

**Little Pend Oreille Lakes, Stevens County, WA
Integrated Aquatic Plant Management Plan**

prepared for

Stevens County Noxious Weed Board

and

Little Pend Oreille Lakes Association

by

The Lambert Group

and

Resource Management, Inc.

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INTRODUCTION

The Little Pend Oreille Lakes are a chain of five named lakes located approximately 20 miles east of Colville, Washington in Stevens and Pend Oreille Counties. The headwater lake is 43-acre Lake Leo which lies on the border of Pend Oreille and Stevens Counties. Lake Leo drains to the southwest by a small creek through two small, unnamed lakes to Heritage Lake. Heritage Lake is 73 acres in surface area and drains to the southwest through a navigable wetland channel to 170-acre Thomas Lake. Thomas drains to the south through a short navigable channel to 47-acre Gillette Lake, which drains southward through a similar channel to 25-acre Sherry Lake. Sherry Lake is the last lake in this system, and its outlet is the Little Pend Oreille River which passes south-southwest to the Colville River, approximately 22 miles distant.

The Little Pend Oreille Lakes support a variety of beneficial uses including fishing, swimming, boating and wildlife observation. In addition, there are US Forest Service campgrounds on three of the lakes and boat launches on two of the lakes, so overall public use is high. Unfortunately, the four lower lakes are currently exhibiting growth in aquatic plants which is hindering the beneficial uses. This inhibition centers around the developing infestation of Eurasian watermilfoil (*Myriophyllum spicatum*, referred to as Milfoil herein) and, to a lesser extent, Yellow Pond Lily (*Nuphar variegatum*).

This Plan has been prepared as an effort to develop a holistic, integrated approach to controlling and managing the aquatic plants in these lakes and thus protecting water quality, wildlife habitat and beneficial uses. The process followed in the preparation of this Plan is outlined in the Aquatic Weeds Management Fund Program Guidelines prepared by the Washington Department of Ecology¹.

PROBLEM STATEMENT

Lake User Groups

The primary lake user group active in the determination of the problem statement and management goals was the Little Pend Oreille Lakes Association. This homeowners group represents diverse interests and includes all landowners from the five chain lakes.

It was primarily through the Association's mailing list that information exchange was accomplished. Prior to the initial public meeting, a newsletter was mailed to each landowner announcing the funding and startup of the project and also the date for the first public meeting (see Appendix 1). Following the first meeting, the handout and questionnaire were mailed to all property owner households that were not in attendance at the meeting. Meeting announcements were also mailed to all property owners prior to the second and third meetings.

At the initial public meeting, held April 27, 1995, presentations were made on the results of the 1994 Stevens County Aquatic Weeds Survey and on the planned activities of the current project. A handout was also prepared and distributed describing the current project (see Appendix 2). Most important, however, was the completion of a questionnaire regarding the beneficial uses and problems seen at the lakes (see Appendix 3). Also, lake maps were displayed during the meeting and attendees were asked to indicate specific beneficial use or problem areas. The results of the questionnaire completion and map marking are discussed in the Citizen and Agency Input, Problem Statement and Current Beneficial Uses sections below.

Several Federal, State and local agencies have a jurisdictional interest in the Little Pend Oreille Lakes and were involved in the planning process. The USDA Forest Service operates campgrounds on Lake Leo, Thomas Lake and Gillette Lake which include the two boat launches in this lake system. The US Fish and Wildlife Service operates the Little Pend Oreille National Wildlife Refuge starting approximately five miles below the lakes. The Washington Department of Natural Resources operates a Natural Area Preserve within a mile downstream of Sherry Lake. The Washington Department of Fish and Wildlife maintains a fish stocking program on the lakes and operates the dam below Sherry Lake. The Washington Department of Ecology has jurisdiction over the "waters of the State" although they have no active programs at the Little Pend Oreille Lakes. Locally, the Stevens County Planning Department has jurisdiction through the State Shorelines Management Act to protect shorelines through this permit process. The Pend Oreille County Planning Department also has similar jurisdiction on Lake Leo.

Each of these agencies was contacted at the onset of this project with a request for information pertaining to their management activities. Each was also provided

information on the IAPMP process and was invited to attend the public meetings. Following the initial meeting each of these agencies was sent the questionnaire used at the meeting in order to solicit the full range of beneficial use and current problem perspectives.

In addition, Camp Baird, a Boy Scout/Girl Scout camp is operated by the Colville Kiwanis Club located near the outlet of Sherry Lake and the Prince's Pine Church Camp is located on Thomas Lake. Finally, the annual Tiger Triathlon is held between Colville and Gillette Lake each July by the Colville City Recreation Department. In an attempt to involve the users of these other areas and events, as well as the general public, press releases were provided to the Colville and Spokane newspapers and articles appeared in each (see Appendix 1).

Citizen and Agency Input

The following information is essentially a summary of the 40 returned questionnaires. A blank copy of the questionnaire and a tabulation of the responses are presented in Appendix 3.

The first questions concerned the lake(s) that the responder was most involved with and the involvement at this lake(s) (for example: property owner, visitor or manager/agency representative). Of the 46 returned questionnaires, all but five were completed by lake property owners. One was completed by a renter and five were completed by agency representatives. None of the questionnaires indicated a primary association with Lake Leo, while 11 indicated Heritage Lake, 16 indicated Thomas Lake, six indicated Gillette Lake and eight indicated Sherry Lake. Some questionnaires indicated an involvement with more than one lake. One questionnaire indicated a primary involvement with a private lake located between Lake Leo and Heritage Lake.

Regarding water quality in the Little Pend Oreille chain of lakes, two questions solicited a general assessment of the lake water condition. Heritage Lake received an overall poor rating (five of ten responses indicated poor water quality) while Thomas Lake received a fair to good rating (10 of 17 responses indicated fair water quality while five indicated good water quality). The few responses from Gillette Lake were fairly evenly mixed between poor, fair and good and Sherry Lake was rated fair (six of eight responses indicated fair and two indicated good water quality).

The added comments regarding the most important factor about good water quality were varied (see Appendix 3). Some common thoughts, however, were water clarity, fish or fishing and aquatic plants or "weeds". Of those indicating weeds as the most important factor, several indicated Milfoil as a concern.

Next, people were asked to rate the effect of aquatic plants on the usability of the lake(s) that they were most involved with. Responses from Heritage Lake were clear; eight of 11 indicated a significant effect. Responses from Thomas Lake were also clear with eight of 15 indicating a significant effect. As with water quality, the responses from

Gillette Lake were mixed (one for significant effect, three for moderate effect and two for little effect). Responses from Sherry Lake were effectively split between moderate effect (five responses) and significant effect (three responses).

The predominant factor listed regarding aquatic plants in these lakes was their effect on recreational use of the lakes (primarily fishing and swimming). Another frequent comment was that aquatic plants were spreading and taking over the lake(s). Several responses indicated the need for a natural balance in aquatic plants, the importance of native species and consideration of the "whole ecosystem".

In addition to the questionnaires completed by the property owners around the lakes, the meeting attendees and the Little Pend Oreille Lakes Association Board did make some notes on lake maps regarding both problem areas and beneficial use areas. This information has been included on the Water Body Use Maps included in Appendix 4. Information relating to the Problem Statement specified a Milfoil and Water Lily problem at the north end of Thomas Lake. This included decomposing lily "islands" in front of residences in the northwest bay of Thomas. The Forest Service swim beach on Gillette Lake was also noted as an area where aquatic plants in general present a problem.

While no complete questionnaires were returned from the agencies contacted, various agency information was provided for the preparation of this plan. This information included the Land and Resource Management Plan for the Colville National Forest², the Natural Features Report for the Little Pend Oreille River Natural area Preserve³ and the Management Plan for the Little Pend Oreille River Natural Area Preserve⁴. These documents were reviewed in the process of determining aquatic plant management options (see below).

Problem Categories

From the preceding discussion, the following categories of aquatic plant problems are evident at the Little Pend Oreille Lakes:

- current hindrance to swimming
- current hindrance to boating
- current hindrance to fishing and fish habitat
- continuing expansion of areas with excessive plant growth
- decreasing aesthetic appeal of the lakes
- continuing domination of aquatic plant beds by exotics
- decreasing property values and revenues from recreational uses of the lakes

Of these stated problem categories, the presence and expansion of coverage by Milfoil is viewed as the most significant. The presence of *Myriophyllum* species was noted in Gillette Lake in 1972 by Bortleson⁵. Infestation of *Myriophyllum spicatum* (Eurasian watermilfoil) was first identified in Thomas Lake in 1989⁶. In the summer of 1993,

substantial colonies of Milfoil were observed in Heritage, Thomas, Gillette and Sherry Lakes⁷. In addition, large numbers of free floating Milfoil fragments were observed in these four lakes during July and August of that year. This infestation hampered fishing by snaring lures and lines and became an obvious impairment to the aesthetic enjoyment of the lakes. Since there are large areas in these lakes which are colonizable by Milfoil, there is great concern that Milfoil will continue to degrade the beneficial uses of these lakes and other lakes/streams as well.

Problem Statement

The Little Pend Oreille Lakes are experiencing varying degrees of recreational and fish habitat degradation due to aquatic plants. This degradation appears to be expanding in the lower four lakes, primarily due to a growing infestation of Milfoil and Water Lilies. Lake property owners have also expressed the concern that the natural balance or diversity of native plant species is being lost due to the invasion of exotic plants such as Milfoil and Water Lilies. Lake specific problems follow:

Lake Leo: No specific problems were identified for this lake. (This is due in part to the predominance of Forest Service ownership of the shoreline and the lack of lake-specific information provided by the Forest Service.)

Heritage Lake: This lake has been shown to be significantly affected throughout by aquatic plants. Fishing and fish habitat continue to be degraded by the expansion of Milfoil and Water Lilies. Specific problem areas are along the residentially developed and developing shoreline.

Thomas Lake: Aquatic plant problem areas in Thomas Lake were identified primarily in the northwest bay area where Water Lilies are blocking private beach use. This includes aesthetic concerns from decaying lily "islands". Also in the shallow, northern portions of the lake, Milfoil is becoming a hindrance to swimming, boating and fishing activities. The northeastern area where water enters from Heritage Lake is a potential natural ecosystem area which is currently dominated by Water Lilies.

Gillette Lake: There was not a strong indication of the current affect of aquatic plants on the use of this lake. The apparent spread of Milfoil and other plants, however, has great potential to degrade the recreational uses of this lake which supports the only resort, the only public swimming area and one of the two boat launches in this chain of lakes.

Sherry Lake: Aquatic plants, including Milfoil, have been shown to present a moderate to significant affect on the current use of this lake. Residential development occupies essentially all of the shoreline, and an increase in Milfoil infestation will only further degrade resident uses.

MANAGEMENT GOALS

The development of the Problem Statement for the Little Pend Oreille Lakes, the determination of desired beneficial uses and the assessment of watershed lake characteristics, have led to the following management goals:

- Maintain recreational and fish/wildlife use of the lakes by removing exotic, invasive plants (Milfoil) from known locations
- Keep public swimming and boat launch areas free of aquatic plants
- Remove Water Lilies from certain areas where they present an aesthetic or navigation problem or otherwise inhibit beneficial uses
- Choose aquatic plant control techniques which are plant specific and promote the maintenance of natural and diverse aquatic plant populations
- Choose aquatic plant control techniques which have the widest public support and a high cost to benefit ratio

WATERSHED and LAKE CHARACTERISTICS

The overall quality of lakes is closely related to the quality of the water flowing into them, including surface streams, overland runoff and groundwater. The quality of the inflows is a function of the quality of the watershed, both near shore and distant. There are human factors involved in lake and watershed quality, as well as other factors, such as the introduction of invasive, non-native aquatic plants.

In order to fully understand the lake system, with its uses and problems, and the opportunities for its protection and management, the watershed and waterbodies must be described. The following discussion focuses first on the watershed and then on each of the Little Pend Oreille Lakes. This information was obtained from a variety of sources, and references are given where appropriate.

Watershed

The Little Pend Oreille River watershed is considered to be all land and surface waters which drain through the water level control structure below Sherry Lake (see Figure 1, USGS Topographic Map). This area includes the five principal lakes: Leo, Heritage, Thomas, Gillette and Sherry, and their tributaries. The total area of this watershed is approximately 17 square miles (44 square kilometers) according to Bortleson⁵.

The principal tributaries draining into the lakes from the watershed are Patchen and Deer Creeks, which drain into Heritage Lake from the north, Spring Creek, which drains into Thomas Lake from the west and Gillette Creek, which drains into Gillette Lake from the east. Numerous other unnamed, intermittent streams drain into these lakes or the Little Pend Oreille River as well (see Figure 1).

Principal wetland areas in this watershed are found along much of the shoreline of Lake Leo, the Little Pend Oreille River inlet to Heritage Lake, between Heritage and Thomas Lakes and at the mouth of Gillette Creek on the east side of Gillette Lake. Significant wetland areas also exist for approximately two miles downstream of Sherry Lake (above Coffin Lake).

The land in the Little Pend Oreille Lakes watershed is primarily forested with some open meadow areas. Predominant land use activities include timber harvesting (and related activities) and some range grazing. Development is mainly residential and mainly along the shorelines of Heritage, Thomas, Gillette and Sherry Lakes. There is one resort, Beaver Lodge, located on Gillette Lake, and National Forest campgrounds are located on Leo, Thomas and Gillette Lakes. Much of the Lake Leo shoreline is also within the Colville National Forest under the jurisdiction of the USDA Forest Service. There are two public boat launches in the Little Pend Oreille chain which are located on Lake Leo and Gillette Lake. Both of these are operated by the USDA Forest Service.

