1. INTRODUCTION

The *City of Bonney Lake's Shoreline Master Program* (SMP) consists of shoreline goals and policies contained in this chapter of the *Bonney Lake Comprehensive Plan*, shoreline regulations contained in Shoreline Code (Chapters 16.34 – 16.58 of the Bonney Lake Municipal Code (BLMC)), and the *City of Bonney Lake Shoreline Restoration Plan*. The SMP is adopted pursuant to the authority in Chapter 90.58 RCW and Chapter 173-26 WAC.

1.1 STATUTORY FRAMEWORK

In 1971, the State of Washington legislature enacted the Shoreline Management Act (SMA) in order "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shoreline" which the legislature determined "are among the most valuable and fragile" of the state's resources. To that end, the SMA established board policy goals related to the utilization, protection, restoration, and preservation of the shorelines and gave preference single-family residences and to:

- Uses that protect water quality, vegetation, and wildlife habitat.
- Uses which depend on the proximity to the shoreline.
- Uses which preserve and enhance public access or recreational opportunities for the public.

A citizen's initiative in 1972 designated that all lands within two hundred (200) feet of the shoreline would be regulated under the SMA.

The goal of the SMA is to create a regulatory framework that balances authority to regulate development on the shoreline between state and local government. Within this framework, the Department of Ecology has the responsibility for issuing guidelines for SMPs, assisting local governments in developing master programs, and determining if local SMP's meet the policy objectives of the criteria in RCW 90.58.090 and the requirements in Chapter 173-26 WAC. The City of Bonney Lake is responsible for the preparation of a SMP that establishes the policies, goals and regulations related to the future development and use of the shorelines that is tailored to the specific needs of the community and complies with the requirements of the established by the State.

1.2 VISION

The City of Bonney Lake's first SMP was adopted in 1975 and has not been subsequently updated; other than minor revisions to the administrative provisions. Key considerations within the original SMP included conservation, public access, guidance for water-oriented recreational uses, and allowance for residential development.

To address the changes since 1975, comply with the mandates of the SMA, and enable the City to plan for emerging issues, the City initiated a comprehensive update of its SMP in 2009. The updated SMP responds to current conditions and the community's vision for the future. In updating the SMP, the City's primary objectives were to:

- Enable current and future generations to enjoy an attractive, healthy, and safe waterfront.
- Protect the quality of water and associated natural resources of the State's shorelines.
- Preserve fish and wildlife habitats.
- Protect the investments of property owners along and near the shoreline.
- Have an SMP that is supported by Bonney Lakes elected officials, citizens, property owners, the State of Washington, and other key groups with an interest in the shoreline.
- Efficiently achieve the SMP mandates of the State.
- Plan for and foster all reasonable and appropriate uses.
- Provide opportunities for the general public to have access to and enjoy the shorelines of the state.

The City of Bonney Lake's SMP represents the City's participation in a coordinated planning effort to protect the public interest associated with the shorelines of the state while, at the same time, recognizing and protecting private property rights. The objective of the SMP is to preserve the public's opportunity to access the shorelines of the state and to protect the functions of shorelines so that, at a minimum, the City achieves a 'no net loss' of ecological functions. The SMP also promotes restoration of impaired ecological functions.

1.3 ORGANIZATION

The goals and policies in this Shoreline Chapter are grouped under five sections:

- Shoreline Designations
- General Shoreline Policies
- Shoreline Uses and Development
- Shoreline Modifications
- Shorelines of Statewide Significance

1.4 LAKE TAPPS RESERVOIR

Lake Tapps is the largest freshwater body in Pierce County with approximately 4.5 square miles of surface area (2,296 square acres) and 45 miles of shoreline. The City of Bonney Lake has jurisdiction over approximately 9.5 miles of the Lake Tapps' shoreline; the remaining 35.5 miles is under the jurisdiction of the Pierce County SMP.

Lake Tapps is a man-made water body constructed by Pacific Coast Power Company between 1909 and 1911 as part of the White River Power Plant. The project included the construction of a diversion facility near the City of Buckley to divert water from White River and 2.5 miles of dikes and embankments to create a reservoir that artificially raised the level of four natural lakes: Church, Crawford, Kirtley, and Tapps.

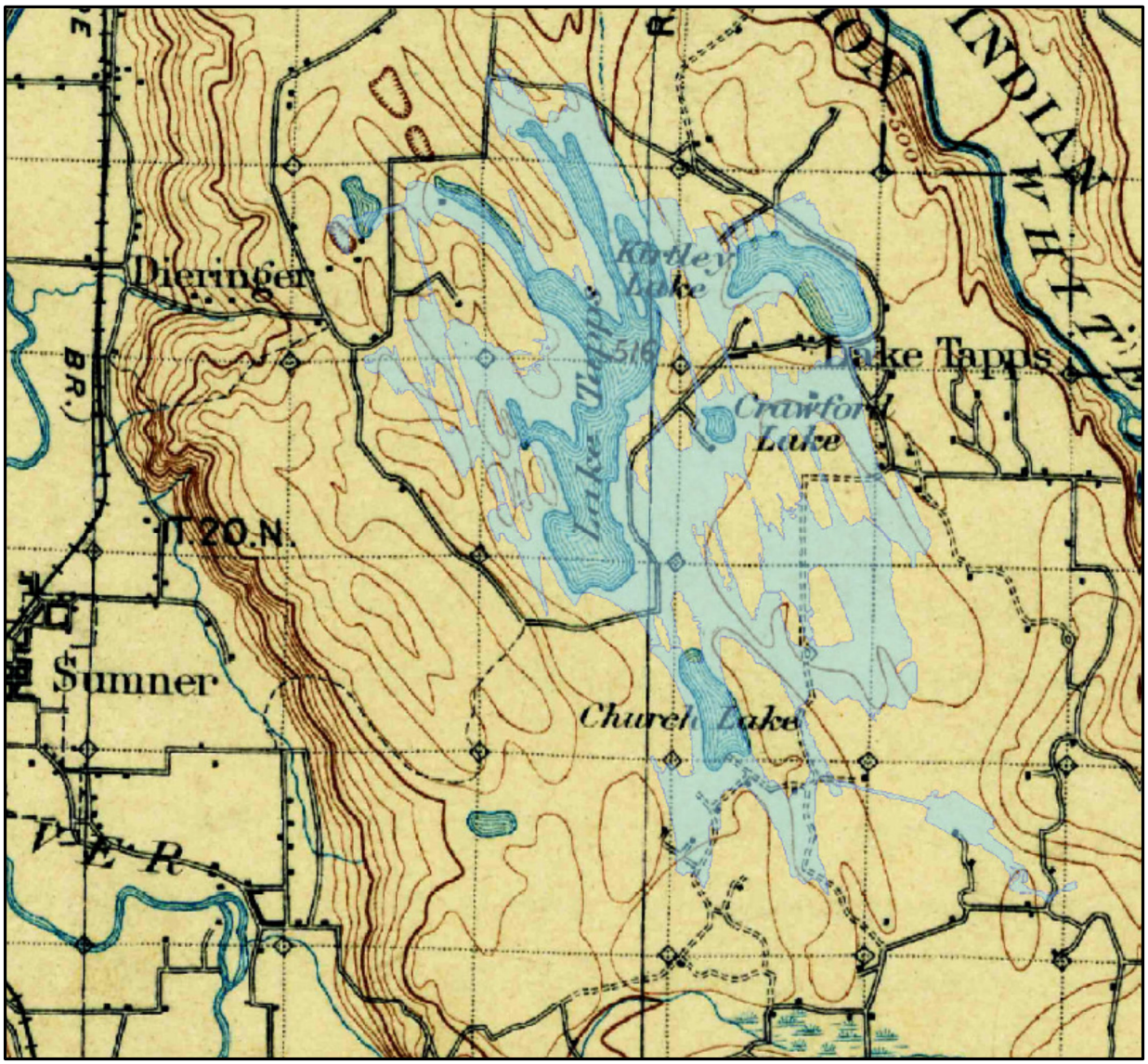

Figure 8-1: The four original lakes as shown on the 1897 USGS Map overlaid with the Lake Tapps Reservoir

