

X. Lake Padden SMA

Summary: The Lake Padden SMA is 111.3 acres in size. It has low density development and land use is dominated by a public park. This SMA currently is functioning at high levels for most ecological parameters. Habitat quality is excellent throughout most this drainage and conservation is recommended.

X.1 Watershed Analysis

X.1.1 Landscape Setting

The Lake Padden SMA is a total size of 111.3 acres. The drainage is mainly located in continental glacial drift, with 27.8 acres of continental sedimentary deposits. Upland soils range from Drainage Class A to D. Infiltration rates for soils in the SMA are as follows: 7.8 acres of high infiltration rates; 10.3 acres moderate; 25.4 acres slow; 18.7 very slow. Steep slopes of 20 to 34% dominate the southern portion of the lake, and the north side has slopes 0 to 5%. The potential for soil erosion ranges from slight to moderate risk.

X.1.2 Land Use

Land Use: Land use within the Lake Padden SMA includes single family residential and public area designations. The majority of the reaches are located in Lake Padden Park, a City of Bellingham park. Land use in Reaches 2 and 4 is best described as natural, and it is dominated by a coniferous forest with public trails. Land use in Reaches 1 and 3 is dominated by lawn, picnic areas, parking, with small forested areas. Some residential development exists in the outer fringe of Reach 1.

The overlaying zoning for this SMA includes 58.4 acres of public area, 3.1 acres of residential. Water comprises 50 acres of this SMA. The majority of the SMA is a public park, and current land use is moderate. Five buildings are mapped for the SMA, which are city park structures. Only Reach 1 is served by City sewer, and no storm drains are located in the SMA.

Transportation and Utilities: Major roads within the Lake Padden SMA include Samish Way, Wilkin Street, and Lakeshore Road. Smaller park roads provide access throughout Lake Padden Park. No roads are located in Reach 4. Roads cover 0.8 miles and 1.4 acres throughout the SMA.

Public Access: Nearly the entire SMA is located in a public park. Public access is provided to Lake Padden Park in two locations. The entire area is accessible, including up to the shoreline, via a well developed system of trails which circles the lake. Approximately half of the SMA is maintained in a natural condition, and the remainder is maintained lawns, picnicking, and parking areas.

Shoreline Modifications: Very few shoreline modifications were identified in the lake. Modifications indicated include concrete bulkheads along the parking area near the tennis courts in Reach 1, two docks, and one dam at the outlet (Padden Creek). Impervious surface for the SMA is very low; land is covered by approximately 67% pervious, 25% is semi-pervious and 9% impervious surfaces.

X.1.3 Critical Areas

Wetlands/ Regulated Streams: Four streams are mapped in the Lake Padden SMA. Two tributaries (#28 and #29) are located in Reach 1, one tributary (#31) in Reach 2, and Padden Creek (#30) in Reach 4. All streams are regulated under COB Wetland and Stream Ordinances. Padden Creek is also regulated under the COB Shoreline Master Program, but only at the lower reaches of the creek, which does not extend into this SMA.

Lake Fringe wetlands are indicated at the shorelines in Reaches 1, 3 and 4. Ten small depressional wetlands indicated in depressions between slopes in Reach 4; and the edge of a larger wetland complex in indicated at the southeastern extent of the reach. No wetlands are indicated in Reach 2.

FEMA: Within the SMA, 50.8 acres are mapped within the FEMA 100 year floodplain, and none are mapped in the floodway. All other portions of the SMA are not indicated on the FEMA floodplain and floodway maps.

Slopes: The majority of the northern half of the lake has slopes ranging from 0% to 10%, with small areas of slope class 20 to 34% present. While the majority of the southern half of the lake is dominated by 20-34% slopes. Slopes in the southern half of the lake are mapped as potential "Landslide Hazard Areas" on the Whatcom County Geohazard Maps.

Potential PHS/TSE Species: Priority species identified for this SMA, include bald eagle, which is a federally threatened species. A bald eagle nesting territory is indicated overlaying the entire SMA. Resident cutthroat trout, a federal species of concern is indicated in the lake. No additional species of concern are listed for this SMA. Habitat for breeding/ nesting/ wintering use by multiple PHS or SC is documented throughout the SMA. Connectivity of habitats is excellent for Reaches 2 and 4; and the reaches provide a wide range of habitat features, a complex structure, and are well connected to other large tracts of high quality habitat.

X.1.4 Ecological Functions

Overall Lake Padden is providing most ecological functions at a high level. Water quality standards are being met for most parameters, with the exception that the lake has been listed by the WA Department of Ecology as a Category 5 “Polluted Water” for pentachlorophenol, and Category 2 “Water of Concern” for pH and temperature (one excursions of each in 2001).