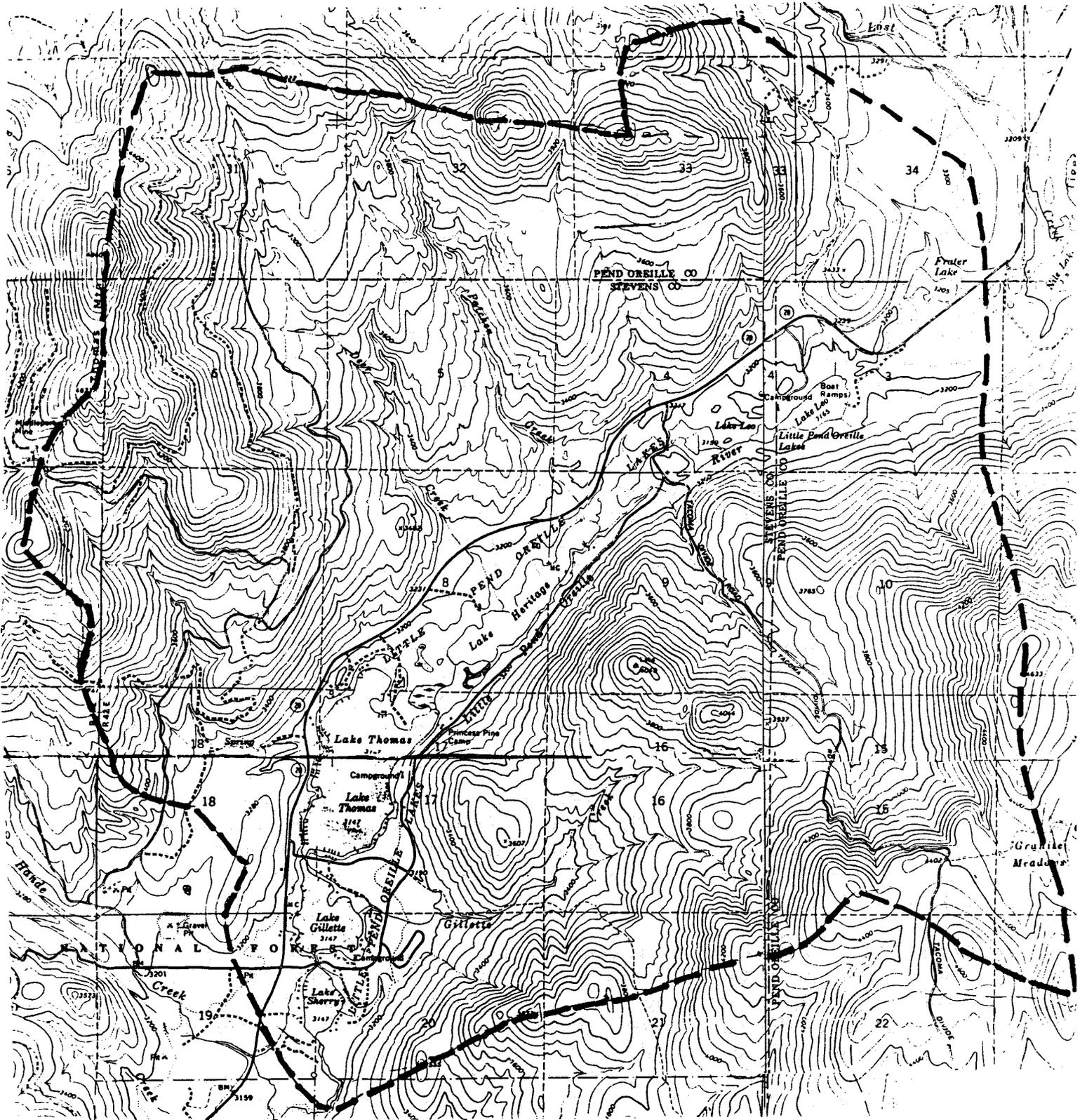


Figure 1. Little Pend Oreille Lakes Watershed (from US Geological Survey, 7.5 minute series maps of Aladdin Mtn., Ione, Lake Gillette and Timber Mtn., Washington quadrangles)

No information is currently available regarding specific non-point pollutant sources in the watershed. Generally, non-point sources likely include runoff from developed areas (nutrients, lawn/garden chemicals and petroleum products) and runoff from timber harvest and road building areas (silt and nutrients). Livestock grazing near streams and the lake shore is also a potential non-point source of nutrients.

Existing watershed management programs include the Colville National Forest Plan administered by the USDA Forest Service, Stevens County Shoreline Master Plan, Washington Department of Natural Resources Natural Area Preserve and Washington Department of Fish and Wildlife Hydraulic Project Approvals.

Rare, threatened or endangered plants are known to exist in the Little Pend Oreille Lakes watershed. One species, *Dryopteris cristata*, has been documented in two wetland areas on the east side of Lake Leo⁸. A second species, *Cicuta bulbifera*, is documented in a Washington Department of Natural Resources, Riparian Ecology Plot⁹ located below Sherry Lake.

Lakes

The following information was excerpted primarily from three documents: Data on Selected Lakes in Washington (Bortleson⁵), Reconnaissance Data on Lakes in Washington (Dion¹⁰) and Lake Water Quality Assessment Project (Rector and Hallock⁶). Information on current water quality and stream flows was obtained during the 1995 field reconnaissance conducted for this Aquatic Plant Management Plan and are presented in Appendix 4. Lake bottom contours and primary inflows are shown on the Water Body Usage Maps in Appendix 5.

Lake Leo: This is the headwater lake in the Little Pend Oreille chain, located in Sections 3 and 4, T 36 N, R 42 EWM with a surface elevation of approximately 3,165 feet (965 meters) above sea level. It has a surface area of 43 acres (17 hectares), a volume of 740 acre-feet (9.1×10^5 cubic meters), a mean depth of 17 feet (5.2 meters) and a maximum depth of 32 feet (9.8 meters). Lake Leo is supplied by surface drainage from three unnamed intermittent streams and by probable subsurface drainage from Frater Lake to the northeast.

Water quality measurements from 1972 included Secchi Disk water clarity ranging from approximately 8 to 11 feet (2.4 to 3.4 meters), temperature between 41 and 70 °F (5 to 21 °C) and total phosphorus concentrations were 13 to 48 µg/L. Dissolved oxygen was observed to be depleted to less than 1.0 mg/L below a depth of approximately 16 feet (4.9 meters) in August of 1972. Water quality measurements were also taken as part of the Washington Citizen Lake Monitoring Project in 1990⁶. Growing season Secchi Disk water clarity measurements ranged from 10.5 to 18.5 feet (3.2 to 5.6 meters), temperature between 53 and 76 °F (11.7 to 24.4 °C) and phosphorus concentrations were 12 to 13 µg/L. Dissolved oxygen was observed to be depleted to less than 1.0 mg/L below a depth of 16 feet (5.0 meters) in June of 1990. Lake Leo was classified in 1972 to

be "medium to high in trophic nature" while in 1990 it was "oligo-mesotrophic". Water quality data from May, 1995 (see Appendix 4) included a Secchi Disk depth of 2.3 meters (approximately eight feet), temperatures from 15.4 °C on the surface to 5.9 °C at a depth of eight meters and dissolved oxygen between 8.2 mg/L at the surface and 0.0 mg/L at eight meters. Dissolved oxygen dropped quickly below a depth of four meters. Conductivity through the water column in 1995 ranged from 69 µmhos/cm at the surface to 114 µmhos/cm at eight meters depth with levels increasing as the dissolved oxygen decreased below approximately four mg/L. Laboratory results of analyses for phosphorus and nitrogen compounds were soluble reactive phosphorus 4 µg/L, total phosphorus 16 µg/L, nitrate nitrogen 0.04 mg/L, nitrite nitrogen 0.001 mg/L and total nitrogen (Kjeldahl) 0.30 mg/L. These results are consistent with those from the other Little Pend Oreille Lakes.

Aquatic plants found in the 1972 survey included two varieties of pondweed (*Potamogeton* spp.), yellow lily (*Nuphar* spp.), waterweed (*Elodea* spp.) and muskgrass (*Chara* spp.). Plant growth observed in 1990 was dominated by the pondweed (*Potamogeton robbinsii*). Plants observed in 1990 were waterweed (*Elodea canadensis*), yellow-flowering lily (*Nuphar polysepalum*) and water buttercup (*Ranunculus* spp.). Submersed aquatic plant coverage of the lake bottom was estimated to be 31% in 1972. No estimate of coverage was made in 1990.

Aquatic plant mapping and characterization results from the 1995 field reconnaissance are presented in the Aquatic Plant Mapping and Aquatic Plant Characterization sections (pages 17 - 20, below).

The shoreline of Lake Leo is undeveloped with the exception of the National Forest campground and boat launch. Control of water flow out of Lake Leo is by natural channel features (although the remains of a former control structure can still be found in the outlet area). Water right information is not known.

Available stream flows from Lake Leo were given by Bortleson⁵ from 1972. From April through September of that year, combined inflow was less than one cubic foot per second (cfs) during four site visits. Estimated outflow was 4.8 cfs (0.13 cubic meters per second, cms) in April, 3.8 cfs (0.11 cms) in June, 1.2 cfs (0.03 cms) in August and 1.5 cfs (0.04 cms) in September. No flow data were collected in the 1995 reconnaissance from Lake Leo.

Heritage Lake: This is the second lake in the Little Pend Oreille chain, located in Sections 8 and 9, T 36 N, R 42 EWM with a surface elevation of approximately 3,147 feet (959 meters) above sea level. It has a surface area of 73 acres (30 hectares), a volume of 750 acre-feet (9.3×10^5 cubic meters), a mean depth of 10 feet (3.0 meters) and a maximum depth of 17 feet (5.2 meters). Lake Heritage is supplied by surface drainage from the Little Pend Oreille River (primarily the outflow of Lake Leo) as well as surface and subsurface drainage from Patchen Creek, Deer Creek and several unnamed, intermittent drainages.

Water quality measurements from 1972 included Secchi Disk water clarity ranging from approximately 8 to 14 feet (2.4 to 4.3 meters), temperature between 39 and 70°F (4 to 21°C) and total phosphorus concentrations were 16 to 162 µg/L. Dissolved oxygen was observed to be depleted to less than 1.0 mg/L below a depth of 13 feet (4.0 meters) in August of 1972. Lake Heritage was found to exhibit a high natural rate of eutrophication due to its shallow depth and marsh-type environment around most of the lake.

Water quality data from May, 1995 (see Appendix 4) included a Secchi Disk depth of 2.2 meters (approximately seven feet), temperatures from 14.5 °C on the surface to 10.0 °C at a depth of five meters and dissolved oxygen between 8.9 mg/L at the surface and less than four mg/L in the weeds at 5.0 meters depth. Conductivity through the water column ranged from 193 µmhos/cm at the surface to 46 µmhos/cm at four meters depth. The high reading at the surface appears to be an anomaly since all other readings were 46 to 48 µmhos/cm. Laboratory results of analyses for phosphorus and nitrogen compounds were soluble reactive phosphorus 5 µg/L, total phosphorus 18 µg/L, nitrate nitrogen 0.06 mg/L, nitrite nitrogen less than 0.001 mg/L and total nitrogen (Kjeldahl) 0.23 mg/L. These laboratory results are consistent with those from the other Little Pend Oreille Lakes.

Aquatic plant growth observed in 1972 was dominated by watershield (*Brasenia* spp.). Also found were white lily (*Nymphaea* spp.), yellow lily (*Nuphar* spp.), waterweed (*Elodea canadensis*), and five varieties of pondweed (*Potamogeton* spp.). Submersed aquatic plant coverage of the lake bottom was estimated to be 54% in 1972.

Aquatic plant mapping and characterization results from the 1995 field reconnaissance are presented in the Aquatic Plant Mapping and Aquatic Plant Characterization sections (pages 17 - 20, below).

The shoreline of Heritage Lake is approximately 14% developed with 14 homes noted in 1972. Control of water flow out of Heritage Lake is by natural channel features and the water level control structure below Sherry Lake, with the surface elevation being the same in the next three lakes in the chain. Note that in 1995 the water level control structure below Sherry Lake washed out, making the channel bottom at the outlet of Sherry Lake the controlling feature. Water right information is not known.

The only available stream flow data is from August 1972, when the estimated flow was 2.7 cfs (0.08 cms). No flow data was collected in the 1995 reconnaissance from Heritage Lake.

Thomas Lake: This is the third lake in the Little Pend Oreille chain, located in Sections 8, 17 and 18, T 36 N, R 42 EWM with a surface elevation of approximately 3,147 feet (959 meters) above sea level. It has a surface area of 170 acres (69 hectares), a volume of 4,000 acre-feet (4.9×10^6 cubic meters), a mean depth of 23 feet (7.0 meters) and a maximum depth of 55 feet (17 meters). Thomas Lake is supplied by the outflow of

Heritage Lake as well as surface and subsurface drainage from Spring Creek and several unnamed, intermittent drainages.

Water quality measurements from 1972 included Secchi Disk water clarity ranging from approximately 8 to 15 feet (2.4 to 4.6 meters), temperature between 39 and 70°F (4 to 21 °C) and total phosphorus concentrations were 7 to 150 µg/L. Dissolved oxygen was observed to be depleted to less than 1.0 mg/L below a depth of 18 feet (5.5 meters) in August of 1972. In the 1990 Citizen Monitoring results, this lake was found to have Secchi Disk clarity between 10.1 and 16.5 feet (3.1 to 5.0 meters), temperatures between 47 and 74 °F (8.3 and 23.3°C), and total phosphorus concentrations were 7 to 11 µg/L. Lake Thomas was found to exhibit a medium trophic state in 1972 and was oligo-mesotrophic in 1990.

Water quality data from May, 1995 (see Appendix 4) included a Secchi Disk depth of 3.0 meters (approximately ten feet), temperatures from 16.0 °C on the surface to 6.0 °C at a depth of 10 meters and dissolved oxygen between 8.8 mg/L at the surface and 2.0 mg/L at 10 meters. Conductivity through the water column ranged from 56 µmhos/cm at the surface to 105 µmhos/cm at 15.0 meters depth. Laboratory results of analyses for phosphorus and nitrogen compounds were soluble reactive phosphorus 5 µg/L, total phosphorus 22 µg/L, nitrate nitrogen 0.03 mg/L, nitrite nitrogen less than 0.001 mg/L and total nitrogen (Kjeldahl) 0.27 mg/L. These laboratory results are consistent with those from the other Little Pend Oreille Lakes.

Aquatic plant growth observed in 1972 was dominated by watershield (*Brasenia* spp.). Also found were white lily (*Nymphaea* spp.), yellow lily (*Nuphar* spp.), waterweed (*Elodea canadensis*), and five varieties of pondweed (*Potamogeton* spp.). Submersed aquatic plant coverage of the lake bottom was estimated to be 14% in 1972. During the 1990 on-site visit, representatives of the Washington Department of Ecology identified pondweed, Eurasian watermilfoil and white lily. This was the first identification of Milfoil in this lake system.

Aquatic plant mapping and characterization results from the 1995 field reconnaissance are presented in the Aquatic Plant Mapping and Aquatic Plant Characterization sections (pages 17 - 20, below).

The shoreline of Thomas Lake was approximately 14% developed with 14 homes noted in 1972. There were 72 homes observed in 1990 of which only four were occupied year-round. Control of water flow out of the lake is ultimately by the water level control structure below Sherry Lake, as the surface elevations are the same in the next two lakes in the chain. As noted above, this water level control structure washed out in 1995, and the resulting level control was the channel bottom at the outlet of Sherry Lake. Water right information is not known.

The only stream flow data available from Thomas Lake was that measured during the May, 1995 reconnaissance. At that time the flow was 12.88 cfs (0.36 cms).

Gillette Lake: This is the fourth lake in the Little Pend Oreille chain, located in Sections 17, 18, 19 and 20, T 36 N, R 42 EWM with a surface elevation of approximately 3,147 feet (959 meters) above sea level. It has a surface area of 47 acres (19 hectares), a volume of 1,600 acre-feet (1.9×10^6 cubic meters), a mean depth of 34 feet (10.4 meters) and a maximum depth of 85 feet (25.9 meters). Lake Gillette is supplied by surface drainage from the outflow of Thomas Lake as well as surface and subsurface drainage from Gillette Creek.