The diverted water stored in the reservoir was originally used to turn turbine generator units in a powerhouse located on the valley floor near Derringer which supplied electricity to Tacoma and Seattle.[1]

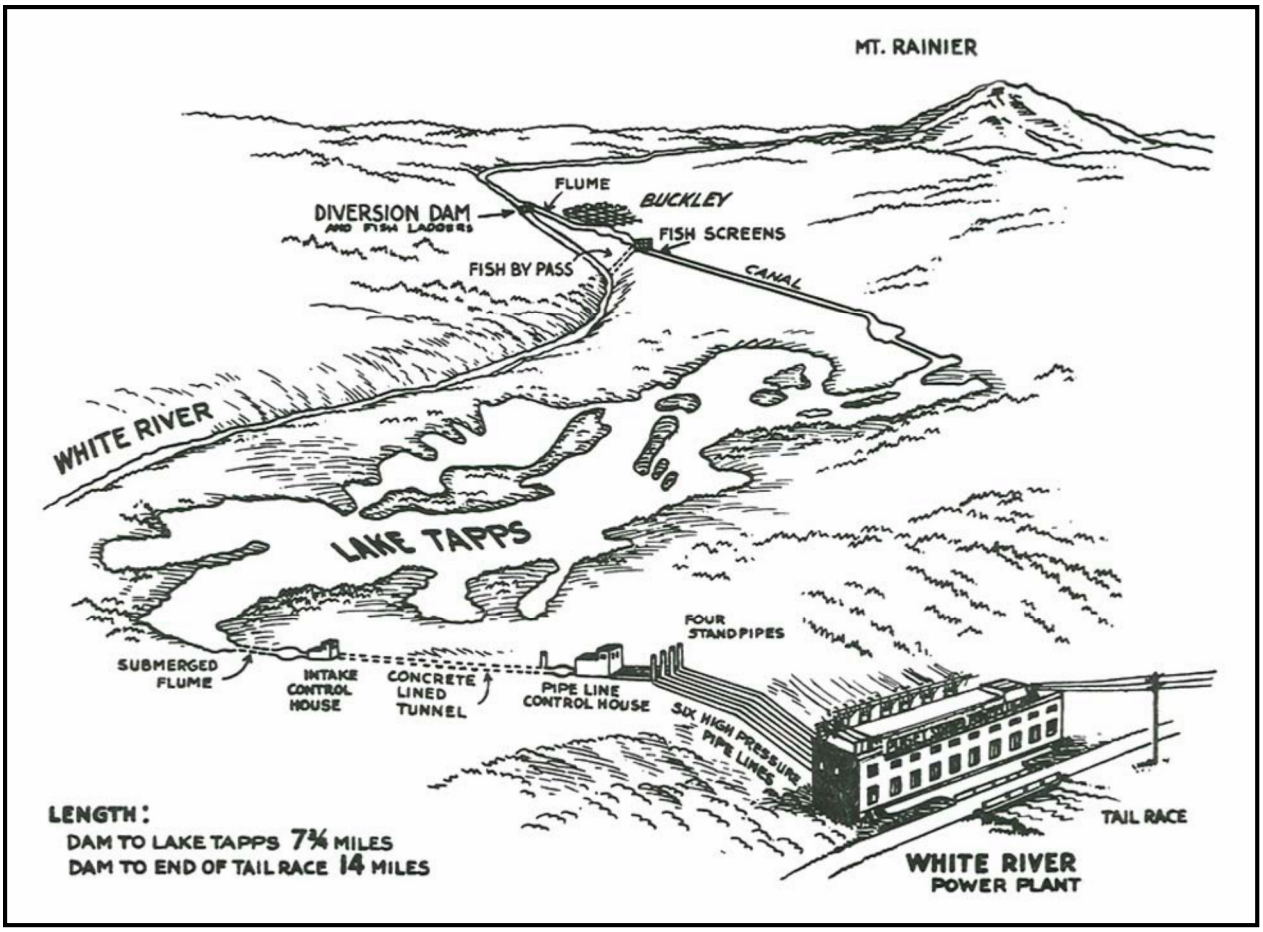

Figure 8-2: Historic Hydroelectric Facilities[2]

Lake Tapps was utilized for hydroelectric power generation by Puget Sound Energy (PSE) for nearly a century. PSE voluntarily ceased operations, in 2004, due to revisions to the operating license which included stronger environmental regulations established by the Federal Energy Regulatory Commission (FERC) making operation of the facility more expensive than alternative power sources.[3] In 2005 the Cascade Water Alliance[4] (CWA) and Pierce County entered into a Memorandum of Understanding for the long term management and operation of Lake Tapps as public water supply and public recreational amenity. The CWA subsequently purchased the White River Power Generation Facility from PSE in 2009 assuming the operation and maintenance responsibilities for Lake Tapps.

In 2010, the Department of Ecology granted CWA water rights which allows CWA to divert water from the White River to be stored and withdrawn from Lake Tapps for municipal water supply purposes. The project is planned to take 50 years to construct and once operations commence CWA has authority to take an average of 48 million gallons of water from Lake Tapps each day for public use. As part of the project CWA has entered into an agreement with the Muckleshoot and Puyallup Tribes to preserve and restore fish habitat in the White River.

