TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

SUMMARY

The **geologic structure** of the Pomperaug River watershed includes a down faulted block known as the Pomperaug Basin. This basin has filled with glacial sands and gravels creating a significant groundwater resource known as the Pomperaug Aquifer (Pages 8-12; Aquifer Map - Page 4).

The potable water supply has been sufficient thus far to support growing communities in the region. The quantity and quality of the basin's water resources continue to be assessed (Page 15).

Diversions of water include registered maximum withdrawals of 16.9 million gallons per day, which exceed United States Geological Survey (USGS) estimates for what the aquifer deposits can actually provide (Page 15). Data are incomplete on actual withdrawal amounts. The Pomperaug River (Southbury section) is on the Connecticut Department of Environmental Protection's (CTDEP) Impaired Waterbodies 303(d) list for flow impairment (Page 17).

Water quality classification by the CTDEP indicates that surface and ground waters are generally potable, and meet criteria for recreational use and fish and wildlife habitat. However, there are local areas of concern, such as the MTBE and trichloroethane contaminations in Woodbury (Page 33; Water Quality Classification Map - Page 29).

Wastewater treatment facilities are located in Southbury at the Southbury Training School, IBM, and the Heritage Village Sewer Company. Combined, they are permitted to discharge up to 1,163,000 gallons of wastewater per day into the Pomperaug River and its tributaries (Page 31).

Changing land use in the region including rapid suburban development is altering the natural environment and placing increasing demands on local resources, especially water supplies. Bethlehem, Southbury and Woodbury are among the fastest growing towns in the region. Increased impervious cover associated with development results in increased runoff, which can include contaminants, and diminish the percolation of water into the aquifer. Continued growth will likely result in increased demand for out-of-basin transfers of water (Pages 5, 14, 37).

Management responsibilities for watershed resources are divided among town, state and federal agencies. Town agencies include planning and zoning and inland wetland commissions, water pollution control authorities and local public health districts. State agencies include the Connecticut Department of Environmental Protection, the Connecticut Department of Public Health, the Department of Public Utility Control, and the Connecticut Department of Agriculture. Federal agencies include the United States Geological Survey, the United States Environmental Protection Agency, the United States Department of Agriculture Natural Resources Conservation Service, and the Litchfield County Soil and Water Conservation District (Page 37).

Open space in the Pomperaug River watershed helps support the natural functioning of the Pomperaug River, minimizes development impacts in critical habitat areas, and provides recreational opportunities and overall quality of life in the watershed (Page 40).
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ACKNOWLEDGEMENTS

This project was funded by the Council of Governments of Central Naugatuck Valley (COGCNV) and The Pomperaug River Watershed Coalition, Inc. (PRWC). COGCNV is a regional planning organization concerned with the physical development and conservation of the Central Naugatuck Valley region, which includes many of the towns in the Pomperaug Watershed. The PRWC is a voluntary partnership of stakeholders dedicated to protecting the quantity and quality of the Pomperaug River's surface and subsurface waters as well as the plants and wildlife that contribute to its natural beauty.

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The Pomperaug River Watershed Coalition, Inc.
The Woodbury Junior Women's Club
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The Watertown Fire District
River's Alliance of Connecticut
The United States Geological Survey
The Natural Resources Conservation Service
The Towns of Bethlehem, Middlebury, Morris, Oxford, Roxbury, Washington, Watertown, Woodbury and Southbury

Comments and feedback to this report are welcome.
Please direct all correspondences to:

The Pomperaug River Watershed Coalition, Inc.
P.O. Box 141
Southbury, CT 06488
Phone: (203) 267-1700
Fax: (203) 264-0222
info@pomperaug.org

INTRODUCTION

This report is designed to provide an overview of current conditions in the Pomperaug River Watershed. It is primarily intended to serve as an information source for those involved in the management of the Pomperaug River and surrounding watershed lands. This assessment is preliminary in nature, and provides baseline data that will be used to develop a comprehensive watershed management plan for the region. To increase public awareness of watershed issues, a summary version of this report has been widely distributed to households and businesses in the Pomperaug watershed. This report is also available on The Pomperaug River Watershed Coalition (PRWC) website at www.pomperaug.org.