Water quality measurements from 1972 included Secchi Disk water clarity ranging from approximately 8 to 14 feet (2.4 to 4.3 meters), temperature between 39 and 70°F (4 to 21°C) and total phosphorus concentrations were 10 to 2,600 µg/L. Dissolved oxygen was observed to be depleted to less than 1.0 mg/L below a depth of approximately 16 feet (4.9 meters) in August of 1972 and oxygen was depleted to near zero as early as April of that year. Gillette Lake was determined to have a medium to high biological productivity from observations in 1972.

Water quality data from May, 1995 (see Appendix 4) included a Secchi Disk depth of 4.0 meters (approximately 13 feet), temperatures from 16.5 °C on the surface to 5.0 °C at a depth of 10.0 meters and dissolved oxygen between 8.8 mg/L at the surface and 0.0 mg/L below a depth of 9.0 meters. Dissolved oxygen dropped quickly below a depth of 5.0 meters. Conductivity through the water column ranged from 69 µmhos/cm at the surface to 212 µmhos/cm at 15.0 meters depth. Hydrogen sulfide odor was noted in the sample brought up from 15.0 meters. Laboratory results of analyses for phosphorus and nitrogen compounds were soluble reactive phosphorus 4 µg/L, total phosphorus 16 µg/L, nitrate nitrogen 0.04 mg/L, nitrite nitrogen less than 0.001 mg/L and total nitrogen (Kjeldahl) 0.22 mg/L. These laboratory results are consistent with those from the other Little Pend Oreille Lakes.

Aquatic plant growth observed in 1972 was dominated by watershield (*Brasenia* spp.) and two varieties of pondweed (*Potamogeton* spp.). Also found were yellow lily (*Nuphar* spp.), waterweed (*Elodea* spp.), coontail (*Ceratophyllum* spp.), muskgrass (*Chara* spp.) and water milfoil (*Myriophyllum* spp.). Submersed aquatic plant coverage of the lake bottom was estimated to be 26% in 1972.

Aquatic plant mapping and characterization results from the 1995 field reconnaissance are presented in the Aquatic Plant Mapping and Aquatic Plant Characterization sections (pages 17 - 20, below).

The shoreline of Gillette Lake is approximately 30% developed with 19 homes noted in 1972. Control of water flow out of the lake is by the water level control structure below Sherry Lake except as noted above. Water right information is not known.

Stream flow was measured in May, 1995 at the Gillette Lake outlet as part of the field reconnaissance effort. At this time, flow was 26.21 cfs (0.72 cms). As mentioned above, the inlet flow was determined to be 12.88 cfs at this time. The reason for this discrepancy is not known.

Sherry Lake: This is the fifth lake in the Little Pend Oreille chain, located in Sections 19 and 20, T 36 N, R 42 EWM with a surface elevation of approximately 3,147 feet (959 meters) above sea level. It has a surface area of 25 acres (10.1 hectares), a volume of 720 acre-feet (8.9×10^5 cubic meters), a mean depth of 29 feet (8.8 meters) and a maximum depth of 85 feet (25.9 meters). Sherry Lake is supplied by surface drainage from the outflow of Gillette Lake as well as surface and subsurface drainage from an unnamed, intermittent drainage entering from the east.

Water quality measurements from 1972 included Secchi Disk water clarity ranging from approximately 8 to 16 feet (2.4 to 4.9 meters), temperature between 39 and 70°F (4 to 21 °C) and total phosphorus concentrations were 18 to 820 µg/L. Dissolved oxygen was observed to be depleted to less than 1.0 mg/L below a depth of approximately 20 feet (6.1 meters) in August of 1972. As with Gillette Lake, oxygen was depleted to near zero as early as April of that year. Sherry Lake was found to exhibit a medium rate of biological productivity.

Water quality data from May 1995 (see Appendix 4) included a Secchi Disk depth of 4.0 meters (approximately 13 feet), temperatures from 16.0 °C on the surface to 5.5 °C at a depth of 10.0 meters and dissolved oxygen between 8.9 mg/L at the surface and 0.0 mg/L at a depth of 10.0 meters. Dissolved oxygen dropped quickly below a depth of 7.0 meters. Conductivity through the water column in 1995 ranged from 64 µmhos/cm at the surface to 250 µmhos/cm at 15.0 meters depth. Laboratory results of analyses for phosphorus and nitrogen compounds were soluble reactive phosphorus 5 µg/L, total phosphorus 21 µg/L, nitrate nitrogen less than 0.01 mg/L, nitrite nitrogen less than 0.001 mg/L and total nitrogen (Kjeldahl) 0.24 mg/L. These results are consistent with those from the other Little Pend Oreille Lakes except for nitrate nitrogen which was somewhat higher (0.03 to 0.06) in the other lakes.

Aquatic plant growth observed in 1972 was dominated by watershield (*Brasenia* spp.). Also found were white lily (*Nymphaea* spp.), yellow lily (*Nuphar* spp.), waterweed (*Elodea canadensis*), and five varieties of pondweed (*Potamogeton* spp.). Submersed aquatic plant coverage of the lake bottom was estimated to be 26% in 1972.

Aquatic plant mapping and characterization results from the 1995 field reconnaissance are presented in the Aquatic Plant Mapping and Aquatic Plant Characterization sections (pages 17 - 20, below).

The shoreline of Sherry Lake is approximately 57% developed with 18 homes noted in 1972. Control of water flow out of Sherry Lake is by natural channel features and the water level control structure located approximately 1,800 feet (548 meters) below the lake. As noted for Heritage Lake above, the water level control structure which normally controls the water level washed out in 1995, leaving the channel bottom of the outlet of Sherry Lake as the controlling feature. Water right information is not known.

Inlet flow measured in May 1995 was 26.21 cfs, as mentioned above. Outlet flow at this time was measured at 21.59 cfs (0.61 cms). This apparent discrepancy is suspected to be due to uncertainty in measurement in the lower velocity, deeper inlet channel. Other outlet flow data from 1972 were 30.3 cfs (0.85 cms) in April, 13.6 cfs (0.38 cms) in June and 13.4 cfs (0.37 cms) in September.

BENEFICIAL USES

The current beneficial uses of the Little Pend Oreille Lakes were documented, from the landowners' perspective, through completion of the questionnaire discussed above. Through contacts with the agencies having jurisdiction over the lake or lakeshore areas, additional beneficial uses and use areas were documented. These areas are shown on Figures 2 through 6, the Water Body Use Maps in Appendix 5.

The questionnaire asked what uses are made of the lake(s) the responder was primarily involved with. Options given were fishing, swimming, boating and wildlife observation. Space was given to indicate other uses. Of the 46 completed questionnaires, 43 indicated fishing, 36 indicated swimming, 35 indicated boating and 33 indicated wildlife observation. Water skiing and near-shore hiking were each indicated once as other uses.

A related question asked if the responder thought that improvement in the uses was needed. Thirty questionnaires indicated that improvement was needed, three indicated improvement was not needed and one was unsure.

In addition to these resident uses, the Forest Service facilities on these lakes receive heavy usage. These facilities consist of an eight site campground and boat launch on Lake Leo, a fifteen site campground on Thomas Lake and a boat launch, swimming area and 43 site campground on Gillette Lake. Estimated use statistics for these facilities from are 24,000 annual visitor days on Lake Leo, 20,000 visitor days on Thomas Lake and 60,000 visitor days on Gillette Lake¹¹.

The other visitor facility is the Beaver Lodge Resort located on Gillette Lake. The resort owner estimated that there are 40 people staying in the cabins at the resort every day during the three month summer season (Memorial Day through Labor Day)¹². Boat rentals at the resort amount to four to six per week and paddle boat rentals about four per day.

There are two camps that operate on the lake shore in this chain. Camp Baird is a Boy/Girl Scout Camp on Sherry Lake which is run by the Colville Kiwanis Club. The Prince's Pine Camp is a church camp located on Thomas Lake.

An annual event which represents an additional beneficial use of Gillette Lake is the Tiger Triathlon. Organized by the Colville City Recreation Department, this event generally has around 160 participants (including runners, bikers and swimmers), and this year is the tenth year it has been held¹³.

AQUATIC PLANT CHARACTERIZATION

Aquatic Plant Mapping

Current aquatic plant populations (both submersed and emergent) were determined from boat and SCUBA diver surveys conducted May 15 - 17, 1995. Plant locations in Heritage, Thomas, Gillette and Sherry Lakes were plotted on existing base maps produced for the 1994 Stevens County Lakes Survey¹⁴. Plant locations in Lake Leo were plotted on a base map newly created for this project. Base maps were produced using Geographical Information System (GIS) computer software incorporating the boat and diver information, Washington Department of Natural Resources orthophotos¹⁵ and aerial photography collected for the 1994 lakes survey. Distance and area data were derived using map positions, mechanical range finders and 91.5 meter (300 foot) measuring lines.

The boat surveys were performed of the entire littoral area of each lake. This provided for a thorough inspection of emergent and floating-leafed vegetation. This inspection also allowed for species level identification of submersed plants in shallow regions. Viewing tools such as glass-bottomed tubes were used for viewing from the surface into deeper waters.

The SCUBA diver surveys were performed following transect lines laid perpendicular to the shore out towards mid-lake. Identified aquatic plant species, plant densities, depth of water, sediment types and other information was relayed from the diver to the dive boat using Dive-Link underwater communications equipment. Because the size of each lake varied widely, transects were placed around the shoreline based on the following lake characteristics: uniformity of bottom slope, unique areas of vegetation growth, disturbed areas and patterns of floating leaved plants.

Aquatic Plant Characterization

The information gathered for the 1994 survey (collected in August 1994) is summarized below along with the 1995 data (collected May 1995) to present a complete picture of aquatic plant populations in the Little Pend Oreille Lakes. As mentioned above, Lake Leo was not included in the 1994 project, so plant population information is from 1995 only.

There were numerous differences in aquatic plant development, density and coverage apparent in the two years' data. It is assumed that most, if not all, of these differences are due to the early season survey time in 1995. As a result, the following discussion presents summaries of both years' data. The aquatic plant maps, as well, are a synthesis of the two years' information. Referenced aquatic plant maps are presented in Appendix 6.

Lake Leo: Yellow lily (*Nuphar variegatum*) was the predominant aquatic plant along most of the shoreline within the two-meter (seven-foot) contour (see Appendix 6). Along the western shore, this lily extended out an average distance of 14 meters (45 feet) from the shoreline. Yellow lily extended out approximately eight meters (25 feet) from the eastern shore. Yellow lily was most abundant in the shallow area at the southern (outlet) end of the lake where it extended out to approximately 21 meters (70 feet) along the eastern side.

The two- to three-meter contour (seven- to ten-foot depths) was dominated by a mixture of largeleaf and Richardson's pondweeds (*Potamogeton amplifolius* and *P. richardsonii*, respectively). This region consisted of medium density plant growth with five to ten plants per square meter (approximately one-half to one plant per square foot).

The three- to six-meter contour (10 to 20 feet of depth) was dominated by waterweed (*Elodea canadensis*) in abundance. The plants were found in large clumps with an approximate coverage of one square meter. Sporadically positioned within this *Elodea* region are irregularly occurring single or multi-stemmed stalks of coontail (*Ceratophyllum demersum*). A narrow band of *Nitella* bordered the waterweed region at a depth of approximately six meters (20 feet).

Heritage Lake: In 1994, the aquatic plant progression through this lake was a diverse band of pondweeds and waterweed in the near shore areas, with scattered Milfoil plants among them (see Appendix 6). In deeper water, pondweed species were prevalent, and reached the surface from four-meter (12-foot) depths. *Nitella* was common beyond the four-meter (15-foot) contour. The northern end of the lake was the most diverse, and all plants present in the lake were found in this region.

In the 1995 survey, aquatic plant growth was common to the 4.5-meter (15-foot) contour. Previous surveys found plants extending out to deeper waters with *Nitella* especially common beyond the 4.5-meter contour. This survey found *Nitella* only in stands with other plants in shallower waters. It is assumed that the early season survey time accounted for the lower overall plant coverage and associated plant densities. Also indicating that plants are only developing towards maturity was the existence of partially submersed and curled yellow lily leaves in areas where this plant typically grows in abundance.

Yellow lily was found along approximately 85% of the shoreline with the widest coverage at the north (inlet) and south (outlet) ends of the lake. Generally, yellow lilies were found within the two-meter (eight-foot) contour. Broken bands of lilies lined the steeper sloping lake bottom areas to six meters (20 feet) from shore whereas along the more gradually sloping bottom areas and in bays, lilies were common to 24 meters (80 feet) from shore.

The zero- to 1.5-meter contour (to five-foot depth) consisted predominantly of largeleaf and Richardson's pondweeds. These stands were of medium density with five to ten

plants per square meter. These pondweed species were also found in deeper waters mixed sporadically with waterweed and Milfoil.

Milfoil was found throughout Heritage Lake within the one- to four-meter depth contours. The density of the Milfoil ranged from sparse to highly dense with the densest stands located in the shallower areas of the lake. Milfoil was most closely associated with waterweed in the 1.5 to four meter (five to 14 feet) depths.

At the northern end of the lake a plant not previously identified was found. This was coontail (*Ceratophyllum demersum*) and it was found in the three- to four-meter (10 to 14 foot depth) contour.

Thomas Lake: In 1994, Milfoil was found to be well established and occurred mainly in the one- to two-meter (three- to six-foot) depths (see Figure 9 in Appendix 6). There was excellent species diversity beyond the Milfoil beds, but evidence of Milfoil encroachment was seen throughout the lake.

The plant diversity and coverage seen in 1994 was not seen in 1995, presumably due to the early season of the survey, as noted above. All plants in 1995 were contained within the five-meter (16-foot) contour and were limited to Milfoil, largeleaf pondweed, Richardson's pondweed and waterweed.

The degree of slope of the lake bottom appears to have the greatest effect on plant diversity and coverage. In the shallow northern regions of the lake, all plants were found growing mixed throughout the littoral (near shore) zone. *Potamogeton* species were most common in the zero- to two-meter (zero- to seven-foot) contour, while the Milfoil and waterweed were more common in deeper waters (to five meters depth). Waterweed tended to grow to greater depths than Milfoil in these gradually sloping areas, with the Milfoil tapering off by the four-meter (12-foot) contour. Richardson's pondweed was commonly found associated with the Milfoil and waterweed in these areas and was found in association with waterweed at the five-meter (16-foot) contour in some areas.

Along steeper sloping bottom areas Largeleaf pondweed and Milfoil were found closely associated throughout the littoral zone. This was most common along the eastern and western shorelines. Richardson's pondweed and waterweed were uncommon in these areas.

Yellow lily, which was found to be common along the western shoreline of Thomas Lake in 1994, was limited to mostly submerged leaves at the time of the 1995 survey.

Gillette Lake: Patterns of aquatic plant growth in Gillette Lake were essentially identical to those in Thomas Lake in 1994 (see Appendix 6). Well established local Milfoil beds occurred at depths of one- to two-meters (three- to six-feet) with good species diversity remaining near shore and deeper waters.