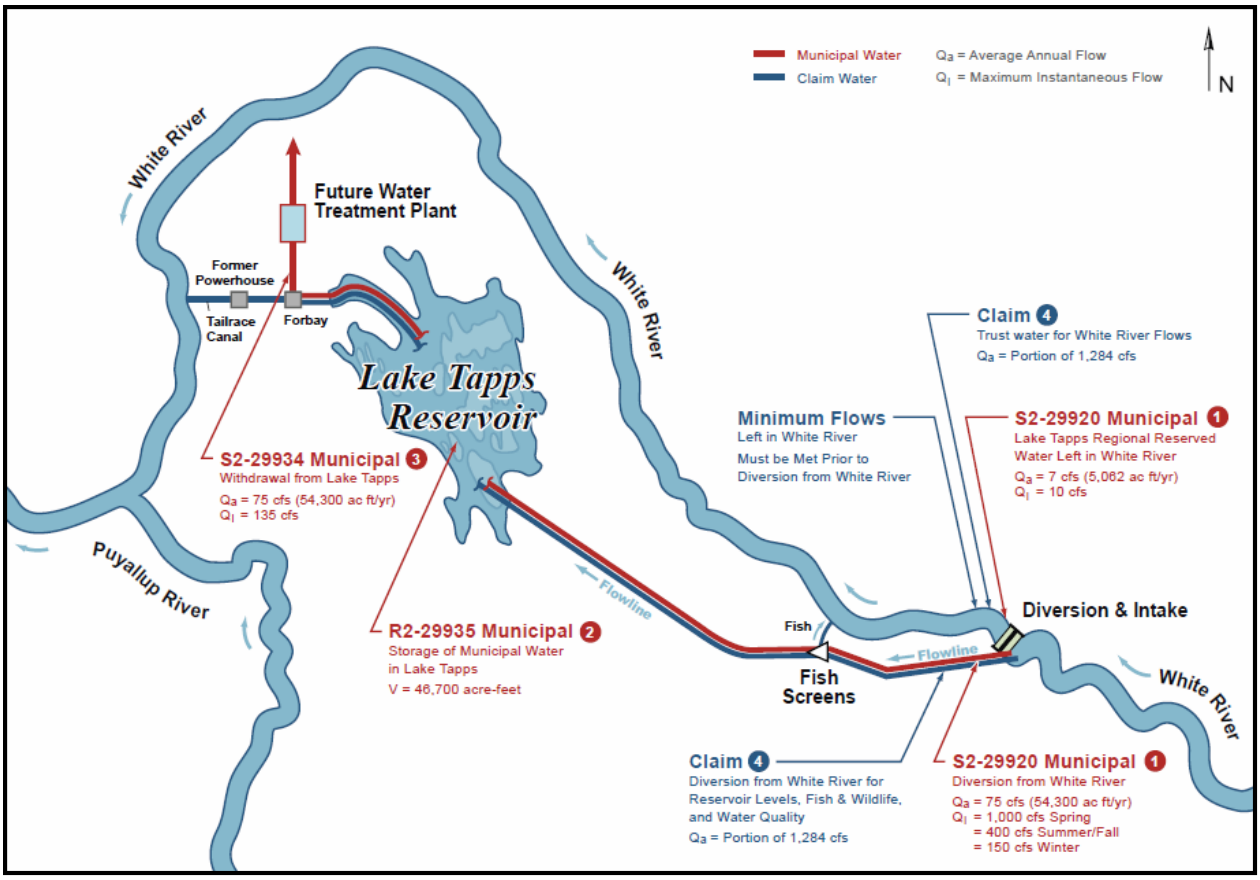

Figure 8-3: Plan for the CWA Water Supply Project[5]

1.5 FENNEL CREEK

Fennel Creek begins at a spring near the intersection of SR-410 and 234th Ave. E. and collects surface and spring runoff all along the corridor before flowing into the Puyallup River. The only portion of Fennel Creek within the jurisdiction of the SMA and regulated by the City's SMP is located below Victor Falls.

2. SHORELINE ENVIRONMENTAL DESIGNATIONS (SED)

Goal SL-1: Provide a comprehensive shoreline environmental designation system to systematically guide the use, development, preservation, and restoration of the shorelines of the state within the City of Bonney Lake.

Policy SL 1.1 Areas designated Aquatic ("A") shall be all areas waterward of the ordinary high-water mark.

Within these areas, only water depended uses should be allowed in order to protect, restore, and manage the unique characteristics and resources of the aquatic environment. The following management policies should be implemented though the development regulations adopted by the City for these areas:

- Allow new over-water structures only for water-dependent uses, public access, and/or ecological restoration.

- The size of new over-water structures should be limited to the minimum necessary to support the structure's intended use.

- In order to reduce the impacts of shoreline development and increase effective use of water resources, multiple use of over-water facilities should be encouraged.

- All developments and uses on navigable waters should be located and designed to minimize interference with surface navigation and to consider impacts to public views.

- Uses that adversely impact the ecological functions should not be allowed except where necessary and then only when impacts are mitigated to assure no net loss of ecological functions.

- Shoreline uses and modifications should be designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.

- Shoreline areas should be reserved for shoreline preferred use and development of the shoreline should consider upland and in-water uses, water quality, navigation, presence of aquatic vegetation, existing residential uses, critical habitats, aesthetics, public access and views.

Policy SL-1.2: Shorelines designated Natural ("N") should be areas that contain high quality habitat relatively free of human influence.

Within these areas, only low intensity uses should be allowed in order to maintain the existing high quality habitat. This type of designation would be appropriate for the undeveloped areas around Fennel Creek at Victor Falls. The City should focus on preserving these areas and prohibiting development that would degrade ecological functions. The following management policies should be implemented though the development regulations adopted by the City for these areas:

- Uses that would substantially degrade the ecological functions or be detrimental to the visual quality of the natural character should be prohibited.

- Access may be permitted for scientific, historical, cultural, educational, and low-intensity water-enjoyment recreational purposes.

- Physical alterations should only be considered when they serve to protect or enhance a significant, unique, or highly valued feature that might otherwise be degraded or for public access where no significant ecological impacts would occur.

Policy SL-1.3: Shorelines designated Park ("P") should be areas that are planned for recreational uses and school properties.

The purpose of the "Park" designation is to provide areas suitable for water-oriented recreational uses while protecting and, where feasible, restoring ecological functions. This type of designation would be appropriate for areas such as Inlet Island Park, Church Lake Park, Allan Yorke Park, and Emerald Hills

Elementary. The following management policies should be implemented though the development regulations adopted by the City for these areas:

- Water-dependent recreational uses should be given highest priority. Water-oriented recreational uses should be given priority over nonwater-oriented uses.

- Water-dependent and water-enjoyment recreation facilities (e.g. boating facilities, angling, wildlife viewing trails, and swimming beaches) are preferred uses.

- During development and redevelopment, all reasonable efforts should be taken to restore ecological functions.

- Standards should be established for shoreline stabilization measures, vegetation conservation, water quality, and shoreline modifications within this designation to ensure that new development does not further degrade the shoreline and is consistent with the overall goal of improving ecological functions and habitat.

Policy SL-1.4: Shorelines designated as Shoreline Residential ("SR") should be areas that are identified to accommodate existing and planned single family residential uses.

The Shoreline Residential designation is suitable to areas either currently or planned to accommodate residential development and appurtenant structures. The objective of assigning an area to this designation is recognizing that if development is to occur within the shoreline, it should occur in areas that have already been altered instead of shoreline areas that remaining in highly natural state. This type of designation would be appropriate for the residential areas around Lake Tapps as approximately 90% of the shoreline is armored and already developed.[6] The following management policies should be implemented through the development regulations adopted by the City for these areas:

- Existing ecological functions should be protected and, where feasible, previously degraded ecological functions should be restored.

- During development and redevelopment, all reasonable efforts, should be taken to restore ecological functions.

- Standards should be established for buffers, shoreline stabilization measures, vegetation conservation, critical area protection, water quality, and shoreline modifications to ensure that development does not further degrade the shoreline and is consistent with the overall goal of improving ecological functions and habitat.

- Public access should be enhanced whenever feasible; provided that significant ecological impacts can be mitigated.

- Residential development should be permitted where there is adequate access to public utility services.

- Land divisions of five or more parcels should provide public access.

- New residential development should be located and designed so that future shoreline stabilization is not needed.

Policy SL-1.5: Shorelines designated as Shoreline Multifamily ("SM") should be areas that are identified to accommodate high density residential uses.

The Shoreline Multifamily designation is for areas that of January 1, 2013 were designated High-Density Residential by the Future Land Use Map adopted as part of the Comprehensive Plan. These areas are planned for multifamily residential development of up to 20 dwelling units per acre. This designation should not be expanded within the shoreline jurisdiction as high density multifamily is not a preferred use under the SMA.

The objective of assigning an area to this designation is in recognition that the first level of environment designation assignments must be based on planned land use identified in the Comprehensive Plan in order to ensure consistency between the Comprehensive Plan and SMP as required by WAC 173-26-211(3). Additionally, this designation recognizes that not only must the overall uses allowed be consistent between the Comprehensive Plan and the SMP, but also the restrictive provisions of each should not combine in such a way that the use is effectively precluded on any parcel. The following management policies should guide development within these areas:

- Existing ecological functions should be protected and, where feasible, previously degraded ecological functions should be restored.

