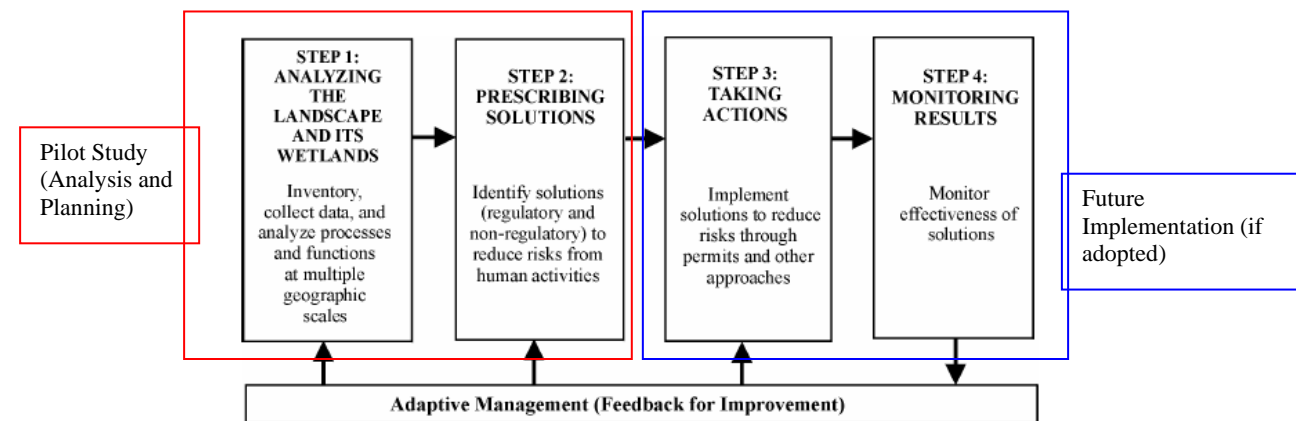


EXECUTIVE SUMMARY

Next Steps

Once the Pilot Study is finalized, the Birch Bay community will be asked to discuss what portions of the study to implement and how the implementation should occur. Whatcom County is pursuing grant funding in order implement solutions that lead to water quality and flood improvements in the watershed.



For More Information

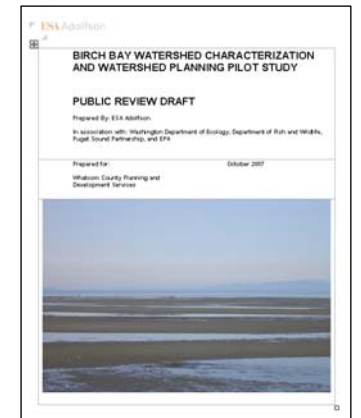
The study results, including initial management recommendations for the Birch Bay watershed, are summarized in a technical report available for review at:

http://www.co.whatcom.wa.us/pds/shorelines_critical_areas/pdf/CompleteBBCharacter_PublicDraft.pdf

Contact: Peter Gill
Whatcom County Planning and Development Services
676-6907



BIRCH BAY WATERSHED CHARACTERIZATION & WATERSHED PLANNING PILOT STUDY



EXECUTIVE SUMMARY

In recent years, significant resources have been allocated towards gathering information and creating plans to guide development within the Birch Bay Watershed. Many of the ongoing planning efforts share common goals for actively managing stormwater to meet natural resource objectives for maintaining ecosystem health, recovering salmonid populations and improving nearshore habitat conditions. This pilot study incorporates and builds upon these earlier planning efforts while further examining the future development pressures in the watershed. The study is not intended to supplant previous efforts, but provides further direction to evaluate recommendations, identify cost-effective management strategies and sources of funding, and implement collaborative, solutions-oriented land use practices.

This pilot study provides preliminary recommendations for land use planning and resource management that will maintain, or preferably improve, the quality and condition of local wetland, stream, nearshore and terrestrial resources in the Birch Bay watershed.

The Pilot Study was completed by ESA Adolfson, and funded by the Department of Ecology and Puget Sound Partnership.

The study was conducted in steps:

Work began with an **inventory** of streams, wetlands, riparian areas, and basin boundaries.

↳ Followed by an **analysis** of water quality and water flow processes, wildlife and habitat conditions, and future development patterns.

↳ The **synthesis** of the first two steps are recommended watershed specific management strategies.

Project Goals

Overall goals of this study include:

- Develop more effective and efficient decisions related to land use management issues at the local level.
- Identify areas within Birch Bay for protection or restoration of ecosystem processes necessary for long-term functioning of marine and freshwater systems while also guiding the location and design of new development as described in the Birch Bay Sub Area Plan.



EXECUTIVE SUMMARY

Technical Components

Inventory of Aquatic Resources (Chapter 3) – High resolution elevation data was used to delineate water bodies, streams, and detailed watershed boundaries (32 drainages). Further mapping was done for wetlands, riparian corridors and land cover. Mapping of wetlands and riparian areas included an assessment of current conditions, general class and restoration potential.