Plant coverage in 1995 was also similar to that in Thomas Lake (in 1995). Largeleaf pondweed was dominant in the zero- to 1.5-meter (zero- to five-foot) contours. Milfoil was found from 1.5 to four meters (five to 13 feet) of depth associated with both Richardson's pondweed and waterweed. In the southeast quarter of the lake, Richardson's pondweed was dominant beyond a band of nearshore largeleaf pondweed. Milfoil was found to be dominant between the four and five meter (12 to 16 feet) depths.

Nitella was also found in Gillette Lake but was limited to the more gentle slopes, in the northwest and southwest quarters of the lake. Waterweed was also closely associated with the Nitella within the 2.5 to five meter (eight to 16 feet) range in these areas.

Sherry Lake: In 1994, this lake exhibited the most advanced stage of Milfoil infestation in the Little Pend Oreille Lakes chain. The lake was found to be ringed with colonies of well established Milfoil beds (see Appendix 6). There were portions of the lake that had diverse communities of pondweeds found both near shore and off-shore from Milfoil dominated areas. As a percentage of aquatic plant coverage, however, this lake showed the most advanced Milfoil growth.

Aquatic plant growth in 1995 was found to exhibit similar characteristics to those of Thomas Lake (in 1995) with the exception that, in gradually sloping areas, an abundance of *Nitella* was found beyond the four-meter (13-foot) contour, to a depth of 5.5 meters (18 feet).

Yellow lily coverage, which was common in 1994, was found to be minimal in 1995. This is most likely due to the early season survey time, as noted above.

Typically, Milfoil was found growing from one meter to three meters (three to ten feet) with largeleaf and Richardson's pondweeds mixed in to the 1.5-meter (five-foot) contour. Richardson's pondweed was also found associated with Waterweed out to a depth of four meters (13 feet). In gently sloping areas, *Nitella* was found associated with waterweed at the deeper depths.

CONTROL ALTERNATIVES

General

This section of the Integrated Aquatic Plant Management Plan presents information on available and developing management techniques. Much of this information is excerpted from A Citizen's Manual for Developing Integrated Aquatic Plant Management Plans¹⁴ and the Environmental Impact Statement for the Department of Ecology's Aquatic Plant Management Program¹⁵. Table 1 in Appendix 7 presents a summary of the currently available techniques with estimated costs. Additional information on new and developing technologies is also presented where it appears to be appropriate in the near future (five to ten years). While all possible techniques are addressed here, only those which are specifically applicable to the Little Pend Oreille Lakes, the developed Problem Statement and the Management Goals are discussed in detail. Following from the review of appropriate techniques, an "action plan" has been developed which is presented in the next main section of this Management Plan.

The No-Action Alternative

The focus of this Aquatic Plant Management Plan is on the plants which have been shown to negatively affect the beneficial uses in the Little Pend Oreille Lakes chain. Based on the public opinion that there is a problem with aquatic plants, this Plan has investigated options for controlling or eliminating this problem. In order to maintain a perspective on the costs and benefits of various plant control options, the costs and benefits of the "no action" alternative also must be kept in mind.

If organized action is not taken against nuisance aquatic plants, there is a potential that the problem will get worse. With an invasive plant such as Milfoil, which is currently in the initial stage of growth, this is almost a certainty. In fact, the questionnaire responses described in the Problem Statement section indicated that the problem is increasing.

As shown in the Aquatic Plant Characterization section, the aquatic plant problem is not uniform in all five of the lakes. Lake Leo does not appear to have Milfoil in it, and there are no lakeshore homes to be bothered by near shore waterlilies. As a result, it may be appropriate for no-action on this lake. There is, however, the boat launch on Lake Leo, so the potential for introduction of Milfoil will remain. Thus, even a lake like Lake Leo probably warrants some action (monitoring of aquatic plant populations and perhaps a boat washing station for instance). On lakes like Heritage Lake where the current situation is not acceptable to many people, the no-action alternative still must be considered along with the available control techniques.

Currently Available Techniques - Preventive

Boat Washing Stations: The use of boat washing stations is a technique which has been used to help prevent the spread of Milfoil and other invasive plants. These stations should be located on infested lakes to help prevent plant fragment movement to other lakes. Wash stations can also be located at uninfested lakes to prevent entry of invasive plants. Boat washing, like inspection for plant fragments, requires boaters awareness of the need for aquatic plant control.

Boat washing stations should include a water source (which can be non-potable), a washing area somewhat away from the lake and a disposal structure such as a drywell. The drywell is important since boat wash water must not be allowed to drain directly back into the lake.

The estimated cost of developing a boat washing station is \$8,000 to \$10,000 each. This includes administration/project management, engineering design, piping from the existing water system, drywell installation and grading/paving. Since both boat launches on the Little Pend Oreille Lakes are on USDA Forest Service property, construction of boat washing stations must be done in cooperation with the Forest Service.

Watershed Controls: Watershed controls involve the reduction of nutrient, silt and other contaminant inputs to the lakes from the drainage area (watershed). The principal is that reducing available nutrients (which are often carried on silt particles) will reduce in-lake plant (and algae) growth. The controls are collectively called "best management practices" and referred to as BMPs. BMPs include structural and non-structural techniques which address household and yard care, agricultural practices, forestry practices and construction/road maintenance practices.

Watershed controls/BMPs, while often low cost and simple to construct, can be difficult to implement on a watershed basis especially if watershed boundaries cross jurisdictional boundaries. Watershed controls will seldom, by themselves, eliminate an aquatic plant problem since they do not address nutrients already in the lakes. These controls can be effective, however, when used in connection with in-lake water quality or aquatic plant projects.

Watershed controls are recommended to be investigated and promoted concurrent with implementation of this Plan. All jurisdictions with interests in the watershed should be involved in this process.

Public Awareness Program: Through the efforts of the Department of Ecology and other groups, there is a heightened awareness of the potential for Milfoil to infest and spoil lakes. Much of this awareness has been through the bright yellow and red signs, produced by the Department of Ecology, which are posted at most public boat launches in Washington. It appears, however, that not all boat operators check their boat and

trailer each time they load in or out of a lake. Thus, there is a need for additional public awareness.

The State of Washington, particularly the Department of Ecology, has taken the lead in controlling nuisance aquatic plants. There is a need, however, for a local, personal approach if these plants are to be effectively controlled. Public awareness efforts can take the form of volunteers stationed at boat launches to provide information and remind boaters to clean their boats. Much information has been published about Milfoil, but additional information that ties Milfoil with local lake conditions may be of greater interest. Mailings and presentations to lake residents and sportsmans clubs can also be effective if they present local interest information along with the warnings.

Currently Available Techniques - Physical Control

Hand Pulling: Hand pulling is effective for clearing small areas but is a labor intensive method. It involves removing entire plants (leaves, stems and roots) from the area of concern and carrying them to a dry land disposal area (that is, away from the shoreline). In water less than three feet deep no specialized equipment is required, although a spade, trowel or long knife may be needed if the sediment is packed or heavy. In deeper water, hand pulling is best accomplished by divers with SCUBA or snorkel equipment and mesh bags for collection of plant fragments.

In a lake system where an invasive plant, such as Milfoil, is present, hand pulling is recommended for areas around docks, beaches and boat launches as an interim measure until more extensive treatments can be implemented. Hand pulling is also appropriate following an extensive treatment if new infestations are discovered. No permits are currently required for small scale hand pulling of aquatic plants.

Hand Cutting: This technique differs from hand pulling in that plants are cut or torn from the water and the roots may or may not be removed. This work can be performed using hand-held cutting tools which may or may not be powered. Alternatively, rakes, chains, logs, bedsprings or the like can be dragged across the lake bottom to collect plant material. This is best done by pulling towards the shore since a substantial weight of material can be collected in a short distance. As with hand pulling, collected material should be disposed of at a dry land location.

Hand cutting is a labor-intensive technique and therefore appropriate for small areas like around docks, beaches and boat launches. It is a more short term technique, however, in that leaving the roots in place allows rapid regrowth of the nuisance plants. This method can also cause short term increases in turbidity in the work area. No permits are currently required for small scale hand cutting of aquatic plants, although the County Planning Department should be consulted for possible shorelines requirements.

Bottom Barriers: Bottom barriers are highly effective in the small to moderate scale control of aquatic vegetation. The barriers are typically synthetic (geo-textile) fabrics, or

burlap, which are used to cover the lake sediments and existing plants and prevent further growth. By covering the lake bottom that the plants emerge from, all plants are effectively prevented from growing in those areas. These barriers are typically 100% effective in the installed areas initially. Installation can be at any depth, and divers are often required to place and secure the barrier material.

Since gases are produced in the sediments under the barrier, the barrier must be attached or weighted to the bottom, and allow these gasses to pass through it. Over time, these barriers can lose effectiveness if sediment builds up on them, providing a substrate for plants to root. Yearly maintenance by a dive team can prolong the effectiveness of this technique indefinitely (except with burlap which will decompose and must be replaced to maintain effectiveness).

Bottom barriers are expensive when used on a large scale. In addition, there can be environmental impacts if large areas of a lake bottom are covered with these materials. Bottom barriers are most applicable for individual properties and are recommended for around docks. Bottom barriers may not work well in swimming areas when placed over soft sediments, however. If swimmers walk on them, they tend to push the mats into the sediment.

Water Level Drawdown: Drawdown (or pump down) of the lake water levels during the winter months can have a dramatic impact on some aquatic weed problems. This methodology is possible where there is a water control structure which will allow lakes or reservoirs to drain for extended periods of time during this season. Alternatively, high capacity pumps can be used to draw water levels down.

Drawdowns will expose the lake sediments to both freezing and loss of water. Freezing can have a dramatic impact on aquatic plants (such as Milfoil) that have no over-wintering structure like seeds, turions, tubers or winter buds. The impact on the root crowns of prolonged exposure to sub-zero temperatures is often fatal. As the lake is filled in the late winter or spring, regrowth from these crowns either does not occur or is severely stunted. There can also be a reduction in some other types of problematic vegetation using this technology if the drawdown is prolonged.

This technique is not one that can claim eradication normally, and plants will survive in portions of the lake where water remains over the sediments. If the drawdown can extend to the deep edge of the plant communities it is obviously more effective than shallower drawdowns that only expose nearshore areas. This technique can also be used to encourage the expansion of native plants into areas infested with Milfoil, as many native plants have over-wintering structures that allow them to survive.

Drawdown can have minimal cost if an outlet control structure of sufficient height is in place. This is not the case in the Little Pend Oreille Lakes. In addition, this technique is not species specific and can negatively effect wetlands associated with the lake shore. For these reasons, drawdown is not recommended in this lake system.

Water Column Dyes: This technique involves the addition of dark colored dyes to the lake to suppress aquatic growth by shading plants from sunlight. Use of this technique is limited to shallow lakes or ponds which have minimal dilution with clear water and no outflow. Due to this fact, and the non-specificity to aquatic plant species, this technique is not recommended for the Little Pend Oreille Lakes.

Currently Available Techniques - Mechanical Control

Mechanical Harvesting: An extension of the hand cutting discussed above is the use of larger equipment which can cut or mow aquatic plants below the water surface. Barge mounted weed cutters, for instance, will cut the stems of submerged vegetation over large areas, with that vegetation typically floating off or being collected by the operator with some other implement. Aquatic weed harvesters are an improved version of a large weed cutter. These systems cut, collect and transport the vegetation for disposal on shore. A typical weed harvesting system will consist of the harvester and a shore station for unloading the harvested vegetation into a transport system for disposal.

Aquatic harvesters have a number of cutting blades located on the harvesting head and a conveyor system inside the knives that collects the plants and deposits them on a barge. There is typically a storage conveyor system that the plants fall onto when cut that facilitates unloading the machine at the shore station. The shore station equipment is usually either a shore conveyor that mates to the harvester and lifts the cut plants into a dump truck or other transport system, or a trailer conveyor that performs the same function as well as transports the harvester from lake to lake. Harvesting systems normally cut the plants from 5 to 7 feet below the surface and can harvest up to 2 acres per day depending on the distance to the disposal site.

Aquatic plant harvesters work well at cutting the plants and removing the bulk of the plant material from the lake. They do allow some plant fragments to escape, however, and they do not necessarily inhibit the continued growth of the cut plants. Harvesting is also not species specific (unless used in single species dominated areas) and it can also remove fish and invertebrates in the harvesting process. Harvesters should not be used on lakes that are infested with Milfoil in the pioneering or early colonization stages since additional fragments will accelerate the spread of the plant. For this reason, harvesting is not recommended in the Little Pend Oreille Lakes at this time. Due to the fairly high cost of the equipment and of having harvesting contractors perform this work, and of the rapid regrowth in the case of Milfoil, harvesting is not recommended as an ongoing program if more permanent techniques are available.

Rotovation: Rotovation, or underwater cultivation, is a newer concept in mechanical aquatic plant management. It can provide for longer term control of some aquatic plants like Milfoil and it can remove plants to greater depths than conventional harvesters (approximately 12 feet versus six feet). Rotovators are basically underwater rototillers which churn the bottom sediments to a depth of up to 12 inches. This action dislodges plants and root crowns. Typical rotovation will provide one to three

years of acceptable weed control. It can be especially effective on Milfoil in flowing water situations (such as the Pend Oreille River).

Milfoil does not produce seeds, tubers, or overwintering buds but grows back from shallow root crowns in the upper portions of the sediment. Rotovation can remove these root crowns. If there are untreated areas in the lake with Milfoil present, however, fragments will reestablish the populations over time. Dislodged plants must be collected as they float to the surface. As with plant cutting or harvesting, rotovation should not be considered in lake or river systems where plants like Milfoil are in the pioneering stages of an infestation. As a result, rotovation is not recommended for the Little Pend Oreille Lakes.

Diver dredging: Diver operated suction dredging is also a relatively new concept for the treatment of lake systems with noxious aquatic weeds present. These systems use divers equipped with suction dredge hoses that vacuum the plant material out of the lake. The suction hoses pump the plant material and sediments to the surface where they are deposited into a screened basket. Water and sediment are allowed to return to the water column, normally contained in sediment curtains to prevent turbidity problems. The collected material is disposed of on-shore.

Plants like Milfoil that have no seeds or over-wintering structures can be effectively "vacuumed" from the lake. In one large scale operation in Western Washington, two years of diver dredging have reduced populations of Milfoil by 80%. This technique is also selective in that divers can target a single species in a mixed population area.

A potential drawback to this process is cost. The prevailing wage rates for divers required by state law puts a high premium on this type of treatment. Depending on density of plants, specific equipment used and disposal requirements, costs can range from a minimum of \$1,100 to \$2,000 a day. Actual removal rates vary from approximately 0.25 acres per day to one acre per day (0.1 to 0.4 hectares per day).

An environmental concern with diver dredging is that of turbidity and nutrient release from disturbed sediments. This is especially true of the light, organic sediments that often accumulate in heavy weed bed areas. While sediment curtains can be used to minimize the drift of resuspended sediment materials, there is no practical way of controlling nutrient release. Placement of sediment curtains is also time consuming and, thus, costly.

Permits required for diver dredging projects are a Hydraulic Project Approval from the Washington Department of Fish and Wildlife, a Temporary Modification of Water Quality Standards from the Washington Department of Ecology and a Shoreline Management permit from the County Planning Department. In addition, it may be necessary to obtain a letter of approval from the Washington Department of Natural Resources.