The 90 square mile (56,958 acre) Pomperaug River Watershed is located in west central Connecticut. This area, renowned for its rural atmosphere, rolling hills, densely wooded forests, and rocky soils, is the result of millions of years of geologic, climatic, and human activity. The movement of the earth's continents and glacial regressions and other geological processes helped produce a landscape similar to the fertile Connecticut River Valley (Bell, 1985). One of the most important geological features of this watershed is the underlying stratified-drift aquifer - the predominant source of potable water in the region.

A *watershed* is the area that drains to a river, lake or other body of water. Within a larger watershed or drainage basin, there are typically sub-drainage basins that contribute surface flows into lower lying streams and wetlands. An *aquifer* is a geologic formation (sediments or rock) that contains a usable amount of water. Stratified-drift aquifers, of the sort found in the Pomperaug River Watershed, are highly productive, potentially yielding millions of gallons of water per day.

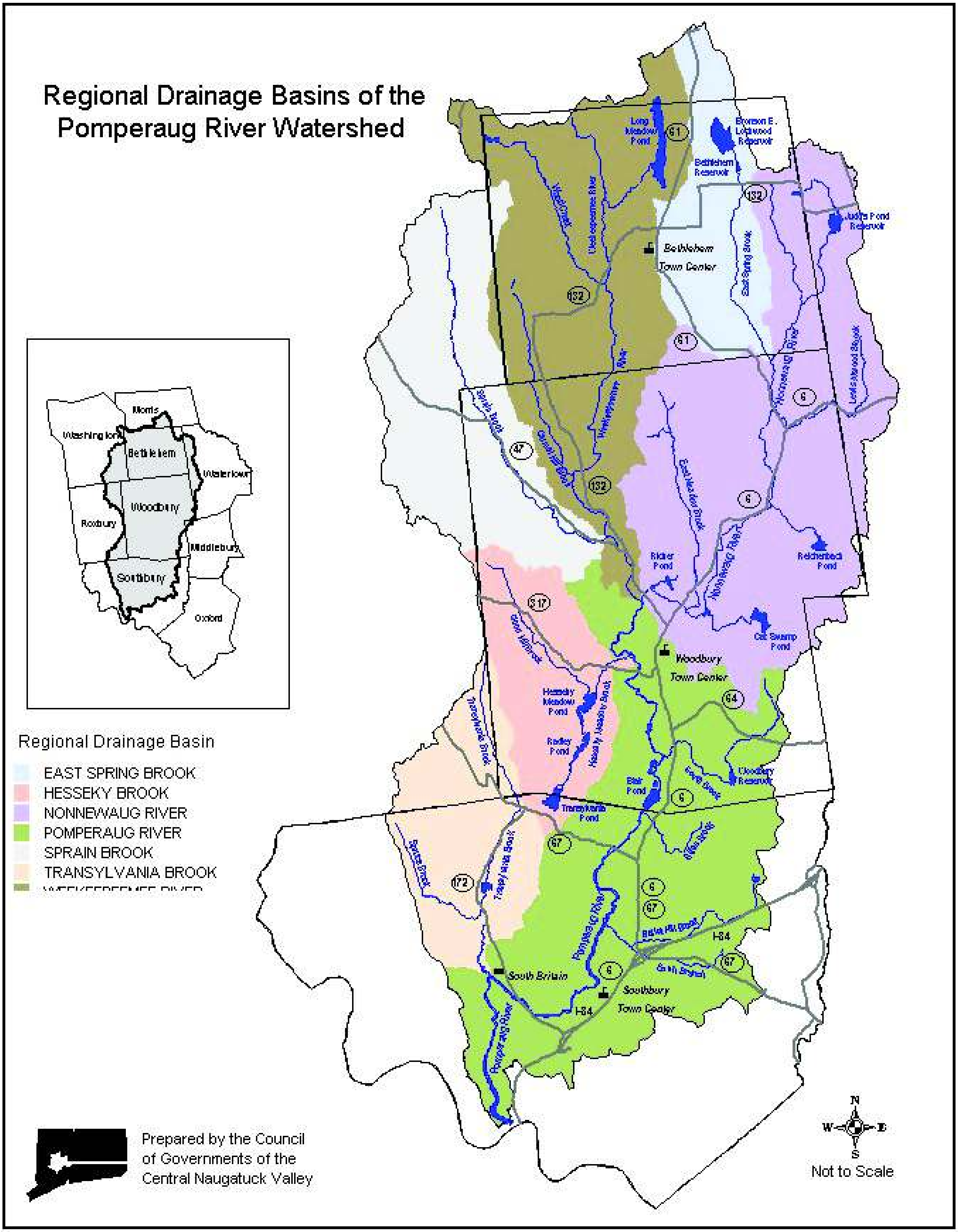
The main stem of the Pomperaug River flows from the center of Woodbury through the town of Southbury, and ultimately discharges into the Housatonic River at Lake Zoar. The two main tributaries to the Pomperaug are the Nonnewaug and Weekeepeemee Rivers. It is at the confluence of these two rivers where the Pomperaug River begins. The Pomperaug River