Terrestrial vegetation with the SMA is dominated by a second growth mixed coniferous/deciduous forest in most segments. Reaches 1 and 3 also include a large area of maintained lawn and picnic areas. Areas of mature native forest with a high quality native plant community are present throughout the drainage. Noxious, invasive plant species such as Himalayan blackberry and reed canarygrass are present but at low frequencies and are not well established.

The Lake Padden drainage provides high quality habitat to a wide variety of wildlife and fish species. Wildlife species associated with mixed coniferous forests are well represented. Resident cutthroat trout and Kokanee use the lake and Padden Creek for spawning and rearing. Nearly 100% of this SMA is indicated as having habitat for garter snakes and lizards including denning habitat, a variety of non-urban mammals and birds including habitat specific species, and a variety of native amphibians.

X.2 Reach Analysis: Segment A (Reach Padden 1 and 3)

X.2.1 Landscape Setting

This segment is located in the northwest and southeast sections of the lake, with a total size of 40.2 acres. This portion of the drainage is located in continental glacial drift. Upland soils are in Drainage Class A, B or D, and the soils that cover the most acreage have moderate or very slow infiltration rates. The risk of erosion within the reach soils ranges from slight to moderate.

X.2.2 Land Use

Land Use: The overlaying zoning for this segment includes 20.2 acres of public area, 2.2 acres of residential. Water comprises 17.8 acres of this segment. The majority of the segment is a public park, and current land use is moderate. Five park buildings are mapped within this segment. Only Reach 1 is served by City sewer, and no storm drains are located in this segment.

Transportation and Utilities: Samish Way is the only major road in this segment. Additional secondary roads include Wilkin Street, Lakeshore Road, and small access roads within the park. Roads cover 0.7 miles or 1.1 acres throughout the segment.

Public Access: Public access is provided throughout the segment. A parking area for Lake Padden Park is located in each reach of the segment. The entire area is accessible,

including up to the shoreline, via a well developed system of trails which circles the lake.

Shoreline Modifications: Shoreline modifications include concrete bulkheads along the parking area near the tennis courts in Reach 1. No additional shoreline modifications have been identified for this segment. Impervious surface is calculated at 15% of the segment, 31% is semi-pervious, and 54% is pervious.

X.2.3 Critical Areas

Wetlands/ Regulated Streams: Tributaries #28 and #29 are located in Reach 1 and are both regulated under COB Wetland and Stream Ordinance. Lake Fringe wetlands are indicated at the shoreline in Reaches 1 and 3. No additional wetlands are documented within this segment.

FEMA: 18.0 acres within this segment are mapped within the FEMA Floodplain.

Slopes: The majority of the segment has slopes ranging from 0% to 10%. Small areas of slope class 20 to 34% are also present. None of the slopes in this segment are mapped on the Whatcom County Geohazard Maps as "Landslide Hazard Areas".

Potential PHS/TSE Species: Priority species identified for this segment include bald eagle, which is a federally threatened species. A bald eagle nesting territory is indicated overlaying the entire SMA. Resident cutthroat trout, a federal species of concern is indicated in the lake. No additional species of concern are listed for this segment. Habitat for breeding/ nesting/ wintering use by multiple PHS or SC is documented throughout this segment.

X.2.4 Ecological Functions

Water Quality: This segment has been listed by the WA Dept. of Ecology as a Category 5 "Polluted Water" for pentachlorophenol, and Category 2 "Water of Concern" for pH and temperature (one excursions of each in 2001).

Vegetation: Vegetation cover is low, and approximately 55% of this segment is a maintained lawn. Areas of mature native forest with emergent, trees, and high quality native plant community are also present interspersed throughout the segment.

Aquatic vegetation documented in the lake includes common elodea, big-leaf pondweed, curly leaf pondweed, tapegrass (non-native), spatterdock, and Chara (Whatcom County Noxious Weed Board, 2004). Additional emergent species documented in the lake include cattail, small fruited bulrush, slough sedge, jointed rush, and soft-stem bulrush. Non-native, invasive Himalayan blackberry and reed canarygrass have also been documented in this segment.

Wildlife: This segment has good quality habitat to a wide variety of wildlife and fish species. Resident cutthroat trout are documented in the lake. Kokanee are indicated in the tributary streams. Nearly 100% of this segment is documented with an abundance of garter snakes, and lizards present including denning habitat, a variety of non-urban mammals and birds including habitat specific species, and a variety of native amphibians present.

Habitat: Habitat for breeding/ nesting/ wintering use by multiple PHS or SC is documented throughout this segment. Connectivity of habitats is moderate, and the forested portions of the segment provide a wide variety of habitat features, and a complex structure.

X.2.5 Opportunities

Preservation

- Protect existing native forested and shrub vegetation within SMA area.

Enhancement or Restoration Opportunities

- Enhancement of shoreline vegetation in areas with low recreational use.
- Relocation of park trails away from the shoreline.
- Control of invasive, non-native plants.

