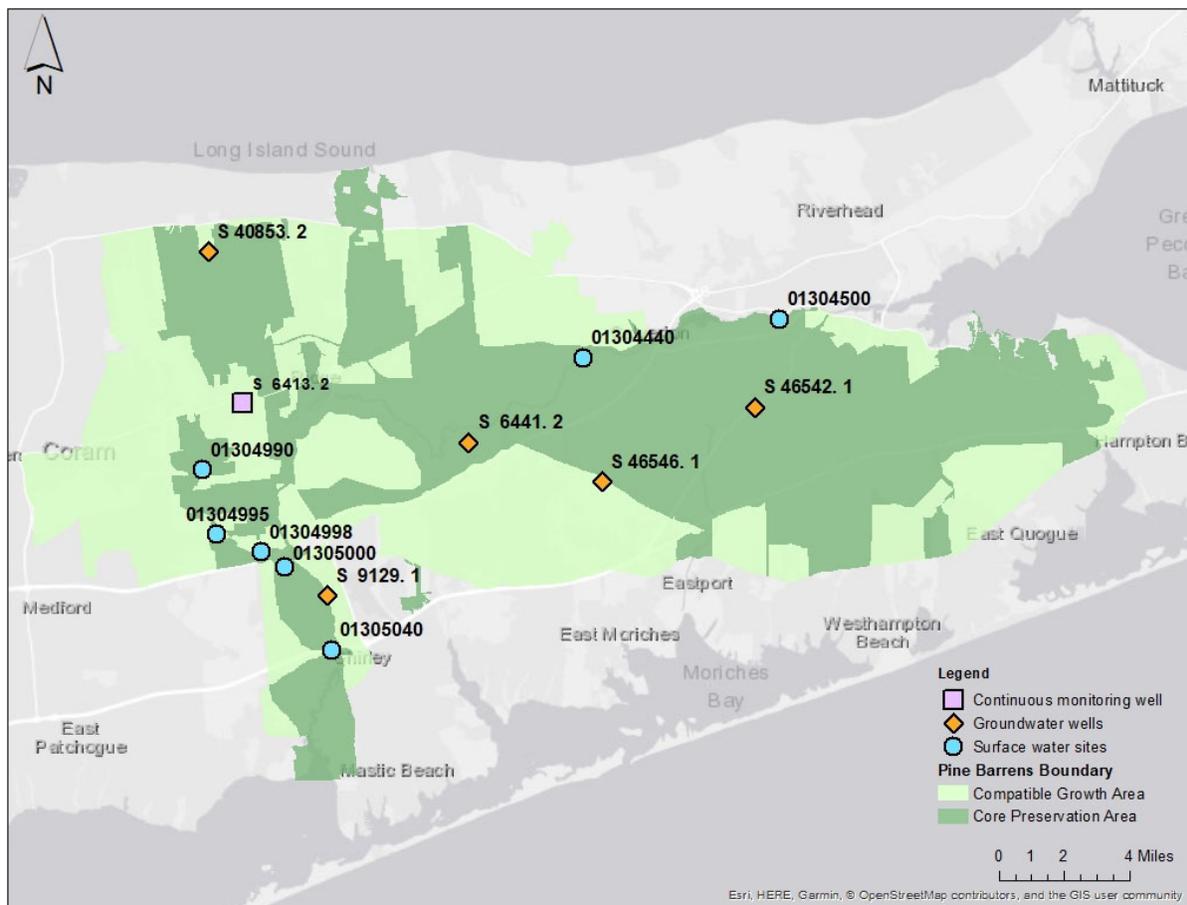


Figure 1. Hydrologic monitoring sites within the CPB as described in USGS agreement with CPB commission and the town of Brookhaven.

Carmans River sites were sampled four times throughout the year (fall, winter, spring, and summer) and Peconic River sites were sampled twice throughout the year (fall and spring). Field measurements including water temperature, pH, specific conductance, dissolved oxygen, and turbidity were taken at each site visit. All samples collected were analyzed for nutrients, major inorganics, trace metals, and alkalinity. Samples collected at three sites (01304440, 01304500, and 01305000) were analyzed for pesticides and pharmaceuticals once during the 2019 water year. These data are available in the 2019 data release (Bayraktar and other, 2020*) as well as the USGS National Water Information System (NWIS, <https://waterdata.usgs.gov/nwis>).

Quality assurance and quality control data collected as part of the surface water-quality project for the CPB included one equipment blank, one field blank, one environmental sample replicate, and one pesticide field spike.



Figure 2. USGS hydrologic technician collecting water quality data at Lower Lake (01304998) at the Carmans River. Photo Credit: New York Water Science Center.

Water Quantity

Streamflow for the Carmans River and the Peconic River was measured at the seven sites where surface water-quality samples were collected (01304440, 01304500, 01304990, 01304995, 01304998, 01305000, 01305040). Each stream has a continuous-record streamflow station with water-stage-gaging equipment. These data are reviewed and available in NWIS and WaterWatch (<http://waterwatch.usgs.gov>).

In the CPB, groundwater-level elevations were measured monthly at 29 wells, and annually at an additional 17 wells. Three wells within the CPB region are equipped with continuous water-level recorders which record data in 15-minute intervals. Of these wells located within the CPB, the six groundwater wells are monitored under the agreement with the CPB commission and the town of Brookhaven (405308072553102, S 6413. 2; 405220072493101, S 6441. 2; 404915072531801, S 9129. 1; 405610072562501, S 40853. 2; 405301072415101, S 46542. 1; 405131072455701, S 46546. 1) agreement and their locations are available in figure 1. One of these wells (S 6413. 2) is a continuous recorder. These data are reviewed and available in NWIS (<https://waterdata.usgs.gov/nwis/gw>) and GroundwaterWatch (<https://groundwaterwatch.usgs.gov/>).

These water-quality, streamflow and groundwater measurements collected in the CPB region are part of a larger USGS monitoring program that provides information on the hydrologic conditions throughout Long Island. This larger network is funded through USGS in cooperation with State, County, and local partners, and provides the information needed for various water management, ecological, and engineering issues, and to produce USGS water-level maps, depth-to-water maps, and hydrological-study reports.

*Bayraktar, B.N., Fisher, I.J., and Simonson, A.E., 2020, 2019 Hydrologic Data Summary for the Central Pine Barrens Region, Suffolk County, New York: U.S. Geological Survey data release, <https://doi.org/10.5066/P9KODN4C>.