Watershed consists of seven sub-regional drainage basins (Figure 1). A total of eight towns, Bethlehem, Middlebury, Morris, Roxbury, Southbury, Washington, Watertown, and Woodbury, are partially situated within the watershed, although Bethlehem, Southbury, and Woodbury combined encompass 83% of the total watershed area. The majority of the Pomperaug Aquifer falls within the towns of Woodbury and Southbury (Figure 2). Table 1 is a summary of the area of each of the eight towns within the watershed.

Table 1. Land area of towns within the Pomperaug River watershed based on GIS data from Uconn MAGIC website.

Town	Total Town Acreage	Acreage in Watershed	Percent of Town in Watershed
Bethlehem	12,608	11,974	95%
Middlebury	11,520	184	2%
Morris	12,032	894	7%
Roxbury	16,896	2,982	18%
Southbury	26,176	12,623	48%
Washington	24,768	3,272	13%
Watertown	19,072	2,491	13%
Woodbury	23,552	22,534	96%

The population in the eight watershed towns and the town of Oxford has increased dramatically since 1960 (Figure 3, Appendix 1). The population of Woodbury and Southbury increased by over 50% between 1960 and 1970. Between 1970 and 1980, the population of Southbury increased by 80.3%, due largely to the development of Heritage Village. Although Oxford lies outside of the Pomperaug Watershed, it receives some of its water from the Aquifer and is therefore included in this analysis. As the population in these towns has increased over the last several decades, demands for water for drinking and industry also have increased. The demand for water by watershed towns and surrounding municipalities is expected to continue to grow in the future.


Regional Drainage Basins of the
Pomperaug River Watershed
Morris
Washington
Bethlehem
Watertown
Woodbury
Roxbury
Middlebury
Southbury
Oxford
Regional Drainage Basin
EAST SPRING BROOK
HESSEKY BROOK
NONNEWAUG RIVER
POMPERAUG RIVER
SPRAIN BROOK
TRANSYLVANIA BROOK
Bethlehem
Town Center
Woodbury
Town Center
South Britain
Southbury
Town Center
Pomperaug River
Prepared by the Council
of Governments of the
Central Naugatuck Valley
Not to Scale

The Pomperaug River Aquifer

Pomperaug Aquifer

Prepared by the Council of Governments of the Central Naugatuck Valley

Not to Scale