Currently Available Techniques - Biological Control

The biological control of aquatic plant problems focuses on the selection of organisms that have an impact on the growth of a target plant. By stocking a lake with these organisms, or "agents", the population of the target plant can be reduced. Biological control is not an exact science at this time. There have been a number of dramatic success stories with the control of aquatic weeds using some organisms. There have also been some undesirable effects from their use. The majority of the tools in this field are in the experimental or review stage at this time.

Biological control agents are generally of two types. There are general agents like grass carp that will consume most aquatic vegetation. As such, they are of limited use when trying to target specific plants. The second type of "biocontrol" agent are those that are target-specific for problematic species. Many of these agents focus on exotic plants that have been introduced to this country. Research typically starts in the region of the world where these plants are from, and focuses on the organisms that keep it in check there. Once identified, these organisms are brought through a quarantine protocol into this country where further research is conducted to determine if there is operational potential for control. At this time there are no biological control agents available in Washington State for use against Milfoil other than grass carp.

Grass Carp: Grass carp (or White Amur) are plant consuming fish native to China and Siberia. There are a wide range of aquatic plants that these fish will eat, but they have definite feeding preferences and will generally eat the plants they prefer first. If the fish are stocked to the point of reducing a population of Milfoil, which they appear to have a low preference for, they may have consumed all the other aquatic vegetation in the lake system, a result that is not desirable. In addition, grass carp can indirectly increase Milfoil coverage by removing competing plants.

To prevent grass carp from reproducing and taking over a lake, and to keep them from moving to other lakes, certain requirements are placed on their usage. Only sterile (triploid) fish can be used and inlets and outlets must be screened to prevent fish passage. In addition, grass carp stocking is regulated by the Washington Department of Fish and Wildlife to insure that sufficient vegetation is retained for fish and wildlife habitat needs. Recent articles by the Department of Fish and Wildlife have indicated that these fish should not be considered for large scale projects in multi-purpose lake systems in the near future.

In view of these considerations, grass carp are not recommended for the Little Pend Oreille Lakes chain.

Currently Available Techniques - Chemical Control

Chemical herbicides are one of the leading methods of controlling, and in some cases, eliminating, noxious aquatic weed growth. The herbicides which are approved for aquatic use by the US Environmental Protection Agency are well reviewed and considered compatible with the aquatic environment when used according to label directions. In addition to the review and regulation provided by the EPA, the Washington Department of Ecology completed an Environmental Impact Statement (EIS) in 1992 for the aquatic plant management program which allows for the introduction of a number of compounds into state waters¹⁵. The Department of Ecology also evaluates the use of herbicides on a lake-by-lake basis through required short-term water quality modification permits.

There are two general types of aquatic herbicides in use, referred to as "contact" and "systemic" products. Contact herbicides kill susceptible plant stems and leaves generally leaving roots and some reproductive structures alive and capable of regrowth. As such, a contact herbicide is generally considered a maintenance tool, one that can provide relief from aquatic plant problems, but not something that can eliminate the problem from the lake system. Systemic herbicides are absorbed and carried throughout the plants thereby making them capable of killing the entire plant.

The contact herbicides approved for use in Washington State are Endothall and certain copper-containing products. The two systemic herbicides which are registered and approved for use in Washington are Fluridone and Glyphosate.

Fluridone: Fluridone is available in the SePRO Corporation product SONAR® as a liquid or slow release pellet. Fluridone can show good control of submersed and emergent plants where there is little water movement and an extended time for the treatment. It is most applicable to whole-lake or isolated bay treatments where dilution can be minimized. Because of the eight- to ten-week recommended treatment period, treatments should take place in early spring or fall.

There are a number of plants which are susceptible to Fluridone and Milfoil and Yellow Waterlily are among them. Many native aquatic plants, some in the pondweed family, are not impacted by this herbicide. As such, it can be used to remove a problematic species like Milfoil and allow the native vegetation to recover. Other aquatic plants which may be impacted by Fluridone are expected to grow out of the effect or to regrow from seeds produced in previous seasons.

Use of Fluridone does not pose a threat to human health or to fish and wildlife when used according to the label. While there is a short term precaution when using treated waters for irrigation, there are no other water use restrictions when using the liquid formulation of Fluridone for Milfoil control. The slow release pellet formulation cannot be used within one quarter mile of a water intake, however.

The direct costs associated an aquatic plant control treatment using Fluridone is \$700 to \$1,000 per acre (\$290 to \$400 per hectare) depending on the scale of the treatment. Other costs for project administration, permit acquisition, project management, monitoring (especially of water quality and wetland plants) and reports also need to be developed. As indicated above, a short term water quality modification is required from the Department of Ecology before beginning a treatment with Fluridone.

Glyphosate: Glyphosate is available in the Monsanto Corporation product RODEO® as a liquid for aquatic use. As a systemic herbicide, Glyphosate is capable of killing the entire plant and producing long term control. This herbicide is not effective below the water surface, however, because it breaks down rapidly in water and loses its herbicidal effect. This product is extremely selective, as the applicator can focus the application on target plants and leave nearby non-target plants unaffected. It is often used in lake systems to contain waterlily growth within habitat protection areas.

Glyphosate carries no swimming, fishing, irrigation or other water use restrictions. It also has a low toxicity to invertebrates, fish and other wildlife. Glyphosate dissipates quickly from natural waters, having an average "half-life" of two weeks.

The direct costs of a Glyphosate treatment are approximately \$250 per acre (\$100 per hectare). As with other aquatic herbicides, a short-term water quality modification is required.

Endothall: Endothall is a contact herbicide available in the Elf Atochem Corporation product AQUATHOL® in liquid or granular forms. Endothall compounds are used primarily for short term (one season) control of a variety of aquatic plants. Use of Endothall involves swimming, fish consumption and irrigation restrictions.

Because of the short-term benefits and the water use restrictions, Endothall compounds are not recommended for the Little Pend Oreille Lakes.

Copper Compounds: The only copper compound approved for use in Washington is the Griffin Corporation product KOMREEN® which is a "chelated" or complexed compound. (Chelation allows the copper to stay in solution for a longer period.) While copper is effective on plants such as Milfoil, its use for macrophyte control is not encouraged by the Department of Ecology. Its use is limited to algae control which is also not encouraged due to its short-term effect and the potential for accumulation in sediments.

Due to the short-term effect of copper compounds, the lack of species specificity and potential impacts on invertebrates, fish or wildlife, they are not recommended for use in the Little Pend Oreille Lakes.

Developing Techniques

There are a number of organisms in the federal research programs that might have a biological control application to Milfoil in the near future. One such organism is a fungal pathogen, MT, that is in the development stage at the US Army Corps of Engineers, Waterways Experiment Station. Although MT is very effective in the laboratory, a number of field tests have not been successful. New research is looking at combinations of low rates of SONAR herbicide with MT and this approach is promising. These organisms will have to receive approval from the US EPA before commercial use is allowed.

There are a small number of insects that have been observed feeding on Milfoil. These include a weevil and a midge larvae. Ongoing research will determine whether these will be viable control options. At this point they are not available for use by aquatic plant managers in operational programs. There should be an awareness of this technology as it develops and these tools should be considered if applicable when commercialized.

There is one new systemic herbicide that may be registered in late 1996 or 1997 called Garlon 3A. The active ingredient in Garlon is Triclopyr. Triclopyr is a product that has been tested extensively against Eurasian watermilfoil. This product is specific for this type of plant and can be used in habitat recovery programs focusing on removing Milfoil or Purple Loosestrife. It will not affect any plant species in the monocot family, which is the majority of native aquatic and wetland plant types. When this product is registered, it will provide a tool for selective removal of these noxious weeds.

INTEGRATED TREATMENT ACTION PLAN

Overview

Integrated Aquatic Plant Management Plans (IAPMPs) are designed to be site specific based on the type of plant problem present and the needs of the water users. An IAPMP reviews all control options available and selects the best mix to apply to the problem over time. An IAPMP is not a one-year management tool; it evolves as conditions in the lake or river system change. For example, if a lake has a major Eurasian watermilfoil infestation, the first years of the program may focus on that problem and select tools to target that plant. In later years, there may still be problematic weed growth, but it could be from native plant communities or from floating leaf plants like lilies. Different tools might be considered in these cases and applied. The management plan should have both short-term and a long-term strategies.

The major aquatic plant problem in the Little Pend Oreille Lakes chain is the noxious, exotic weed Eurasian watermilfoil (referred to as Milfoil herein). This plant has already had a dramatic impact on beneficial uses of the Little Pend Oreille Lakes and on the native plant communities it is replacing. Milfoil has not yet reached its maximum infestation potential in these lakes, and the area infested will increase if left alone. In addition, Milfoil spreads by fragments carried from lake to lake on boat trailers. As such, the plant poses a threat to all uninfested lakes in the region.

In 1994, the Stevens County Noxious Weed Board conducted a survey of county lakes with public access sites. The Little Pend Oreille Chain was the only lake system in the County that has an infestation of Milfoil. Work done in 1995 showed that this weed had not yet spread to Lake Leo. With these uninfested lakes in close proximity, it is clear that the first objective should be to eradicate Milfoil from the Little Pend Oreille Lakes system.

There are a number of sites in Washington State where the objective of Milfoil eradication has been achieved using a combination of technologies, including herbicides. Key to this has been the use of the systemic herbicide SONAR as part of an IAPMP. This herbicide can remove Milfoil from lake systems and allow for the expansion of native plants back into the Milfoil dominated areas. This occurs due to native aquatic plant reproductive structures (seeds and tubers for example) which are not effected by the herbicide. Milfoil does not generally produce these resistant structures.

Research conducted by the US Army Corps of Engineers, Aquatic Plant Control Research Program, indicated that if Milfoil is exposed to 10 parts per billion of fluridone for about eight weeks, complete control (eradication) would be possible. This technology has been field tested in a number of large-scale lake treatments in

Washington State and is now considered to be an operational technology. Recent research has also shown that there is a "window of opportunity" to eradicate Milfoil in fall applications. Traditional applications have targeted Milfoil primarily in the spring. Field observations have shown that native plants recover the areas previously infested with Milfoil where they have been replaced in from one to two seasons. In addition, there is no other tool that can accomplish this objective that is currently registered and allowed for use in Washington Waters.

Control Intensity

Lake Leo: There are no problems with aquatic plants on Lake Leo as far as could be determined through the work performed for this project. As a result, preventative and low level controls are recommended for the short, medium and long term. These controls (detailed in the Recommended Control Scenario section below) are:

- Short Term (1995): begin public awareness effort
- Medium Term (1996-1998): surveillance of aquatic plant populations, installation of boat washing station
- Long Term (1998-): annual surveillance, watershed nutrient controls, continue public awareness effort and operation of boat washing station

Heritage Lake: The current aquatic plant problems at Heritage Lake are related to the current infestation of Milfoil and to the continuing expansion of areas infested by Milfoil and Yellow waterlilies. Specific problem areas are the developed and developing shoreline areas. As a result, preventative and low intensity controls are recommended for the short and long term and high intensity controls are recommended for the medium term. These controls (detailed in the Recommended Control Scenario section below) are:

- Short Term (1995): hand pulling in isolated areas as necessary, begin public awareness effort
- Medium Term (1996-1998): whole lake application of systemic herbicide for complete eradication of Milfoil, surveillance, hand pulling as needed in any areas where Milfoil remains
- Long Term (1998-): annual surveillance, watershed nutrient controls, hand pulling or bottom barriers in isolated areas where waterlilies return to problem status, continue public awareness effort

Thomas Lake: Current aquatic plant problem areas in Thomas Lake were identified primarily in the northern, shallower portions of the lake. It is expected that Milfoil infestation will increase resulting in future problems in all developed areas. In order to complement the eradication effort on Heritage Lake, a high intensity effort is recommended for the medium term with preventative and low intensity efforts for the short and long term as follows. Details of the recommended controls are presented in the Recommended Control Scenario section below.

Short Term (1995): hand pulling in isolated areas as necessary, begin public awareness effort

Medium Term (1996-1998): whole lake application of systemic herbicide for complete eradication of Milfoil, surveillance, hand pulling as needed in any areas where Milfoil remains

Long Term (1998-): annual surveillance, watershed nutrient controls, hand pulling or bottom barriers in isolated areas where necessary, continue public awareness effort

Gillette Lake: Although there was not a strong indication of a current problem with aquatic plants in this lake, Milfoil expansion is expected to eventually impact the high level of visitor and resident use of this lake. Due to the short channel connecting Thomas and Gillette Lakes, there is a great potential for upstream movement of Milfoil fragments. Therefore, complementary, high intensity Milfoil eradication efforts and preventative measures are recommended for Gillette Lake. These controls (detailed in the Recommended Control Scenario section below) are:

Short Term (1995): hand pulling in isolated areas as necessary, begin public awareness effort

Medium Term (1996-1998): whole lake application of systemic herbicide for complete eradication of Milfoil, surveillance, hand pulling as needed in any areas where Milfoil remains, installation of boat washing station at USFS boat launch

Long Term (1998-): annual surveillance, watershed nutrient controls, hand pulling or bottom barriers in isolated areas where waterlilies return to problem status, continue public awareness effort and operation of boat washing station

Sherry Lake: Aquatic plants, primarily Milfoil, have been shown to present a moderate to significant effect on the current recreational uses of this lake. As with Gillette Lake, the short channel connecting the two presents a significant risk of reinfestation of Milfoil from downstream. As a result a similar intensity of control is recommended for Sherry Lake:

Short Term (1995): hand pulling in isolated areas as necessary, begin public awareness effort

Medium Term (1996-1998): whole lake application of systemic herbicide for complete eradication of Milfoil, surveillance, hand pulling as needed in any areas where Milfoil remains

Long Term (1998-): annual surveillance, watershed nutrient controls, hand pulling or bottom barriers in isolated areas where necessary, continue public awareness effort.

Recommended Control Strategy

As indicated in the Control Intensity analysis, preventive, low intensity and high intensity controls are recommended for the Little Pend Oreille Lakes. The preventative techniques are aquatic plant population surveillance, installation of watershed nutrient controls, a public awareness program and installation of boat washing stations. The recommended low intensity technique is hand pulling of nuisance aquatic plants. With the exception of the boat washing stations, these techniques are expected to have relatively low cost, low environmental or human health risks and no direct permit or approval requirements. The boat washing stations do have a moderate cost associated with them and must be installed in cooperation with the USDA Forest Service.

The high intensity control, whole lake herbicide treatment, has the greatest cost, permit requirements, potential environmental impact and also the greatest direct benefit. The following information is presented as it relates to the recommended implementation of high intensity aquatic plant controls on the Little Pend Oreille Lakes.

Herbicide Treatment Plan: The herbicide recommended for this treatment is fluridone which is found in the product SONAR. To be effective on Milfoil, the SONAR application should be designed to maintain between 10 and 20 parts per billion of fluridone in the lake for eight to ten weeks (see Appendix 8 for Material Safety Data Sheet and product label information). This can be accomplished by calculating the amount of SONAR needed to achieve a whole-lake concentration of 20 parts per billion and tracking the dissipation of the herbicide through sampling. When levels approach 10 parts per billion, additional SONAR would be added to bring the levels back up. This would normally entail three to five applications, performed every other week.