- During development and redevelopment, all reasonable efforts should be taken to restore ecological functions.

- Standards should be established for buffers, shoreline stabilization measures, vegetation conservation, critical area protection, water quality, and shoreline modifications to ensure that development does not further degrade the shoreline and is consistent with the overall goal of improving ecological functions and habitat.

- Residential development should be permitted where there is adequate access to public utility services.

- New multi-family development should provide public access.

- New residential development should be located and designed so that future shoreline stabilization is not needed.

3. GENERAL SHORELINE POLICIES

3.1 PUBLIC ACCESS

Goal SL-2: Preserve and enhance the public's ability to physically and visually enjoy the shoreline environment.

Public access includes the ability of the general public to reach, touch, and enjoy the water's edge; to travel on the waters of the state; and to view the water and the shoreline. Public access is a key component of the SMA and should be encouraged both in private and public developments.

Policy SL-2.1: Views of Lake Tapps from public parks should be preserved and enhanced.

Enhancement of views should not be construed to mean excessive removal of vegetation.

Policy SL-2.2: Public access should be designed to minimize impacts on adjacent uses, provide for public safety, and avoid impacts to critical areas.

Public access should be designed to minimize the impacts on adjoining properties, through measures such as physical separation or by placing an intervening landscape buffer. In addition, public access trails should be located and designed to assure that users are visible and that pathways are well illuminated, if open in hours of darkness.

Public access through environmentally critical areas should be designed to avoid or minimize impacts wetlands or streams and corresponding protective buffers.

Policy SL-2.3: Cooperate with Pierce County and other local government agencies to complete the Fennel Creek Trail.

While the entire length of the Fennel Creek Trail is not within the shoreline area, the trail will connect Allan Yorke Park to the Foothills Trail and the future Pierce County Flume Trail. This regional trail network will connect multiple shoreline areas including Lake Tapps, Fennel Creek, and the Puyallup and White Rivers.

Policy SL-2.4: Enhance West Tapps Highway and Bonney Lake Boulevard to improve access for recreational activities and local residence.

Traffic at the intersection of West Tapps Highway and Bonney Lake Boulevard has increased over time and is extremely heavy in the summer due to the boat launch facilities at Allen Yorke Park. Improvements should be sought which recognize the recreational and commuting needs of diverse user groups: pedestrians, bicyclists, boaters, and local residents.

Policy SL-2.5: Design transportation improvement projects to increase public access and scenic amenities.

Shoreline roadways, such as West Tapps Highway and Church Lake Road, should be designed to maximize views of the water, provide pedestrian amenities, (e.g. widened sidewalks, benches, view stations, etc.), and include the development of a public sign system that identifies historic or scenic features.

3.2 CRITICAL AREAS

Goal SL-3: Preserve, protect, and restore critical areas within the shoreline environment.

Policy SL-3.1: Protect and preserve shoreline-associated wetlands.

Within the immediate vicinity of Fennel Creek, there are wetlands which perform many ecological functions, including habitat for fish and wildlife, flood control, groundwater recharge, water storage, and sedimentation filtration.

Policy SL-3.2: Manage development to avoid risk and damage to property and loss of life from geological hazards.

Lake Tapps is situated on an upland glacial drift plain bounded by volcanic mudflows and continental deposited ice-sheets.[7] As a result a small portion of Lake Tapps' shoreline has been classified as a Seismic Hazard Area.[8] Seismic hazard areas are subject to severe risk of damage as a result of earthquake induced ground shaking, slope failure, settlement, soil liquefaction, lateral spreading, or surface faulting.

Fennel Creek is located in forested ravine that extends from Victor Falls to a point just upstream of McCutcheon Road which is considered a Potential Land Slide Hazard Area.[9] Landslide hazard areas are subject to landslides based on geology, soils, topography, and hydrology.

Policy SL-3.3: Protect and preserve freshwater habitat conservation areas.

Fish and wildlife habitat conservation areas provide food, protective cover, nesting, breeding, or movement for threatened, endangered, sensitive, monitor, or priority species of plants, fish, or wildlife. Within the City, both Lake Tapps and Fennel Creek fall within this classification.

Lake Tapps has been designed a Priority Habitat Area for both Waterfowl and Small Waterfowl Concentrations providing resting and foraging habitat for hundreds of waterfowl with the greatest concentrations present during the fall migration period.[10]

The reach of Fennel Creek around Victor Falls is within the highest class range (Class AA) established for Washington state surface waters and is classified as an Urban Natural Open Space consisting of a high value riparian corridor with multiple vegetation layers and a predominance of native plant species providing high quality habitat for wildlife species including Coho Salmon, cutthroat trout, and winter steelhead. Fennel Creek.[11]

Policy SL-3.4: Prevent development within the 100-year floodplain to avoid risk and damage to property and loss of life.

Frequently flooded areas help to store and convey storm and flood water, recharge ground water, and provide important riparian habitat for fish and wildlife. Flooding also can cause substantial damage to public and private developments located within these areas resulting in significant costs to the public as well as to private individuals.

3.3 WATER QUALITY AND WATER QUANTITY

Goal SL-4: Manage activities in the larger watershed basin that may adversely impact surface and ground water quality or quantity.

Surface water management at the larger watershed basin is critical since activities throughout the watershed contribute to water quality conditions in both Lake Tapps and Fennel Creek.

As part of the *City of Bonney Lake's Stormwater Comprehensive Plan* and implementation of the NPDES Phase II Municipal Stormwater Permit requirements, the City is pursuing activities and programs within the larger watershed to address flood protection, water quality improvement, and habitat protection and restoration.

Policy SL-4.1: Manage storm water quantity to ensure protection of natural hydrology patterns and avoid or minimize impacts to streams.

Native forest communities with healthy soil structure and organic content control the amount and timing of run-off water that reaches streams by intercepting, storing, and slowly conveying precipitation. As these systems are impacted and forests are replaced by impervious surfaces (e.g. roads, parking areas, and rooftops), larger quantities of water quickly leave the watershed and drastically reduce the amount of water that seeps into the ground to replenish the groundwater.

If there is not enough water in the ground that can be slowly release back into streams in the dry months of summer, water temperatures become too high to support fish and fish can become isolation in small pools. Too much water in the winter causes unnaturally swift currents that can erode stream banks and scour stream channels damaging fragile fish habitat.

Policy SL-4.2 Prevent impacts to water quality associated with septic systems.

Most of the residential buildings directly adjacent to Lake Tapps, within the City, are connect to the sanitary sewer system. However, there are pockets of residential development within the vicinity of Lake Tapps that still utilize septic systems. The City adopted a *Septic System Abatement Master Plan* in May of 2012 in order to move these pockets onto the City's sewer system.

Policy SL-4.3: Support public education efforts to reduce the use of pesticides and fertilizers in order to protect and improve water quality.

The shoreline adjacent to Lake Tapps is dominated by lawns maintained with chemical fertilizers, herbicides, and pesticides which can have a negative impact water quality. Fertilizers and herbicides can

affect aquatic vegetation communities stimulating overgrowth of some species and suppress growth of other species. Encouraging natural yard care practices can help to reduce chemical contaminants from entering Lake Tapps which is ultimately discharged back to the White River.

3.4 SHORELINE VEGETATION CONSERVATION

Goal SL-5: Preserve, protect, and restore native shoreline vegetation.

