

CHAPTER ONE

Introduction

The Water Programs Division of the Pierce County Public Works and Utilities (Water Programs) is responsible for surface water management in unincorporated Pierce County. In carrying out this responsibility, Water Programs plans, designs, secures permits for, builds, and maintains storm drainage and surface water management facilities. Water Programs also identifies nonstructural solutions to surface water problems such as monitoring needs, aquatic habitat enhancement, water quality improvement activities, enforcement, regulatory changes, and other services. Related responsibilities include compliance with the requirements of the federal Clean Water Act, the County's Stormwater National Pollutant Discharge Elimination System (NPDES) permit, the federal Endangered Species Act, and the State Water Pollution Control Act. Other related responsibilities consist of river levee maintenance, stream gaging, water quality monitoring, gathering of rainfall data, emergency response during floods, and public information. Fees paid by property owners in unincorporated Pierce County and grant funds pay for these facilities and services.

This basin characterization report is the result of Phase I efforts in developing a basin plan for the White River and its tributaries including Lake Tapps (Figure 1-1). It includes an overview of the approach Pierce County is following in developing basin plans, the regulatory context that affects stormwater management in the basin, the results of the White River Basin characterization, and recommendations for additional work needed to address current and potential stormwater issues.

1.1 OVERVIEW OF BASIN PLANNING PROGRAM

Water Programs is preparing a series of 10 basin plans for drainage basins in the County. The basin plans comprehensively address flooding, water quality, and habitat aspects of surface water management in the stream systems of nonfederal lands within the County. Water Programs will use the basin plans to set priorities within each basin and to revise or supplement existing storm drainage programs outlined in the *Pierce County Storm Drainage and Surface Water Management Master Plan* (Pierce County 1991), also known as the Countywide Storm Drainage Plan or the 1991 Plan. The basin plans include advisory recommendations that may be useful to other departments or agencies in the basin.

The basin plans embody a comprehensive approach to surface water management. Historically, conventional stormwater drainage plans have had a single purpose: removal of excess water from city streets and away from properties as rapidly as possible. With this single purpose in mind, stormwater drainage solutions have tended to rely on piped systems and engineered channels that minimize resistance to water flow. But the conventional engineering approach has significant disadvantages. The value of natural water bodies as fish and wildlife habitat and as a public amenity is often lost, as is the water body's ability to remove and break down pollutants and to store and meter out flood waters naturally. Rapid downstream flow of stormwater decreases

opportunities for groundwater recharge, which in turn leads to a reduction in streamflow during dry periods. Pierce County seeks to avoid the disadvantages of conventional stormwater drainage approaches by preparing basin plans that provide practical solutions to surface water problems without sacrificing environmental quality. The specific goals and objectives of the basin plans are described in Section 1.2.

Pierce County basin planning is completed in three phases:

- Phase I is a characterization of physical, hydrologic, and cultural aspects of the basin. During the Phase I characterization, data needed for detailed analysis and subsequent project development are acquired by a combination of field work and compilation of published data and reports. A strategy for stakeholder involvement also is developed in Phase I.
- Phase II of basin planning involves analyzing and developing alternative solutions to the present and potential future flooding and environmental problems identified in Phase I. Alternative solutions are reviewed with stakeholders, preferred solutions selected, and a recommended basin plan prepared for consideration by the policy makers.
- Phase II of basin planning process is plan implementation and effectiveness monitoring.

Development of basin plans provides opportunities to ensure that actions taken to improve stormwater drainage comply with federal, state, and local laws and regulations. Of particular concern is compliance with the federal Clean Water Act (CWA), Endangered Species Act (ESA), and the National Flood Insurance Program (NFIP). The requirements of these laws and regulations have changed since the 1991 Plan was prepared. Federal, state, and local laws and regulations are discussed in Chapter 2 of this basin plan.

The basin plans enable coordination between cities within and adjacent to the basin and provide for programs that can leverage both County and cities' compliance requirements.

The basin plans provide information and recommendations that could be used for salmonid conservation and recovery planning. The information in the basin plans will support the County's efforts to use the Ecosystem Diagnosis and Treatment (EDT) method to determine the effects of environmental change on salmonid populations and assess the overall effectiveness of County actions on salmonid conservation and recovery.