The recommended treatment program would be a two-year process. In year one IAPMP maps and field data on water temperatures (specifically, depth to the thermocline) will be used to calculate the dose of SONAR needed to achieve a concentration of fluridone in Heritage Lake and the northwest bay of Thomas Lake of 20 parts per billion. The initial treatment would be performed in early fall (September - October). The herbicide will be applied (injected) from boats into the water using the liquid formulation of SONAR. The slow-release pellet (SRP) formulation of SONAR may be used in the lake inlet areas to insure adequate control of Milfoil there. The week following this initial application, a series of water samples will be collected from the lakes and the dam below Sherry Lake which will be analyzed for fluridone content. Information on the movement of fluridone through the system will be used to balance subsequent applications of SONAR to the Heritage and Thomas Lakes areas. The goal will be to maintain fluridone concentrations between 10 and 20 parts per billion over an eight-week period while allowing only minimal outflow of herbicide from Sherry Lake (to the Natural Area Preserve). This treatment is anticipated to effect Milfoil

populations in Thomas, Gillette and possibly Sherry Lakes, but complete eradication is expected only in the application areas.

At the end of this first year, SCUBA inspection of aquatic plant populations will be performed in order to assess the need for additional herbicide applications in year two. This effort will include all five of the chain of lakes.

SONAR applications in year two are anticipated to focus on Thomas, Gillette and Sherry Lakes. The year two applications would take place in the spring (May - June). This provides minimal opportunity for Milfoil fragments to move into the areas treated during year one. Again, sampling will be conducted to monitor the movement of herbicide through the system and to minimize its downstream escape.

This work is required to be performed by a Certified Aquatic Applicator, and the selected firm should have extensive experience with this methodology.

There should be no need to focus on yellow lily control during the years that the SONAR treatment is taking place. SONAR will have a short-term impact on these plants and reduce them somewhat during the treatment season. In successive years experience has shown that waterlily growth will recover to pretreatment levels very rapidly and may at some point need to be controlled with hand pulling or bottom barriers.

Monitoring: While this methodology has little or no short-term impact on emergent wetland plants and no long-term impact on wetlands (see below), an aerial photographic/mapping mission is planned. This mission, which will be performed concurrent with ground level plant species identification, will document pretreatment and post-treatment wetland plant status of lake-associated and downstream wetland communities. This is necessary to document any impacts claimed later.

In addition, it is recommended that basic water quality data be collected prior to, during and following the planned treatments. This effort would include sampling every other month for a 36-month period starting the summer before the initial application. Both field and laboratory data will be collected. Parameters to be analyzed for include phosphorus and nitrogen compounds, chlorophyll *a*, dissolved oxygen, temperature, pH, alkalinity and Secchi disk water transparency. Field work for this effort can be performed by volunteers with supervision and data analysis by a trained water quality specialist.

The wetland and water quality monitoring will complement the sampling and analyses of lake water for fluridone mentioned above.

Environmental Impacts: Environmental impacts of the planned herbicide treatment using SONAR are expected to be minor and of a temporary nature. Non-target aquatic plants may be effected since a variety of plants do show degrees of susceptibility to fluridone. As stated previously, native aquatic plants which reproduce by seeds, tubers

or turions are expected to recover to pre-Milfoil distribution and density within two years. Some non-target plants which are expected to show some effect in the Little Pend Oreille Lakes and are expected to recover are yellow lilies (*Nuphar*), waterweed (*Elodea*), watershield (*Brasenia*) and coontail (*Ceratophyllum*).

Emergent wetland plants are expected to show only temporary effects from the fluridone. Plants such as common cattail (*Typha*) will show whitening of new growth during the treatment but will grow out of this once the herbicide is flushed out of the system. Deeper rooted or woody plants should show no effect due to the absorptive capacity that soils have for fluridone. It should be noted that there is an irrigation precaution when using lake water treated with herbicides. While the effect of this is not known precisely, it is recommended that treated water not be used for lawn or garden irrigation during or for at least two weeks after the planned treatment ends.

Fish and wildlife are not expected to show a negative effect from the planned treatments. Fluridone has very low toxicity to animals while the removal of Milfoil will have a strong positive benefit to fish and wildlife.

The potential exists for the release of nutrients and the consumption of oxygen from dying and decaying vegetation. Released nutrients can cause short-term increases in algal growth and potential further consumption of oxygen. This effect should be minimized because of the long contact time with SONAR (eight to ten weeks) and due to the timing (September - October) of the initial (year one) treatment. The year two treatment may result in temporarily increased algal growth during the following growing season.

More detailed information on the environmental impacts of fluridone is contained in the EIS prepared by the Department of Ecology¹⁵.

Human Health Risks: There are no human health risks anticipated from the planned herbicide treatment or possible bottom barrier placement. The total herbicide dose for any given area will be less than 50 parts per billion while the drinking water tolerance for fluridone is 150 parts per billion. In addition there are no water use restrictions in place for this chemical when used for this type of treatment.

Permits and Approvals: A temporary water quality modification would be required from the Washington Department of Ecology to allow a whole lake herbicide application. This agency has regulatory authority over the application of aquatic herbicides and has developed a programmatic Environmental Impact Statement that governs the program¹⁵. Both an Aquatic Plant Management Permit Application and SEPA Environmental Checklist would have to be submitted. No other permits are anticipated for the herbicide treatment.

Due to the presence of Little Pend Oreille River Natural Area Preserve which contains rare or endangered plant species approximately one half mile below Sherry Lake, special considerations have been given in the planning of the proposed treatment.

The Management Plan for this Natural Area Preserve prohibits the "chemical manipulation of water" and the use of herbicides "except to comply with State and County weed control ordinances/regulations"⁴. It is not clear how much herbicide outflow from the lakes will be allowed by the Department of Natural Resources so the planned treatment is designed to preclude or minimize downstream release. The Department of Natural Resources should be encouraged to comment on the proposed project during the SEPA review process.

Project Costs

The estimated cost, in 1995 dollars, for the recommended integrated aquatic plant control strategy would have the following components:

<u>TASK</u>	<u>ESTIMATED COST</u>
• Administration/Planning/Coordination	\$ 6,000
• Permit Acquisition	2,000
• Aquatic Plant Surveillance	6,000
• Wetland Monitoring	20,000
• Water Quality Monitoring (volunteer labor)	5,000
• Fluridone Monitoring	6,000
• Boat Wash Station installation (2)	20,000
• Herbicide Application (two years)	180,000
• Project Closeout/Reports	<u>3,000</u>
TOTAL ESTIMATED PROJECT COST	\$ 248,000

Local Funding Strategy

To insure that aquatic plant control, water quality management or other projects can be accomplished at the Little Pend Oreille Lakes, it is important that an organization be formed which can raise and spend local funds. These funds can be used separately or as the local share of grant funded work. In order to be eligible for State or Federal grants (or loans) it is recommended that this organization be a legal taxing district (as opposed to an association of property owners, for example).

Benefits of having a "legal taxing district":

- best local control of lake
- funds are assessed from all property owners
- taxation for specific projects requires vote of property owners or at least a public hearing
- possibility of assessing for Operation and Maintenance funds for miscellaneous projects, consulting, legal services, insurance etc.
- opportunity for group insurance at lower rates
- enforcement capability (if have a sewer system in place)

Legal Taxing District Options: There are essentially two options for legal taxing districts in the State of Washington. These are a sewer/water district or a lake management district. The formation and function of these types of districts are described in detail in Title 56 RCW¹⁶ and Title 36 RCW¹⁷, respectively. These documents are included in Appendix 9 for reference.

Sewer/water districts are permanent organizations once they are voted into existence by a local population. Sewer/water districts must have a governing Board which are elected by the property owners within the district boundaries. Sewer/water districts can raise funds for capital or other improvement projects through a voting or public hearing process. Sewer/water districts also have considerable political power through their local constituents and through State-wide organization such as the Association of Sewer and Water Districts. These districts do not have to construct actual sewer or water systems to have lake management capabilities.

Lake management districts have many of the same powers and abilities but have the limitation of being temporary. A lake management district may be created for a period of up to ten years, and then it must be re-formed if that is desired. During the time a lake management district is in existence, special assessments or rates and charges may be imposed on property. These assessments can be used to finance lake improvement and maintenance activities such as control or removal of aquatic plants, water quality, control of water levels and storm water diversion and treatment. Lake management districts are subject to County requirements and mandates to a greater extent than sewer/water districts.

Whether a sewer/water district or a lake management district is formed, it is recommended that a liability insurance policy be purchased. This insurance would primarily protect members of the Board of Commissioners and any paid staff as well. Liability insurance can be obtained at a reasonable price through the State of Washington interagency insurance pool. Other details regarding district formation and operation can be found in the enabling legislation (Appendix 9) and also through agencies such as the Washington Department of Ecology.

While the recommended aquatic plant controls for the Little Pend Oreille Lakes are short-term in their initial focus on Milfoil, the surveillance of plant populations is an on-going effort. For this reason, and the potential for other lake management

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Appendix 1

Public Meeting Notices and Press Releases

NEWSLETTER ARTICLES FOR LITTLE PEND OREILLE LAKES

(For 4/14/95 Edition, Little Pend Oreille Lakes Association Newsletter)

WEED PROJECT STARTUP

Thanks to the combined efforts of the Stevens County Weed Board (especially Matt Voile), your Little Pend Oreille Lakes Association Board and the Department of Ecology, we will be seeing some attention given to our Milfoil problems. The "Weed Project", more specifically an "Integrated Aquatic Plant Management Plan" project, will include a series of planning tasks, field reconnaissance, the development of weed control options and an action plan for implementation of aquatic plant controls. This work follows the aquatic plant survey that was conducted in 1994 on 28 Stevens County lakes.

The scope of this project follows guidelines developed by the Department of Ecology through the Freshwater Aquatic Weeds Management Program. This program is funded by the annual license fee assessed on all boat trailers. Our project will follow these guidelines closely in order to put us in line to receive funds for actual weed control.

During the planning stage of this project we will be working to answer some basic questions about how we use the Little Pend Oreille Lakes and how aquatic weeds affect (benefit or hinder) these uses. A public meeting will be held April 27 for the purpose of discussing these questions and also to hear about what work our consultants will be doing on this project. The lake use and affects information will need to come primarily from the lake residents and users so please come ready to talk about your concerns.

CONSULTANT TEAM HIRED FOR WEED PROJECT

Approval was given by the Little Pend Oreille Lakes Association Board on March 22, 1995 to hire a consultant team to prepare the Integrated Aquatic Plant Management Plan. The team that was hired includes the Lambert Group, a Spokane based environmental firm, Resource Management, Inc., the Tumwater based firm that conducted the Stevens County lakes survey and Dr. Raymond Soltero, the aquatic plant specialist from Eastern Washington University.

The Lambert Group provides a full range of environmental services including water quality and wetlands, hazardous materials risk assessments, asbestos and lead paint management and indoor air quality. The team leader for our project will be David Lamb. Dave grew up with Milfoil in the Finger Lakes region of New York State and has over 16 years of project experience on lakes in Eastern Washington and Northern Idaho. The Lambert Group is currently involved in a lake restoration project involving Milfoil control at Sacheen Lake in Pend Oreille County.

Resource Management will be a sub-consultant on our project with primary responsibility for characterizing and mapping the aquatic plants in the chain of lakes. Resource Management brings expertise in aerial photography, computer mapping, aquatic plant surveys and aquatic weed control. Our primary contact will be Terry McNabb who hails from Michigan and has over 20 years of experience with lakes and aquatic plant management in particular.

Dr. Soltero is well known in Eastern Washington for his work on Long Lake and the Spokane River, Medical Lake, Eloika Lake, and several lakes in Northern Idaho. Dr. Soltero will be primarily responsible for reviewing the field reconnaissance plan and the weed control options.

DISTRICT FORMATION IN THE WORKS

In order for us to have control over the destiny of the Little Pend Oreille Lakes, their qualities and desired uses, it appears that we will have to form some type of legally recognized entity or "District". A District can have a sewer, water, flood control or lake management focus but can accomplish a much wider range of "public works" than any of these names imply.

There are many benefits of District formation, not the least of which is the ability to raise money by taxation to match State or Federal grants for projects that we as a group feel we need. While not everyone will consider the ability to tax a benefit, formation of a District shows that we are unified and gives us jurisdiction over our land, shorelines and lakes. And we can't establish a tax or levy without a vote of all property owners within our District boundaries.

Our consultant for the Weed Project will be providing us some information and options regarding District formation as part of their scope of work. Please attend the public meetings planned for the next three months to hear more on this.

PRESS RELEASE

April 12, 1995

Chris Cowbrough
The Statesman Examiner
PO Box 271
Colville, WA 99114

Subject: Little Pend Oreille Lakes Aquatic Plant Management Project

The Little Pend Oreille Lakes Association, in conjunction with the Stevens County Weed Board, announces that it has received a State grant to fund the preparation of an Integrated Aquatic Plant Management Plan. This Plan will develop options for the control of the noxious aquatic plant Eurasian watermilfoil (Milfoil) which has severely infested these lakes and threatens downstream reaches of the Little Pend Oreille and Colville Rivers.

The grant was offered to the Stevens County Weed Board by the Aquatic Weeds Management Program of the Washington Department of Ecology. This program is funded by the annual license fee assessed on all boat trailers. Completion of the Integrated Plan will place the Lakes Association (through the Weed Board or other County agency) in line to receive funding for implementation of aquatic plant control projects.

The Lambert Group, environmental consultants from Spokane, and Resource Management, Inc., aquatic plant control specialists from Tumwater, have been hired to prepare this Plan.

The Lakes Association will be conducting the first of a series of public meetings to provide information on the project on April 27, 1995 (7:00 pm, Room 215 in the Stevens County Courthouse). This meeting will also serve to solicit information on use of the lakes and effects of the Milfoil on these uses.

For more information contact:

David Lamb, The Lambert Group (509) 536-9676

John Kaser, Little Pend Oreille Lakes Association 684-1077

LPO lakes group gets grant for plan

The Little Pend Oreille Lakes Association, in conjunction with the Stevens County Weed Board, said that it has received a state grant to fund the preparation of an Integrated Aquatic Plant Management Plan.

The plan will develop options for the control of the noxious aquatic plant Eurasian watermilfoil (Milfoil), which has severely infested these lakes and threatens downstream reaches of the Little Pend Oreille and Colville Rivers, explained John Kaser of the Little Pend Oreille Lakes Association.

The grant was offered to the Stevens County Weed Board by the Aquatic Weeds Management Program of the Washington Department of Ecology. This program is funded by the annual license fee assessed on all boat trailers.

"Completion of the Integrated Plan will place the Lakes Association (through the Weed Board or other County agency) in line to receive funding for implementation of aquatic plant control projects," Kaser said.