Vegetation within the shoreline environment is essential for fish and wildlife habitat. Vegetation helps to support soil stability, reduce erosion, moderate temperature, produce oxygen, and absorb significant amounts of water, thereby reducing runoff and flooding.

Policy SL-5.1: New developments or substantial redevelopments along Lake Tapps should preserve and restore shoreline vegetation.

Lake Tapps Reservoir has a scarcity of emergent aquatic and shoreline vegetation due to the amount of shoreline armoring and the annual water level drawdowns.[12] Therefore, the City's efforts must primarily focus on restoration.

Policy SL-5.2: Preserve the existing native shoreline vegetation around Fennel Creek.

Fennel Creek is a high value riparian corridor having multiple vegetation layers with a predominance of native plant species providing high quality habitat for wildlife species.[13]

Policy SL-5.3: Minimize tree clearing and thinning activities along the shoreline and require mitigation for trees that are removed.

Tree removal or topping for the purposes of creating views should be prohibited. Limited thinning of trees to enhance views or for maintenance for health and vigor of the tree may be appropriate in certain circumstances, provided that this activity does not adversely impact tree health and/or ecological functions.

Policy SL-5.4: Work with Cascade Water Alliance to provide outreach and education materials to lakeside property owners about the importance and role of shoreline vegetation.

The City should work with CWA to offer shoreline property owners workshops or other materials addressing invasive species, erosion control, and natural yard care practices.

Policy SL-5.5: Work with Cascade Water Alliance regarding the management of noxious aquatic vegetation to ensure the use of a mixture of control methods with emphasis the most environmentally sensitive methods.

Noxious weeds are non-native invasive plants that when established are highly destructive, competitive, and difficult to control. These plants have been introduced intentionally or unintentionally by human actions and typically have no natural enemies. As a result, these plants can often multiply rapidly.

The most common invasive species impacting Lake Tapps is Eurasian Water Milfoil which is an aquatic plant that lowers dissolved oxygen, increases pH, displaces native aquatic plants, and increases water temperature. In order to address the milfoil present in Lake Tapps, CWA developed the *Lake Tapps Integrated Aquatic Vegetation Management Plan* (2010) which calls for a combination of hand-pulling, spot herbicides applications, twice annual monitoring, mapping, and the winter drawdown as part of a long-term strategy for the eradication of milfoil.[14]

3.5 ARCHAEOLOGICAL, HISTORIC, AND CULTURAL RESOURCES

Goal SL-6: Identify, protect, preserve, and restore important archeological, historical, and cultural sites located in the shoreline area.

The plateau on which Bonney Lake sits has a long history, dating back to trails used by Native Americans traveling between Puget Sound and the Yakima territory east of Mt. Rainer. The plateau also contains many historic resource related to the Naches Trail which brought settlers over the Cascades to western Washington.

Policy SL-6.1: Prevent destruction or damage to historic, cultural, scientific or educational resources located along the shoreline.

Steps should be taken to identify and preserve archaeological, historic and cultural resources that exist along the City's shoreline. The City should work with property owners and federal, state, and tribal governments to preserve historical, cultural, and archaeological values in advance of planned development. Proposed development should be designed and operated to be compatible with continued protection of the historic, cultural or archaeological resource.

4. SHORELINE USES AND DEVELOPMENTS

4.1 GENERAL

Goal SL-7: Maintain and improve ecological functions by locating, designing and managing shoreline uses to prevent significant adverse impacts and, where possible, restore water quality, fish and wildlife habits, and ecological functions.

Policy SL-7.1: The City should periodically review conditions along the shoreline and conduct appropriate analysis to determine whether or not other actions are necessary to ensure a no net loss of ecological functions, protect human health and safety, upgrade the visual qualities, and enhance residential and recreational uses on the City's shorelines.

Specific issues to address in such evaluations include, but are not limited to: water quality, conservation of aquatic and shoreline vegetation, control of noxious weeds, the visual character of the shoreline as a result of new residential development, and shoreline stabilization measure.

Policy SL-7.2: The City should establish development regulations that avoid, minimize, and mitigate impacts to the ecological functions association with shoreline uses.

In deciding whether to allow uses and activities in shoreline areas, the potential adverse impacts should be considered and avoided, where possible. This can be done by carefully selecting allowed uses, providing policies and standards to prevent or minimize adverse impacts, and carefully reviewing development proposals to prevent or minimize adverse impacts

Policy SL-7.3: Provide adequate vegetative conservation areas to protect natural features and improve ecological functions.

Shoreline vegetative perform a number of significant functions including reducing water temperature, filtering sediments and other contaminants, reducing nutrient loads to lakes, stabilizing shoreline soils, providing wildlife habitat, maintaining and protecting fish habitats, and forming aquatic food webs.

Policy SL-7.4: Limit parking facilities within the shoreline area.

Facilities providing public or private parking should only be permitted within the shoreline area to support water-oriented uses. Where feasible, parking for shoreline uses should be provided in areas outside shoreline jurisdiction.

Policy SL-7.5: Minimize the aesthetic impacts of parking facilities.

Parking areas should be placed, screened, and landscaped to mitigate the aesthetic impacts.

Policy SL-7.6: Limit outdoor lighting levels in the shoreline to the minimum necessary to support water-oriented uses.

Artificial lighting can be used for many different purposes along the waterfront (e.g. to aid in nighttime activities, security, or simply to make a property more attractive at night). However, the shoreline area is vulnerable to impacts of light and glare by interrupting the opportunity to enjoy the night sky, impacting views and privacy, and affecting the fish and wildlife habitat. To protect the scenic value, views, and fish and wildlife habitat, shoreline development should balance the ability to see at night with the need to preserve the scenic and natural qualities of the shoreline.

Policy SL-7.7: Signs should not block or otherwise interfere with visual access to the water or shorelands.

Signs should be designed and placed so that they are compatible with the aesthetic quality of the existing shoreline and adjacent land and water uses.

4.2 RESIDENTIAL

Goal SL-8: Protected private property rights while ensuring no net loss of existing ecological functions and, where feasible, restoring natural features along the shoreline.

The Legislature recognized that much of the shorelines of the state and the adjacent uplands are in private ownership and that while coordinated planning was necessary to protect the public interest associated

with the shorelines; it was just as important to protect private property rights.[15] Therefore, in establishing and implementing the SMP, the City must careful consider public and private interests as well as the long term costs and benefits. The City should ensure that regulatory and administrative actions do not unconstitutionally infringe upon private property rights while ensuring a no-net loss of ecological functions.

Residential development around Lake Tapps began in the 1950's when the area was sold to the Lake Tapps Development Company. Today, approximately 201 acres or 96% of Lake Tapps' shoreline is privately owned and zoned for either single family or multifamily residential development of which 191 acres is already developed with single family residential homes.

There is no existing or planned residential development within the shoreline area of Fennel Creek.

Policy SL-8.1: Continue to permit single-family residence and normal appurtenance in a manner that will result in a no-net loss of ecological function.

Single-family residences are identified as a preferred use when developed in a manner that controls pollution and prevents damage to the natural environment pursuant to WAC 173-26-241(3) (j), the following management policies should guide residential development within the shoreline area:

- New development should be required to preserve existing shoreline vegetation, control erosion and protect water quality using best management practices.
- The City should provide development incentives, including reduced shoreline setbacks, to encourage the restoration of shoreline vegetation.
- Adequate provisions should be made for protection of groundwater supplies, erosion control, stormwater drainage systems, aquatic and wildlife habitat, ecosystem-wide processes, and open space.