The basin plans also support the County's Hazard Mitigation Planning, which is required by FEMA (as a result of Congressional action) for local governments to retain eligibility for federal disaster relief funding (44 CFR, Section 201.1). The basin plans provide flood hazard planning information, which is consistent with FEMA's Hazard Mitigation Plan requirements.

Figure 1.1 continued

1.2 PURPOSE, GOALS, AND OBJECTIVES OF BASIN PLANNING

Pierce County developed goals and objectives for the basin planning program in order to provide direction and consistency to the basin plans developed (Pierce County 2000).

1.2.1 Purpose

The purpose of the basin planning program is to create a comprehensive approach to reducing flood hazards, improving fish habitat, and improving water quality throughout unincorporated Pierce County by updating the 1991 Plan.

1.2.2 Goals and Objectives

In this instance, *goals* refer to the desired outcomes of implementing the plan. The goals should remain the same in each basin plan. The *objectives* describe measurable indicators that the goals are being achieved and may be supplemented to reflect the unique character of a specific basin. The goals (shown in bold) and objectives (listed as bullets) of the basin planning program are described below.

Reduce flood hazards

- Incidents of property loss and repeat damage are reduced.
- Streams will not be adversely impacted by flood events.
- Pierce County's standing under the FEMA CRS is improved.
- New development is located outside flood-prone areas.

Improve fish and wildlife habitat

- Number of stream miles available for wild, native fish populations is increased.
- Population numbers of species listed as endangered or threatened under the Federal ESA are maintained or increased.
- Quality and quantity of available wetland, riparian, and upland habitat is improved

Improve water quality

- State Surface Water Quality Standards (WAC 173-201a) are met or exceeded.
- Number of impaired water bodies (as listed in Section 303[d] of the CWA) is reduced.
- The terms and commitments in Pierce County's NPDES permit for stormwater are in compliance.

- Risk of groundwater contamination is reduced.
- Rates of erosion are reduced.

Coordinate use of public resources responsibly

- Cost of maintaining stormwater facilities is reduced.
- Project value is favorable when measured against costs and benefits.
- Polls demonstrate that public awareness of flooding, habitat, and water quality issues has increased.
- Monitoring and enforcement programs demonstrate an increase in services per dollar spent.
- Basin plan implementation also implements elements of other Pierce County plans.

Influence location and methods for new development

- New development in flood-prone, riparian, or significant habitat areas is prohibited.
- Low-impact development techniques are widely used.
- Effective best management practices are identified and widely used.

1.3 THE WHITE RIVER BASIN PLAN

This White River Basin Characterization Report (Phase I) describes the physical system, current conditions, and land use planning in the basin. The plan identifies surface water management issues, such as water quality, flooding, and habitat, for the basin with a focus on the unincorporated areas of Pierce County.

During Phase II of basin planning, detailed analysis will be conducted and recommendations developed to reduce flood hazards and improve water quality, fish passage, and riparian habitat in the basin. The completed White River Basin Plan (at the end of Phase II) will identify capital facility projects and programs that help address critical current and future stormwater management issues in the basin. Phase III of basin planning will be implementation of the recommendations and long-term monitoring to evaluate improvements in basin conditions.

1.4 REPORT ORGANIZATION

The remainder of the report provides the basin information in the following order:

- Chapter 2: Describes the regulatory context in which the basin plan was prepared, including existing related planning programs.

- Chapter 3: Describes stakeholder involvement in Phase I of plan preparation and proposed involvement for Phase II of plan preparation.
- Chapter 4: Describes the overall existing physical and biological conditions in the White River Basin. Gives a more detailed description of rivers and streams in the basin prioritized by Pierce County for the Phase I characterization, and their condition as recorded during field surveys conducted by URS in October and November of 2004.
- Chapter 5: Describes various problems in the basin including flooding, degradation of water quality in the basin and in Lake Tapps, and degradation of fish and wildlife habitat.

During Phase II of the basin planning process, the remaining chapters of the basin plan will be developed in accordance with Pierce County basin planning guidance (Pierce County 2000). Problems will be analyzed and conceptual solutions will be developed in Chapters 6, 7, and 8. The development of basin plan alternatives will be described in Chapter 9. Chapter 10 will contain the recommended basin plan. Chapter 11 will analyze the environmental impacts of the basin plan, as required by the State Environmental Policy Act (SEPA).

[This page left blank intentionally.]