The Lambert Group, environmental consultants from Spokane, and Resource Management, Inc., aquatic plant control specialists from Tumwater, have been hired to prepare the plan.

The Lakes Association will conduct the first of a series of public meetings to provide information on the project on April 27, 7 p.m., in Room 215 of the Stevens County Courthouse. This meeting will also serve to solicit information on use of the lakes and effects of the Milfoil on these uses.

For more information, contact David Lamb, The Lambert Group, (509) 536-9676; John Kaser, Little Pend Oreille Lakes Association, 684-1077.

4/19/95

EXAMINER

STATESMAN

COLVILLE

PRESS RELEASE

April 18, 1995

The Statesman Examiner
PO Box 271
Colville, WA 99114

ATTN: Lorraine

Subject: Little Pend Oreille Lakes Aquatic Plant Management Project

This Press Release follows up the previous Release (dated April 12, 1995) which announced the receipt of a State Department of Ecology grant by the Stevens County Weed Board for the above referenced project.

As indicated, there is a public meeting planned for April 27, 1995 to provide information on the project and to solicit information on use of the lakes and effects of the Milfoil on these uses.

The attached information includes the proposed Agenda for the April 27th public meeting, a summary of the project and the questionnaire which meeting attendees will be asked to complete.

For more information contact:

David Lamb, The Lambert Group (509) 536-9676

John Kaser, Little Pend Oreille Lakes Association 684-1077

PRESS RELEASE

April 18, 1995

Andrea Leder
The Newport Miner
PO Box 349
Newport, WA 99156

Subject: Little Pend Oreille Lakes Aquatic Plant Management Project

The Little Pend Oreille Lakes Association, in conjunction with the Stevens County Weed Board, announces that it has received a State grant to fund the preparation of an Integrated Aquatic Plant Management Plan. This Plan will develop options for the control of the noxious aquatic plant Eurasian watermilfoil (Milfoil) which has severely infested these lakes and threatens downstream reaches of the Little Pend Oreille and Colville Rivers.

The grant was offered to the Stevens County Weed Board by the Aquatic Weeds Management Program of the Washington Department of Ecology. This program is funded by the annual license fee assessed on all boat trailers. Completion of the Integrated Plan will place the Lakes Association (through the Weed Board or other County agency) in line to receive funding for implementation of aquatic plant control projects.

The Lambert Group, environmental consultants from Spokane, and Resource Management, Inc., aquatic plant control specialists from Tumwater, have been hired to prepare this Plan.

The Lakes Association will be conducting the first of a series of public meetings to provide information on the project on April 27, 1995 (7:00 pm, Room 215 in the Stevens County Courthouse). This meeting will also serve to solicit information on use of the lakes and effects of the Milfoil on these uses.

For more information contact:

David Lamb, The Lambert Group (509) 536-9676

John Kaser, Little Pend Oreille Lakes Association 684-1077

PRESS RELEASE

April 18, 1995

The Spokesman Review
PO Box 2160
Spokane, WA 99210

ATTN: Todd Foster

Subject: Little Pend Oreille Lakes Aquatic Plant Management Project

The Little Pend Oreille Lakes Association, in conjunction with the Stevens County Weed Board, announces that it has received a State grant to fund the preparation of an Integrated Aquatic Plant Management Plan. This Plan will develop options for the control of the noxious aquatic plant *Eurasian watermilfoil* (Milfoil) which has severely infested these lakes and threatens downstream reaches of the Little Pend Oreille and Colville Rivers.

The grant was offered to the Stevens County Weed Board by the Aquatic Weeds Management Program of the Washington Department of Ecology. This program is funded by the annual license fee assessed on all boat trailers. Completion of the Integrated Plan will place the Lakes Association (through the Weed Board or other County agency) in line to receive funding for implementation of aquatic plant control projects.

The Lambert Group, environmental consultants from Spokane, and Resource Management, Inc., aquatic plant control specialists from Tumwater, have been hired to prepare this Plan.

The Lakes Association will be conducting the first of a series of public meetings to provide information on the project on April 27, 1995 (7:00 pm, Room 215 in the Stevens County Courthouse). This meeting will also serve to solicit information on use of the lakes and effects of the Milfoil on these uses.

For more information contact:

David Lamb, The Lambert Group (509) 536-9676

John Kaser, Little Pend Oreille Lakes Association 684-1077

Milfoil control meeting April 27

The Little Pend Orelle Lakes Aquatic Plant Management Project will be explained April 27 at 7 p.m. at a meeting at the Stevens County Courthouse, room 215. The project recently received a Department of Ecology grant, assisted by the Stevens County Weed Board.

Information on use of the lakes and effects of the non-native aquatic plant, milfoil, will be solicited at the meeting. Attendees will be asked to complete a questionnaire.

Milfoil can rapidly choke a lake, and can result in significantly diminished fish populations. It has also been connected with drownings of people, due to the plant's abundant underwater foliage. Spreading of milfoil to waterways is easily accomplished when a boat is drawn from one body of water and transported to another.

The project is seeking to develop weed control options.

Funding through the Centennial Clean Water Fund (derived from cigarette taxes) and the Aquatic Weeds Management Fund, is available.

Other programs can provide grants or loans, but require formation of a legal taxing district for water quality improvements or aquatic plant control.

5926/45
4/26/95

COLVILLE STATESMAN EXAMINED

SPOKANE SPOKESMAN REVIEW

Spokane 9/24/95

Plan to fight milfoil will be explained

A state grant will be used to fight milfoil, a weed that has infested some Stevens County lakes, and threatens parts of the Little Pend Oreille and Colville rivers.

A public meeting to provide information on the project will be held at 7 p.m. Thursday in Room 215 of the Stevens County Courthouse.

~~Spokane~~ will be asked to explain how they use the lakes, and how milfoil affects that use.

The Stevens County Weed Board and the Little Pend Oreille Lakes Association received funding for the project from the Washington Department of Ecology. The money comes from annual fees assessed on boat trailers.

PRESS RELEASE

June 19, 1995

Chris Cowbrough, Editor
The Statesman Examiner
PO Box 271
Colville, WA 99114

Subject: Little Pend Oreille Lakes Aquatic Plant Management Project
Second Public Meeting

The Little Pend Oreille Lakes Association, in conjunction with the Stevens County Weed Board, will be holding the second public meeting of their aquatic plant management planning project on Sunday, June 25th, 2:00 pm at the Gillette Lake Forest Service campground amphitheater.

The primary purpose of this meeting is to present aquatic plant management options and the recommended control process which will focus on Milfoil eradication and water lily control in the lake chain.

The expected agenda for the meeting is:

- Results of property owner/agency questionnaire survey
- Review of Problem Statement and Management Goals
- Review of aquatic plant control options
- Review/discussion of recommended treatment
- Review/discussion of environmental considerations.

All interested people are urged to attend this meeting. All comments received from the public and agencies will be considered when developing the final Integrated Aquatic Plant Management Plan. This Plan will then be used in support of a grant application to the Washington Department of Ecology, Aquatic Weeds Management Fund for implementation.

For more information contact:

David Lamb, The Lambert Group (509) 536-9676

John Kaser, Little Pend Oreille Lakes Association (509) 684-1077

PRESS RELEASE

July 6, 1995

Chris Cowbrough, Editor
The Statesman Examiner
PO Box 271
Colville, WA 99114

Subject: Little Pend Oreille Lakes Aquatic Plant Management Project
Control Recommendations
Final Public Meeting

The Little Pend Oreille Lakes Association, in conjunction with the Stevens County Weed Board, will be holding the final public meeting of their aquatic plant management planning project on Sunday, July 23rd, 2:00 pm at the fire station at Sherry Lake.

The primary purpose of this meeting is to present details of the recommended control strategy which will focus on Milfoil eradication and water lily control in the lake chain. The strategy centers on a whole lake herbicide treatment as well as various preventive measures (see attached summary). The estimated cost of this program is \$ 248,000.

The expected agenda for the meeting is:

- Overview of the recommended plant control strategy
- Review of the recommended herbicide treatment plan
- Review of environmental and human health considerations
- Components of the expected cost
- Funding options.

All interested people are urged to attend this meeting.

For more information contact:

David Lamb, The Lambert Group (509) 536-9676

John Kaser, Little Pend Oreille Lakes Association (509) 684-1077

7/12/95

COLVILLE STATESMAN EXAMINER

Lakes group will meet

SHERRY LAKE - The Little Pend Oreille Lakes Association, in conjunction with the Stevens County Weed Board, will hold the final public meeting of their aquatic plant management planning project on Sunday, July 23, 2 p.m., at the fire station at Sherry Lake.

The primary purpose of this meeting is to present details of the recommended control strategy which will focus on Milfoil eradication and water lily control in the lake chain. The strategy centers on a whole lake herbicide treatment as well as various preventive measures (see attached summary). The estimated cost of this program is \$248,000.

The expected agenda for the meeting is an overview of the recommended plant control strategy; review of the recommended herbicide treatment plan; review of environmental and human health considerations; components of the expected cost; funding options.

For more information contact: John Kaser, Little Pend Oreille Lakes Association, 684-1077.

Appendix 2

Public Meeting Handouts

**Little Pend Oreille Lakes, Stevens County, WA
Integrated Aquatic Plant Management Plan**

PUBLIC MEETING, April 27, 1995

AGENDA

INTRODUCTION (LPOL Board)

**OPENING COMMENTS (Matt Voile, Stevens County Weed
Board)**

**1994 WEED SURVEY RESULTS (Terry McNabb, Resource
Management)**

1995 WEED PROJECT (Dave Lamb, The Lambert Group)

- Project Summary (see Handout)
- Determination of Beneficial Uses and Effects of Aquatic Weeds (see Questionnaire)
- Determination of Management Goals
- Plan for next Public Meeting (June 15, 1995 suggested)

CLOSING COMMENTS (LPOL Board)

Little Pend Oreille Lakes, Stevens County, WA Integrated Aquatic Plant Management Plan

PROJECT SUMMARY

General Project Goal: The goal of this project is to develop an Integrated Aquatic Plant Management Plan for the Little Pend Oreille chain of lakes. The process followed to develop this plan will utilize the local community (landowners), lake users and agencies with jurisdiction over the lakes and their watersheds. This plan will consider the need to maintain a certain level of aquatic plants to ensure good water quality and fish/wildlife habitat. This need will be balanced with the recreational and other uses that people make of these lakes. Control of invasive, non-native plants, such as Milfoil, will be specifically addressed.

A secondary goal is to provide information to the Little Pend Oreille Lakes Association regarding the formation of an organization (a legal taxing district) which can provide a dedicated funding mechanism for lake management and improvement projects.

General Project Scope: The process which will be followed in the development of the Little Pend Oreille Lakes Plan follows guidelines set forth in the Department of Ecology, Aquatic Weeds Management Program. This program is a source of funds which can be used for weed control efforts.

The Integrated Aquatic Plant Management Plan process includes the following sub-tasks:

- Planning
- Field Reconnaissance
- Development of control options
- Development of an action plan for implementation of options

Some pertinent notes regarding the work anticipated for these sub-tasks is as follows:

PLANNING (Sub-Task 2.1)

Planning efforts include development of a Problem Statement, definition of management goals, listing of waterbody and watershed characteristics, and listing of beneficial uses for each lake. A preliminary "Use Map" will be prepared showing priority uses and natural habitat areas. The planning effort will also include the holding of an initial public meeting where the results of the listed planning efforts will be discussed and citizen and agency comments can be solicited. These comments will be incorporated into the management goals, beneficial use descriptions and Use Maps that will be used in Sub-Task 2.3.

FIELD RECONNAISSANCE (Sub-Task 2.2)

Field reconnaissance efforts will verify and refine the results of the Stevens County Aquatic Weeds Survey as well as collect other lake data to characterize these aquatic systems. This will include mapping of aquatic plant species, wetland areas, known threatened or endangered plant species, lake sediment types and lake depth contours. Also included will be aquatic plant characterization which is identification of species, growth habits, life cycle ("weak links"), coverage, problems and benefits of aquatic plants. Finally, stream flow data and pertinent water quality data will be collected. Little Pend Oreille Lakes Association volunteers will be used during this data collection effort to the extent possible for in-kind service.

DEVELOPMENT OF CONTROL OPTIONS (Sub-Task 2.3)

Work on this Sub-Task will utilize the products of Sub-Tasks 2.1 and 2.2 and will identify selected aquatic plant control alternatives along with their respective estimated effectiveness, environmental impact, human health risks and cost. The Use Maps prepared in Sub-Task 2.1 will be used to determine specific problem areas, levels (intensity) of controls needed in those areas and the best combination of options for site specific controls. This information will be incorporated into the first draft of the Plan. Also under this Sub-Task, surveillance and effectiveness monitoring strategies will be developed for aquatic plant control implementation projects. Finally, organizational alternatives and long-term revenue sources for continual aquatic plant management will be described. The second public meeting will be held following completion of these items to review the findings of Sub-Tasks 2.3 and 2.3 and solicit public comment.

DEVELOPMENT OF ACTION PLAN FOR IMPLEMENTATION (Sub-Task 2.4)

The work on his Sub-Task will be to take the first draft of the Plan and comments from the second public meeting and incorporate these into a second draft of the Plan. This will be followed by the third and final public meeting and then the preparation of the final Plan.

**Little Pend Oreille Lakes, Stevens County, WA
Integrated Aquatic Plant Management Plan**

PUBLIC MEETING, June 25, 1995

AGENDA

INTRODUCTION (LPOL Board)

1995 PROJECT PROGRESS (Dave Lamb, The Lambert Group)

- Results of property owner/agency questionnaire survey
- Review of Problem Statement and Management Goals
- Review of Aquatic Plant Control Options

DISCUSSION

CLOSING COMMENTS (LPOL Board)

**Little Pend Oreille Lakes, Stevens County, WA
Integrated Aquatic Plant Management Plan**

PROJECT SUMMARY

General Project Goal

The goal of this project is to develop an Integrated Aquatic Plant Management Plan for the Little Pend Oreille chain of lakes. The process followed to develop this plan will utilize the local community (landowners), lake users and agencies with jurisdiction over the lakes and their watershed. This plan will consider the need to maintain a certain level of aquatic plants to ensure good water quality and fish/wildlife habitat. This need will be balanced with the recreational and other uses that people make of these lakes. Control of invasive, non-native plants, such as Milfoil, will be specifically addressed.

Results of Questionnaire Survey

- Which lake in the Little Pend Oreille chain do you use or are involved with the most?

LEO (0) HERITAGE (11) THOMAS (16) GILLETTE (6) SHERRY (8)
OTHER: All (3), LPO River (2), Private Lake (1)

- Please indicate your involvement with this lake or lakes:

PROPERTY (40) RENTER (1) MANAGER/AGENCY (5)
OWNER REPRESENTATIVE

- How would you rate the water quality in this lake or lakes?

POOR (8) FAIR (19) GOOD (15)

- What is the most important factor to you about good water quality?

Most common were: water clarity, fish or fishing and aquatic plants or weeds

- How would you rate the effect of aquatic plants on the usability of this lake or lakes?

LITTLE (5) MODERATE (13) SIGNIFICANT (20)
EFFECT EFFECT EFFECT

- What is the most important factor to you about aquatic plants?