4.3 RECREATION

Goal SL-9: Water-oriented recreational activities should be provided to the public along the Lake Tapps and Fennel Creek shorelines.

Lake Tapps has been used for recreation since its completion in the earlier part of the twentieth century. Continuing to provide recreational opportunities which includes both passive activities (e.g. walking, viewing and fishing) and active uses (e.g. swimming, boating, and other outdoor recreation uses) is a critical component of this SMP.

Figure 8-4: Swimming a Lake Tapps circa 1948 – photographer unknown

Policy SL-9.1: Maintain Lake Tapps as a regionally important recreational area.

While Lake Tapps was originally constructed to act as a reservoir for hydro-electric power, the Lake is now a regional significant boating destination with nearly 250,000 people visiting each year.

Policy SL-9.2: Work with all federal, state, local agencies, the tribes, and the community to collaboratively manage and preserve Lake Tapps.

With its multifaceted history and numerous opportunities for the future, Lake Tapps is one of the region's greatest resources. Caring for and managing the Lake takes collaboration between several agencies, communities, and jurisdictions which includes but is not limited to the Army Corps of Engineers, Department of Fish and Wildlife, Department of Ecology, the City of Bonney Lake, Pierce County, CWA, the Lake Tapps Community Council (LTCC), the Muckleshoot Indian Tribe and the Puyallup Tribe of Indians.

Policy SL-9.3: Increase public access and water-oriented recreational opportunities along the shores of Lake Tapps.

The City's efforts to increase public access and recreational opportunities should focus on providing water-enjoyment recreational opportunities along the shores of Lake Tapps, by establishing a continuous pedestrian corridor along the water's edge (Nonmotorized Transportation Plan (NTP) Projects N4 – N5), constructing missing sidewalks between the City's Downtown and Lake Tapps (NTP Projects N132 – N134), and increasing non-boat trailer parking to facilitate access to the lake's shores for non-boat users.

Policy SL-9.4: Recreational activities should be designed to avoid, minimize, and mitigate negative impacts on adjoining properties.

The primary source of negative impacts associated with recreational activities on adjacent property owners is related to boating on Lake Tapps. Over the last several years Lake Tapps has experienced an increase in rafting parties and unfortunately the participants are often engaged in illegal (drug use), immoral (live sex acts, nudity, urinating into the lake, etc.), noisy (music, bullhorns, etc.), and environmentally destructive behavior (throwing objects out of the boats into the lake) and alcohol overconsumption as close as 10 to 15 feet from adjacent homeowners' docks.[16] In order to address these issues, the City should continue to work with CWA, Pierce County and the LTCC to implement the recommendations of the *Lake Tapps Boat Management Plan* (2005).

Policy SL-9.5: Ensure that existing and new recreation uses do not adversely impact shoreline ecological functions.

Recreational facilities have the potential to adversely impact shoreline ecological functions; therefore, recreational uses should be appropriately sited and planned to minimize any resultant impacts.

Policy SL-9.6: Recreational plans should promote the conservation of Fennel Creek's natural character and ecological functions while expanding passive forms of recreation to facilitate the public's ability to enjoy the shoreline.

The City is fortunate to own the undeveloped area around Fennel Creek at Victor Falls. The Fennel Creek corridor provides excellent habitat for birds, amphibians, mammals, and reptiles. The stream reach below Victor Falls is known to support salmonids. Preserving wildlife habitat, water quality, and forested areas is an important aspect of good park resource management. The existence of this natural area offers a variety of opportunities for aesthetic enjoyment and passive low-impact recreational activities.

4.4 BOATING FACILITIES

Goal SL-10: Manage boat launch facilities to avoid or minimize adverse impacts.

One public boat launch facility (Allan Yorke Park) and two semi-public boat launch facilities (Church Lake and Inlet Island Parks) are located on Lake Tapps within the City.

Policy SL-10.1: Maintain the current capacity of Lake Tapps for boating.

Lake Tapps supports many enjoyable boating activities such as water skiing, sailing, motor boating, and fishing; however, over the years overcrowding of motorized watercraft has become an issue. The Lake typically exceeds the minimum Recreational Boating Standard of one boat per acre of surface water and as a result the development of boat launch facilities should be avoided and capacity on the Lake be controlled by limiting the number of available boat trailer parking stalls at the existing public boat launch facilities.[17]

Policy SL-10.2: Promote use of best management practices to control the introduction of invasive animals and vegetation.

Boat launch facilities can be a significant sources for the introduction of exotic animals and plants. Significant steps have been taken at all levels of government and the private sector to reduce the impacts of boating on the aquatic environment. The State Parks and Recreation Commission's boater education program provides technical assistance, signage, and other materials to boat facilities regarding the transportation of exotic species. The City should work cooperatively with state agencies, private boat launch owners, and boat owners to continue to minimize the impacts of boating on the aquatic environment.

4.5 OVER WATER STRUCTURES

Goal SL-11: Minimize impacts to the natural environment and neighboring uses from new or renovated over water structures.

Over water structures include docks, piers, boat facilities, swimming/diving platforms, inflatable recreational equipment, public access boardwalks, fishing piers, and viewpoints.

Policy SL-11.1: Limit and reduce the number of over water structures.

Shared docks and piers are preferred over single-user structures in order to reduce the number and potential long-term impacts of over water structures. New subdivisions of more than two (2) lots and new multi-family developments of more than two (2) dwelling units should provide shared moorage facilities.

Policy SL-11.2: Design and locate private over water structures so that they do not interfere with shoreline recreational uses, navigation, or the public's safe use of Lake Tapps.

Over water structures should be spaced and oriented in a manner that minimizes hazards and obstructions to public navigation rights and corollary rights such as, but not limited to, fishing, swimming, and pleasure boating.

Recreational boaters are also largely unaware of the dangers of open-air carbon monoxide (CO) poisoning and the boat manufacturing industry has not introduced emission control devices for recreational boats; like catalytic converts on automobiles that reduce exhaust by greater than ninety percent (90%).[18] Therefore, these structures should be sufficiently spaced to prevent carbon monoxide CO poisoning due to exhaust from idling boats.

Policy SL-11.3: Design and construct new or renovated over water structures and their accessory components, such as boatlifts and canopies, to minimize impacts on native fish and wildlife and the corresponding habitat.

Over water structures including those accessory to single-family residences should be sited, designed, and constructed to prevent adverse impacts on water quality and aquatic habitat. Impact minimization measures, which have been identified by state and federal agencies, include, but are not limited to: shared use of piers, reducing or eliminating the number of boathouse, minimizing the size and widths of piers

and floats, increasing light transmission through any over-water structures, maximizing the height of piers above the water surface, and reducing the overall number and size of pier piles.

Policy SL-11.4: Minimize aesthetic impacts of piers and their accessory components.

To minimize aesthetic impacts, these structures should be made of non-reflective materials and lighting should be limited to the amount necessary to find these structures at night and focused downward and away from the surface of Lake Tapps.

4.6 IN-STREAM STRUCTURES

Goal SL-12: Limit in-stream structures to those needed to protect, preserve and restore ecosystem-wide functions.

Policy SL-12.1: In-stream structures should be allowed only for the purposes of environmental restoration.

4.7 TRANSPORTATION FACILITIES

Goal SL-13: Provide for safe and efficient movement of vehicles within the shoreline area while recognizing the unique, fragile, and scenic character of the shoreline area.

Transportation facilities are those structures and developments that aid in the movement of people, goods, and services: roadways, causeways, bridges, bikeways, trails, sidewalks, and other related facilities.