X.3 Reach Analysis: Segment B (Reach Padden 2 and 4)

X.3.1 Landscape Setting

This segment is located in the northwest and south sections of the lake, with a total size of 71.1 acres. This portion of the drainage is located in continental glacial drift, with 27.8 acres of continental sedimentary deposits. Soils in Reach 2 are in equally split in Drainage Class A and D, which have very slow or very high infiltration rates. Soils in Reach 4 are in Drainage Class C and D, which have slow to very slow to very high infiltration rates, and high runoff potential. The risk of erosion in this segment ranges from slight to moderate.

X.3.2 Land Use

Land Use: The overlaying zoning for this segment includes 38.2 acres public area, 0.9 acres of residential, and water covers 32.2 acres of this segment. Current land use is low and the majority of the segment is public property. No buildings are mapped for this segment. Sanitary sewer is only present in Reach 2, and no storm drains are located in this segment.

Transportation and Utilities: The primary road in this segment is Samish Way. Secondary roads include Lakeshore Road; and additional small access roads within the park in Reach 2. No roads are located in Reach 4. Roads cover 0.1 miles or 0.3 acres in this segment.

Public Access: Public access is provided throughout this segment, including up to the shoreline, via a well developed system of trails which circle the lake.

Shoreline Modifications: Two docks and one dam at the outlet (Padden Creek) are located in this segment. No additional shoreline modifications have been identified for this segment. Impervious surface is calculated at 3% of the segment, 18% is semi-pervious, and 79% is pervious.

X.3.3 Critical Areas

Wetlands/ Regulated Streams: Two streams are located in this segment. One inflowing stream (#31) which is located at the southeastern edge of Reach 2; and Padden Creek (#30) which enters the lake at the eastern edge of Reach 4 and exits the lake at the western edge. Both streams are regulated under COB Wetland and Stream Ordinances.

Lake Fringe wetlands are indicated at the shoreline in the northern extent of Reach 4. Ten small wetlands in depressions in-between slopes are located throughout Reach 4; and the edge of a larger wetland complex is indicated at the southeastern extent of the reach. No wetlands are indicated in Reach 2.

FEMA: 32.8 acres within this segment are mapped within the FEMA Floodplain. None of this segment lies within a floodway.

Slopes: The majority of Reach 2 has slopes ranging from 0% to 10%, which are not mapped on the Whatcom County Geohazard Maps as "Landslide Hazard Areas". The majority of Reach 4 has slopes ranging from 20% to 35% or greater, and they are mapped on the Whatcom County Geohazard Maps as "Landslide Hazard Areas".

Potential PHS/TSE Species: Priority species identified for this segment include bald eagle, which is a federally threatened species. A bald eagle nesting territory is indicated overlaying the entire SMA. Resident cutthroat trout, a federal species of concern is indicated in the lake. No additional species of concern are listed for this segment. Habitat for breeding/ nesting/ wintering use by multiple PHS or SC is documented throughout this segment.

X.3.4 Ecological Functions

Water Quality: This segment has been listed by the WA Dept. of Ecology as a Category 5 "Polluted Water" for pentachlorophenol, and Category 2 "Water of Concern" for pH and temperature (one excursions of each in 2001).

Vegetation: Vegetation cover is high in this segment. Nearly 100% of this segment is a diverse multi-structured, mature native forest with emergent trees, and a high quality native plant community.

Aquatic vegetation documented in the lake includes common elodea, big-leaf pondweed, curly leaf pondweed, tapegrass (non-native), spatterdock, and Chara. Additional emergent species documented in the lake include cattail, small fruited bulrush, slough sedge, jointed rush, and soft-stem bulrush. Non-native, invasive Himalayan blackberry and reed canarygrass have been documented in this segment.

Wildlife: This segment has excellent quality habitat to a wide variety of wildlife and fish species. Wildlife species associated with mixed coniferous forests are well represented. Resident cutthroat trout and Kokanee use the lake and Padden Creek for spawning and rearing. Nearly 100% of this segment is documented with an abundance of garter snakes, and lizards present including denning habitat, a variety of non-urban mammals and birds including habitat specific species, and a variety of native amphibians present. Movement is possible for all sizes of animals, including amphibians throughout the segment.

Habitat: Habitat for breeding/ nesting/ wintering use by multiple PHS or SC is documented throughout this segment. Connectivity of habitats is high, the segment provides a wide variety of habitat features, a complex structure, and is well connected to other large tracts of high quality habitat.

X.3.5 Opportunities

Preservation

- Protect existing native forested and shrub vegetation within SMA area.

Enhancement or Restoration Opportunities

- Enhancement of shoreline vegetation in areas with low recreational use.
- Relocation of park trails away from the shoreline.
- Control of invasive, non-native plants.