Analyzing Future Development Patterns (Chapter 4) - A futures-based land use and development scenario was developed to understand potential development patterns within the basin based on current regulatory and zoning frameworks applicable in Birch Bay.

Evaluating Water Processes (Chapter 5) - Patterns of water, nitrogen and pathogen movement through the watershed were identified using an approach developed by the Department of Ecology to determine the relative importance of each basin for these processes (see Appendix D).

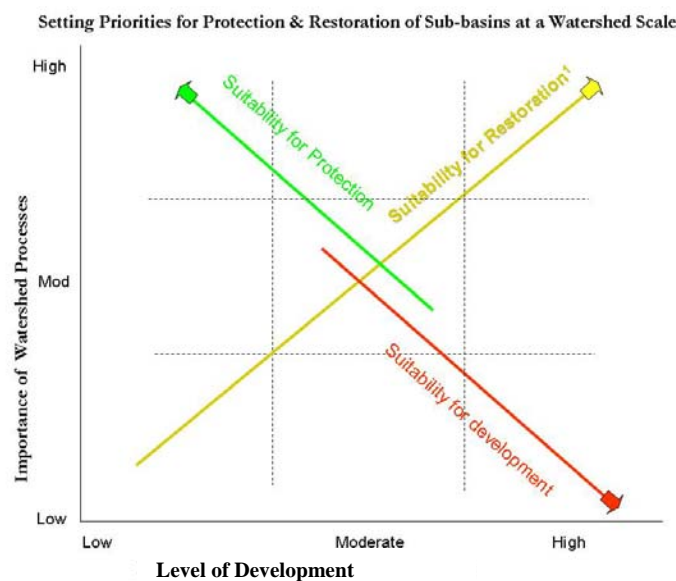
Assessing Wildlife and Habitat Conditions (Chapter 6) - Wildlife use and available habitat conditions within the watershed were assessed to provide greater context for understanding overall ecological conditions and future management options (see also Appendix E).

Synthesizing information (Chapter 7) - Characterizing the ecological processes, habitat conditions and potential development patterns within the Birch Bay study area is central to developing a

Multi Agency Working Group

The Birch Bay Watershed Characterization and Watershed Planning Pilot Study is the product of a collaborative effort by local, state and federal agencies to create watershed management recommendations using integrated watershed characterization tools and techniques. This pilot study was initiated by a Multi-Agency Working Group (MAWG) and the Whatcom County Planning and Development Services Department. The primary participants of the MAWG include the Environmental Protection Agency, the Washington Department of Ecology, the Washington Department of Fish and Wildlife, the Department of Transportation and the Puget Sound Partnership (PSP, formerly Puget Sound Action Team).

successful **watershed-based plan** for land use, stormwater management and natural resource protection/restoration. A comprehensive, process-based characterization provides the local community with critical information regarding ecologically sensitive areas, further identifying and prioritizing locations within the watershed for protection, restoration and/or development.



WATERSHED CHARACTERIZATION & WATERSHED PLANNING PILOT STUDY

Recommendations Summary

The results of this study depict the priority protection, restoration and development areas. These recommendations have not been adopted by Whatcom County. However, these results provide a framework for developing a comprehensive watershed management plan for Birch Bay.

Central North and Birch Point Watershed Assessment Area WAAs

In these WAAs, the highest intensity development should be directed to sub-basins with lowest priority for restoration, (red and pink) excluding Birch Point, Shintaffer, Rogers Slough and Semiahmoo sub-basins. Higher density development within these sub-basins should be sited and designed using low impact development measures to minimize impacts to processes. Protect the processes of the Semiahmoo and Birch Point tributary sub-basins by minimizing forest clearing.

Central South WAA

This WAA provides important wildlife habitat and includes extensive areas that are important to water flow, pathogen removal and denitrification processes. Although significant alterations have occurred (primarily ditching, stream channelization, and development along the shoreline), effective restoration can offset adverse effects. Future development should be concentrated within existing areas of development.

Example of specific Land use Management Recommendations

- Restore woody cover, improving infiltration and slowing runoff.
- Plug ditches to increase residence time and/or route water to depressional wetlands prior to discharge to creeks.
- Maintain habitat mosaics for heron and other species.
- Restore floodplain of Terrell Cr by improving in-stream structure.
- Prohibit expansion of UGA into this area.

Terrell Creek (WAA)

The highest priority would be to focus terrestrial and aquatic habitat rehabilitation efforts in the Terrell Creek WAA, primarily along the stream corridor and within, and adjacent to, Lake Terrell. This watershed has the greatest potential for sustaining existing aquatic ecosystems because it has areas of intact habitat and processes and a full range of connected habitats from the marine shoreline to the lake. Areas with the highest vulnerability within the WAA include Point Whitehorn Uplands, Terrell Creek Mainstem 2, Terrell Creek Estuary, Lake Terrell Tributary 1 and the Industrial Tributaries sub-basins.