Policy SL-13.1: Maintain a roadway network which will efficiently and safely provide for vehicular circulation within the shoreline area.

The existing vehicular circulation system within Bonney Lake's shoreline area includes West Tapps Highway, Bonney Lake Boulevard, and Church Lake Road, as well as neighborhood access streets and driveways. The City should undertake improvements, as necessary, to address needed safety, capacity, or efficiency improvements.

*Policy SL-13.2: Design transportation improvement projects within the shoreline to avoid, minimize, and mitigate environmental impacts***.**

Transportation facilities should be designed to have the least possible effect on shoreline features. When planning transportation facilities, the environmental impacts of the facility need to be evaluated, avoid, minimized, and appropriately mitigated.

Goal SL-14: Provide a robust pedestrian and bicycle circulation system with provides opportunities for the public to view and enjoy the amenities of the shoreline area.

Policy SL-14.1: Provide a public access system that enhances and maintains pedestrian and bicycle infrastructure within the shoreline area.

The City should work to improve roadways to meet the needs of a broad variety of users including walkers, joggers, and bicyclist, while maintaining the scenic quality of the roadway network.

Policy SL-14.2: Prioritize the completion of the projects in the City's Non-motorized Transportation Plan which provide multi-modal connections within and to the shoreline area.

Developing public access to the shoreline area has long been a priority of the City. The top priorities in the City's NTP are the construction of the Fennel Creek Trail (Projects N1 – N3) which will ultimately provide a multi-modal trail connecting Allen Yorke Park to Victor Falls; establishment of a continuous pedestrian corridor along the Lake Tapps shoreline (N4 – N5); and construction missing sidewalks providing a pedestrian linkage from the City's Downtown to Lake Tapps (N132 – N134). Since the NTP contemplates the installation of sidewalks on only one-side of the street, the City should plan to install sidewalks on the side of the roadway closest to the water.

4.8 UTILITIES

Goal SL-15: Manage public and private utilities within the shoreline area to ensure that necessary utility services are provided, while protecting and enhancing water quality and the habitat value of the shoreline.

Policy SL-15.1: Locate new utilities outside of the shoreline area unless the location is reasonably necessary for the efficient operation of the utility.

Development of utility facilities for electric power, gas, sewage, water, and communications can create substantial impacts on the landscape and the function of the natural ecosystem. To minimize potential impacts, these facilities should be located outside of the shoreline area, and in particular, outside of the aquatic environment, where feasible.

If utility facilities must be located in the shoreline, careful planning and design is required to address impacts such as soil disturbance and intrusion on the visual setting. Potential adverse impacts should be minimized through the location, design, and construction techniques. Upon completion of utility installation or maintenance projects, the shoreline area should be restored to pre-project configuration, replanted with native species, and provided with maintenance care until the newly planted vegetation is established.

Alternative energy use such as solar and wind-based energy systems should be encouraged within the shoreline environment, provided that any potential adverse impacts are minimized.

Policy SL-15.2: Encourage consolidation of utilities within existing rights-of-way or utility corridors.

In order to minimize the extent of shoreline modifications, utility facilities should utilize existing transportation rights-of-way and utility corridors whenever practicable; rather than creating new corridors in the shoreline environment.

Policy SL-15.3: Locate utility facilities and corridors to protect scenic views and prevent impacts to the aesthetic qualities of the shoreline.

Utility lines and facilities should be located so that they do not obstruct or destroy scenic views. Whenever feasible, these facilities should be placed underground or designed to do minimal damage to the aesthetic qualities of the shoreline area.

5. SHORELINE MODIFICATIONS

5.1 GENERAL

Goal SL-16: Manage shoreline modifications to avoid, minimize, or mitigate significant adverse impacts.

Policy SL-16.1: Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions.

Accounting for the existing hydrological, vegetative, and habitat conditions within the shoreline surround Lake Tapps, the overall shoreline ecological function is considered low.[19] The City will utilize this determination as a baseline to ensure that there is "no net loss" of ecological functions.

The City also recognize that the shorelines of the state are among the most valuable of its natural resources and that there is great concern throughout the state relating to the restoration of the shoreline. Through the implementation of the City's adopted restoration plan, the City will work to improve the overall ecological functions of Lake Tapps.

5.2 SHORELINE STABILIZATION

Goal SL-17: Reduce the use of structural shoreline stabilization measures.

Shoreline stabilization includes actions taken to address erosion impacts to property, dwellings, or essential structures primarily caused by wave action.

Policy SL-17.1: Structural shoreline stabilization measures should only be used when a need has been demonstrated and that more natural, flexible, non-structural methods have been determined infeasible.

Shoreline stabilization should be based on the following hierarchy of preference:

- Nonstructural methods which include building setbacks, erosion and groundwater management, planning, and regulatory measures to avoid the need for structural stabilization.

- Soft structural shoreline stabilization which includes a mix of gravels, cobbles, boulders, logs and native vegetation placed to provide stability in a non-linear, sloping arrangement.

- Hard structural shoreline stabilization which includes concrete, boulders, dimensional lumber or other materials to construct linear, vertical or near-vertical faces (e.g. bulkheads, rip-rap, groins, dikes and similar structures).

Policy SL-17.2: Shoreline modifications individually and cumulatively shall not result in a net loss of ecological functions.

Where allowed, shoreline stabilization structures should minimize impacts on shoreline hydrology, navigation, habitat, and public access. Shoreline protective structures should be designed for the minimum height and extent necessary to address the identified hazard to an existing structure. As noted above, vegetation and nonstructural solutions should be used rather than structural bank reinforcement; unless these methods are determined to be infeasible, as documented by a geotechnical analysis.

Policy SL-17.3: Locate and design new development to eliminate the need for new shoreline stabilization measures.

New shoreline uses should be located in a manner so that bulkheads and other structural stabilization measures are neither required nor likely to become necessary in the future.

Policy SL-17.4: Regulatory flexibility or incentives should be developed to encourage shoreline property owners to voluntarily remove bulkheads and plant shoreline vegetation.

In recent years, many techniques have been developed to provide alternative shoreline protection methods which may employ the use of gravel substrate material, terraces, large flat rocks, shallow pools, logs, and vegetation to prevent erosion and provide an attractive, usable shoreline area. The aim of these techniques is to reduce bank hardening, restore overhanging vegetation, and replace bulkheads with sand beaches and gentle slopes.

5.3 FILLING

Goal SL-18: Ensure that fills either preserve current ecological functions or restore ecological functions of the shoreline.

Policy SL-18.1: Limit fill to either ecological restoration or to facilitate water-dependent public access.

Fill allows for the creation of dry upland areas by the deposition of sand, silt, gravel or other materials. Fill has traditionally been used in the shoreline area to level or expand residential yards and, in many cases, has been associated with armoring of the shoreline. As a result, this use of fill in this manner should be prohibited.

Alternatively, fill can also be used for ecological restoration, such as beach nourishment, or to facilitate water-dependent uses and public access. This type of activity should be designed and located so there will be no significant ecological impacts and no alteration of local surface water drainage patterns which would result in a hazard to adjacent life, property, and natural resource systems.

5.4 CLEARING AND GRADING

Goal SL-19: Minimize impacts to ecological functions as a result of clearing and grading activities.

Policy SL-19.1: Limit clearing and grading activities in the shoreline area.

Clearing and grading activities are typically associated with upland development. These activities have the potential to cause erosion, siltation, surface water runoff, habitat damage and reduce flood storage capacity. Therefore, clearing and grading activities should be designed with the objective of maintaining natural diversity and ensuring that any potential adverse impacts are avoided or minimized. Impacts from these activities can be avoided through proper site planning, construction timing practices, and use of erosion and drainage control methods.

5.5 DREDGING

Goal SL-20: Minimize impacts to ecological functions and aquatic vegetation as a result of dredging activities

Policy SL-20.1: Discourage dredging operations, including disposal of dredge materials.

Dredging operations should be planned and conducted to minimize interference with navigation and adverse impacts to other shoreline uses, properties, and values. When allowed, dredging and dredge material disposal should be done in a manner which avoids or minimizes significant ecological impacts. Impacts that cannot be avoided should be mitigated in a manner that assures no net loss of shoreline ecological function.

5.6 SHORELINE RESTORATION AND ECOLOGICAL ENHANCEMENT

Goal SL-21: Implement the projects, programs, and plans to restore areas that have been degraded or diminished as a result of past activities.

Restoration planning is an important component of the SMA. Continued improvement of shoreline ecological functions requires a comprehensive watershed approach that combines upland and shoreline projects and programs. The City of Bonney Lake has adopted a restoration plan for the City's shorelines that provides the framework for the community's efforts to restore the degraded portions of the City's shorelines.

Policy SL-21.1: Include provisions for shoreline vegetation restoration, fish and wildlife habitat enhancement, and low impact development techniques in projects located within the shoreline.

Shoreline habitat and natural systems enhancement projects include those activities proposed and conducted specifically for the purpose of establishing, restoring, or enhancing habitat in shorelines. Such projects may include shoreline modification actions such as installation of native shoreline vegetation, removal of nonnative or invasive plants, shoreline stabilization, dredging, and filling, provided that the

primary purpose of such actions is clearly restoration of the natural character and ecological functions of the shoreline.

Policy SL-21.2: Minimize impacts from publicly initiated aquatic vegetation management efforts.

The CWA has an obligation to monitor and manage milfoil which is a noxious weed and poses environmental challenges to Lake Tapps.[20] Aquatic vegetation management efforts can have potential negative impacts relevant to Lake Tapps environment and therefore efforts should be designed to use a mix of various methods with emphasis on the most environmentally sensitive methods.

6. SHORELINES OF STATEWIDE SIGNIFICANCE

The SMA designates certain shoreline areas as shorelines of statewide significance, the shorelines that are so designated includes natural and artificial lakes with a surface acreage of one thousand acres or more. Within the City of Bonney Lake's jurisdiction, Lake Tapps meets this definition and as such is classified as shoreline of state-wide significance.

Shorelines of statewide significance are shorelines that major resource from which all people in the state derive benefit and as such all of the people of the State have an interests in the management of these shorelines. Accordingly, the SMP gives preference to uses and development that meet the principles outlined below, listed in order of preference:

1. Recognize and protect the statewide interest over local interest.
2. Preserve the natural character of the shoreline.
3. Result in long-term over short-term benefits.
4. Protect the resources and ecology of the shoreline.
5. Increase public access to publicly owned areas of the shoreline.
6. Increase recreational opportunities for the public on the shorelines.
7. Provide for any other element as defined in the Shoreline Management Act deemed appropriate or necessary.

In the implementation of the SMP, the public's opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the state shall be preserved to the greatest extent feasible, consistent with the overall best interest of the state and the people generally. To this end, uses shall be preferred that are consistent with control of pollution and prevention of damage to the natural environment or are unique to or dependent on use of the state's shorelines. Alteration of the natural condition of the shorelines of the state, in those limited instances when authorized, shall be given priority for single family residences, parks, boating facilities, and other improvements that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the state.

Permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline areas and interference with the public's use of the water.

Endnotes:

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[1] Kramer, A. (1986). *Among the Livewires, 100 Years of Puget Power*. Edmonds, WA: .Creative Communications.

[2] ibid.

[3] EnviroIssues. (Spring 2011). *Collaborative Community Plan for Managing Lake Tapps*. Prepared for Cascade Water Alliance, Bellevue, WA.

[4] The Cascade Water Alliance is a coalition including the Cities of Bellevue, Issaquah, Kirkland, Redmond, and Tukwila, the Sammamish Plateau Water and Sewer District, and Skyway Water and Sewer District.

[5] HDR Engineering, Inc. (January 29, 2010). *DRAFT Environmental Impact Statement: Lake Tapps Reservoir Water Rights and Supply* Project, Figure S-1. Prepared for Cascade Water Alliance, Bellevue, WA.

[6] The Watershed Company and Makers. (June 2010). *Final Shoreline Analysis Report for City of Bonney Lake's Shorelines: Lake Tapps Lake Tapps Reservoir and Fennel Creek*, p. 10. Prepared for the City of Bonney Lake Community Development Department, Bonney Lake, WA.

[7] ESA Adolfson, Coastal Geologic Service Inc., and Parametrix. (June 2009) *Final Pierce County Shoreline Inventory and Characterization Report*, p. 4-31. Prepared for Pierce County Planning and Land Services, Tacoma, WA

[8] The Watershed Company and Makers. (June 2010). *Final Shoreline Analysis Report for City of Bonney Lake's Shorelines: Lake Tapps and Fennel Creek*, Figure 8. Prepared for the City of Bonney Lake Community Development Department, Bonney Lake, WA.

[9] ibid.

[10] HDR Engineering, Inc. (January 29, 2010). *DRAFT Environmental Impact Statement: Lake Tapps Reservoir Water Rights and Supply Project*, p. 8-10. Prepared for Cascade Water Alliance, Bellevue, WA.

[11] Foster Wheeler Environmental Corporation. (1999). *Environmental Analysis of the Fennel Creek Corridor,* Pg. 2-75. Prepared for the City of Bonney Lake Community, Bonney Lake, WA.

[12] Washington State Department of Fish and Wildlife. (1997). *1997 Lake Tapps Survey: The Warmwater Fish Community of a Lake Tapps Reservoir Managed for Hydropower*, p. 1. Olympia, WA

[13] Foster Wheeler Environmental Corporation. (1999). *Environmental Analysis of the Fennel Creek Corridor*, Pg. 2-75. Prepared for the City of Bonney Lake Community, Bonney Lake, WA. .

[14] Tetra Tech. (2010). *Lake Tapps Lake Tapps Reservoir Integrated Aquatic Vegetation Management Plan*, p. iii. Prepared for Cascade Water Alliance, Bellevue, WA.

[15] RCW 90.58.010

[16] Pierce County Planning and Land Services. (2005). *Lake Tapps Lake Tapps Reservoir Boat Management Plan*, p. 24. Tacoma, WA.

[17] Pierce County Planning and Land Services. (2005). *Lake Tapps Lake Tapps Reservoir Boat Management Plan*. Tacoma, WA. and EnviroIssues. (Spring 2011) *Collaborative Community Plan for Managing Lake Tapps*. Prepared for Cascade Water Alliance, Bellevue, WA.

[18] Pierce County Planning and Land Services. (2005). *Lake Tapps Lake Tapps Reservoir Boat Management Plan*, pgs. 13-14. Tacoma, WA.

[19] The Watershed Company and Makers. (June 2010). *Final Shoreline Analysis Report for City of Bonney Lake's Shorelines: Lake Tapps Lake Tapps Reservoir and Fennel Creek*, Table 3 and p. 22. Prepared for the City of Bonney Lake Community Development Department, Bonney Lake, WA.

[20] EnviroIssues. (Spring 2011) *Collaborative Community Plan for Managing Lake Tapps*, p. 22. Prepared for Cascade Water Alliance, Bellevue, WA.