Most common were: effect on recreational use of the lakes (primarily fishing and swimming), aquatic plants spreading and taking over the lake(s) and need for a natural balance in aquatic plants.

- How would you rate the overall usability of this lake or lakes?

POOR (4) FAIR (21) GOOD (17)

- What uses do you make of this lake or lakes?

FISHING (43) SWIMMING (36) BOATING (35) WILDLIFE (33)
OBSERVATION

OTHER: Water skiing, near shore hiking

- Do you feel that improvement in the lake water quality or usability is needed?

YES (37) NO (4) MAYBE (2)

- Would you support the formation of a legal taxing district which would have the authority to receive funding for lake improvement projects?

YES (19) NO (4) MAYBE (19)

- Would you be willing to be taxed through your legal taxing district in order to raise the local share if an equitable process is used?

YES (29) NO (3) MAYBE (7)

- Would you be interested in serving on the Board of Directors of a legal taxing district for the Little Pend Oreille Lakes if/when it is formed?

YES (5) NO (29) MAYBE (6)

Problem Statement

The Little Pend Oreille Lakes are experiencing varying degrees of recreational and fish habitat degradation due to aquatic plants. This degradation appears to be expanding in the lower four lakes, primarily due to a growing infestation of Milfoil and Water Lilies. There is also a concern expressed by lake property owners that the natural balance or diversity of native plant species is being lost due to the invasion of exotic plants such as Milfoil and Water Lilies. Lake specific problems follow:

Lake Leo: No specific problems were identified for this lake. (This is due in part to the predominance of Forest Service ownership of the shoreline and the fact the no lake specific information was provided by the Forest Service.)

Heritage Lake: This lake has been shown to be significantly effected throughout by aquatic plants. Fishing and fish habitat continue to be degraded by the expansion of Milfoil and Water Lilies. Specific problem areas are along the residentially developed and developing shoreline.

Thomas Lake: Aquatic plant problem areas in Thomas Lake were identified primarily in the northwest bay area where Water Lilies are blocking private beach use. This includes aesthetic concerns from decaying lily "islands". Also in the shallow, northern portions of the lake, Milfoil is becoming a hindrance to swimming, boating and fishing activities. The northeastern area where water enters from Heritage Lake is a potential natural ecosystem area which is currently dominated by Water Lilies.

Gillette Lake: There was not a strong indication of the current effect of aquatic plants on the use of this lake. The apparent spread of Milfoil and other plants, however, has great potential to degrade the recreational uses of this lake which supports the only resort, the only public swimming area and one of the two boat launches in this chain of lakes.

Sherry Lake: Aquatic plants, including Milfoil, have been shown to present a moderate to significant effect on the current use of this lake. Residential development occupies essentially all of the shoreline and an increase in Milfoil infestation will only further degrade resident uses.

Management Goals

Following the development of the Problem Statement for the Little Pend Oreille Lakes, the determination of desired beneficial uses and the assessment of watershed lake characteristics, the following management goals are found to be appropriate:

- Maintain recreational and fish/wildlife use of the lakes by removing exotic, invasive plants (Milfoil) from known locations
- Keep public swimming and boat launch areas free of aquatic plants
- Remove Water Lilies from certain areas where they present an aesthetic or navigation problem
- Choose aquatic plant control techniques which are plant specific and promote the maintenance of natural and diverse aquatic plant populations
- Choose aquatic plant control techniques which have the widest public support and a high cost to benefit ratio.

Aquatic Plant Control Options Outline

The No-Action Alternative

Preventive Techniques

Boat Washing Stations
Watershed Controls

Physical Control Techniques

Hand Pulling
Hand Cutting
Bottom Barriers
Water Level Drawdown
Water Column Dyes

Mechanical Control Techniques

Mechanical Harvesting
Rotovation
Diver dredging

Biological Control Techniques

Grass Carp

Chemical Control Techniques

Fluridone
Glyphosate
Endothall
Copper Compounds

Developing Techniques

Weevils and midges
Triclopyr

**Little Pend Oreille Lakes, Stevens County, WA
Integrated Aquatic Plant Management Plan**

PUBLIC MEETING, July 23, 1995

AGENDA

INTRODUCTION (LPOL Board)

RECOMMENDED CONTROL STRATEGY

- Preventive measures
- Low-intensity measures
- High-intensity measures

HERBICIDE TREATMENT PLAN

- Systemic herbicide (SONAR/fluridone)
- Treatment monitoring
- Environmental Impacts
- Human Health Risks
- Permits
- Cost

FUNDING OPTIONS

- State Grants
- Local Funding

CONCLUSIONS

**Little Pend Oreille Lakes, Stevens County, WA
Integrated Aquatic Plant Management Plan**

RECOMMENDED AQUATIC PLANT CONTROLS

Overview

Integrated Aquatic Plant Management Plans (IAPMPs) are designed to be site specific based on the type of plant problem present and the beneficial uses of the the body of water under study. An IAPMP reviews all control options available and selects the best mix to apply to the problem over time.

Through this planning process, the major aquatic plant problems in the Little Pend Oreille Lakes chain have been found to be the noxious, exotic weed Eurasian watermilfoil (referred to as Milfoil herein) and, to a lesser extent, yellow waterlilies. These plants have already had a dramatic impact on beneficial uses of the Little Pend Oreille Lakes and on the native plant communities they are replacing. Milfoil, in particular, has not yet reached its maximum infestation potential in these lakes, and it will increase the area infested if left alone. In addition, Milfoil spreads by fragments carried from lake to lake on boat trailers. As such, this plant poses a threat to all uninfected lakes in the region.

Recommended Control Strategy

As indicated in the Control Intensity analysis, preventive, low intensity and high intensity controls are recommended for the Little Pend Oreille Lakes. The preventative techniques are aquatic plant population surveillance, installation of watershed nutrient controls, a public awareness program and installation of boat washing stations. The recommended low intensity technique is hand pulling of nuisance aquatic plants. With the exception of the boat washing stations, these techniques are expected to have relatively low cost, low environmental or human health risks and no direct permit or approval requirements. The boat washing stations do have a moderate cost associated with them and must be installed in cooperation with the USDA Forest Service.

The high intensity control, whole lake herbicide treatment, has the greatest cost, permit requirements, potential environmental impact and direct benefit. The following information is presented as it relates to the recommended herbicide treatment for the Little Pend Oreille Lakes.

Herbicide Treatment Plan: The herbicide recommended for this treatment is fluridone which is found in the product Sonar®. This is a “systemic” herbicide which is

absorbed by certain plants killing the entire plant. To be effective on Milfoil, the Sonar application should be designed to maintain between 10 and 20 parts per billion of fluridone in the lake for eight to ten weeks. This can be accomplished by calculating the amount of Sonar needed to achieve a whole-lake concentration of 20 parts per billion and tracking the dissipation of the herbicide through sampling. When levels approach 10 parts per billion, additional Sonar would be added to bring the levels back up. This would normally entail three to five applications, performed every other week.

The recommended treatment program would be a two year process. In Year One IAPMP maps and field data on water temperatures (specifically, depth to the thermocline) will be used to calculate the dose of Sonar needed to achieve a concentration of fluridone in Heritage Lake and the northwest bay of Thomas Lake of 20 parts per billion. The initial treatment would be performed in early fall (September - October). The herbicide will be applied (injected) from boats into the water using the liquid formulation of Sonar. The slow-release pellet (SRP) formulation of Sonar will be used in the Heritage Lake inlet areas to insure adequate control of Milfoil there. The week following this initial application, a series of water samples will be collected from the lakes and the dam below Sherry Lake which will be analyzed for fluridone content. Information on the movement of fluridone through the system will be used to balance subsequent applications of Sonar to the Heritage and Thomas Lakes areas. The goal will be to maintain fluridone concentrations between 10 and 20 parts per billion over an eight week period while allowing only minimal outflow of herbicide from Sherry Lake (to the Natural Area Preserve). This treatment is anticipated to effect Milfoil populations in Thomas and Gillette Lakes but complete eradication is expected only in the application areas.

At the end of this first year, SCUBA inspection of aquatic plant populations will be performed in order to assess the need for additional herbicide applications in Year Two. This effort will include all five of the Little Pend Oreille Lakes.

Sonar applications in Year Two are anticipated to focus on Thomas and Gillette Lakes. The Year Two applications would take place in early spring (May - June). Again, sampling will be conducted to monitor the movement of herbicide through the system and to minimize its downstream escape.

There should be no need to focus on yellow waterlily control during the years that the Sonar treatment is taking place. Sonar will have a short term impact on these plants and reduce them somewhat during the treatment season. In successive years experience has shown that waterlily growth will recover to pretreatment levels very rapidly and may at some point need to be controlled with hand pulling or bottom barriers.

Recommended treatment monitoring, environmental impacts, permit requirements, cost and funding options will be discussed at the July 23rd meeting.

Appendix 3

Questionnaire and Summary of Responses

Little Pend Oreille Lakes, Stevens County, WA
Integrated Aquatic Plant Management Plan

PUBLIC MEETING, April 27, 1995

QUESTIONNAIRE

This questionnaire is designed to solicit information about the Little Pend Oreille Lakes from those who use these lakes or are involved with their management. Please focus your responses on the lake which you use or are involved with the most. If your use or involvement relates to more than one lake or the entire chain of lakes, please so indicate. Please circle the following or fill in the blanks:

- Which lake in the Little Pend Oreille chain do you use or are involved with the most?

LEO HERITAGE THOMAS GILLETTE SHERRY

OTHER: _____

- Please indicate your involvement with this lake or lakes:

PROPERTY
OWNER

VISITOR

MANAGER/AGENCY
REPRESENTATIVE

- How would you rate the water quality in this lake or lakes ?

POOR

FAIR

GOOD

- What is the most important factor to you about good water quality ?
-

- How would you rate the effect of aquatic plants on the usability of this lake or lakes ?

LITTLE
EFFECT

MODERATE
EFFECT

SIGNIFICANT
EFFECT

- What is the most important factor to you about aquatic plants ?

- How would you rate the overall usability of this lake or lakes ?

POOR

FAIR

GOOD

- What is the most important factor to you in making this rating ?

- What uses do you make of this lake or lakes ?

FISHING

SWIMMING

BOATING

WILDLIFE
OBSERVATION

OTHER: _____

- Do you feel that improvement in the lake water quality or usability is needed?

YES

NO

Lake improvements (or "restorations") can be expensive projects. The State of Washington has programs called the Centennial Clean Water Fund and the Aquatic Weeds Management Fund which will pay up to 75 % of improvement project costs. Other programs can provide grants or loans. In order to receive these funds a legal taxing district for water quality improvements or aquatic plant control must be established.

• Would you support the formation of a legal taxing district which would have the authority to receive funding for lake improvement projects?

YES

NO

MAYBE

• Would you be willing to be taxed through your legal taxing district in order to raise the local share if an equitable process is used?

YES

NO

• Would you be interested in serving on the Board of Directors of a legal taxing district for the Little Pend Oreille Lakes if/when it is formed?

YES

NO

We want to keep all Little Pend Oreille Lakes property owners and also other interested people and agencies informed of water quality and aquatic plant concerns. Please make sure that you have signed the attendees list for tonight's meeting. Are there any other questions or concerns that you would like to have considered on the subject of lake water quality and lake management?

COMMENTS:

Little Pend Oreille Lakes Questionnaire Responses (by lake)

Lake	Involvement	Water Quality	Important Factor	Aquatic Effect	Important Aquatic Factor	Overall Usability	Factor in Usability	Improvement Needed	Faxing District	For Permits	B of D District
Gillette	Prop Owner	P	Clarity	Mod Effect	Inhibit recreational use of lake	F	Water clarity	Yes	Yes	Yes	No
Gillette	Prop Owner	G	Plants that grow in it	Mod Effect	Choking waterways & swimming	G	Pleased until jet skis came	Yes	Yes	Yes	No
Gillette	Prop Owner	F	Septic trash control	Significant	Whole Ecosystem	G		Yes	Maybe	Maybe	No
Gillette	Magr/Agency	G	Sedimentation	Little Effect	Providing habitat yet allowing pollution	G	Accessibility	No	No	No	No
Gillette	Prop Owner	G	Fishing - no jet skis	Little Effect	That it remain of little effect	F	Few jet skis - fish	Yes	Yes	Yes	No
SUBTOTALS		1 1 3		3 M 1 S		3 C 2 P		4 3 5	3 Y 1 N	4 Y 1 N	1 Y
Hent/Thomas	Prop Owner	F	Healthier people, animals, fish	Significant		F	Aquatic weeds.	Yes	Maybe	No	No
Heritage	Prop Owner	?		Significant		F		Yes	Yes	Yes	No
Heritage	Prop Owner	P	Clear water-no milfoil.	Significant	Water sports & fishing	F	Presence of Milfoil.	Yes	Yes	No	No
Heritage	Prop Owner	G	Lack of pollutants.	Mod Effect	They're Spreading	F	Swimming	Yes	Maybe	Yes	Maybe
Heritage	Prop Owner	P	Usability	Significant	Milfoil	P	Full of milfoil	Possibly	Yes	Yes	No
Heritage	Prop Owner	P	Health safety.	Significant	Eradicate & control	F	Weed wave erosion, noise	Yes	Yes	Yes	No
Heritage	Prop Owner	F	Keep out contaminants.	Significant		P	Overgrowth of Plants	Yes	Yes	Yes	Maybe
Heritage	Prop Owner	P	Fishing, swimming	Little Effect		P	Too many weeds	Yes	Maybe	Yes	No
Heritage	Prop Owner	P	Clear tree of nutrients.	Significant	Hi-Speed boats churn up plants	F	debris from churned pl	Yes	Yes	Yes	No
Heritage	Prop Owner	G	Wildlife habitat, Visual beauty.	Significant	Lake seems to be shrinking	G	Inaccessability	Yes	Yes	Yes	No
Leo/Hent	Prop Owner	G		Mod Effect		P		Yes	Yes	Yes	No
SUBTOTALS	11	5 2 3		3 M 1 S 1 L		2 C 4 S F		10 7 8 10	8 Y 0 N	9 Y 1 N	2 M
Other	Renter	G	Free from contaminants, weeds.	Significant	Allow natural balance	G	Eurasian milfoil	Yes	Yes	No	No
Other	Magr/Agency	G	no comments or answers on questions	Significant	Aquatic prob does not pass downstream	G		Yes			
Other	Magr/Agency	G	Watershed health/wildlife, fisheries values	Significant		G		Yes			
Other/DNR	Magr/Agency	G	no comments or answers on questions	Significant		G		Yes			
Other/Fishery	Magr/Agency	G	Healthy fish habitat	Significant	Exotic species negatively impact G	G	Fish growth/access for recreation	Yes			
SUBTOTALS	5	0 0 2				2 6		10 1 1 1	1 Y	1 Y	3
Sherry	Prop Owner	G	Quality Wildlife & fish	Mod Effect	Effect on fishing & swimming	F	Difficult to access H Lake	Yes	Yes	Yes	Yes
Sherry	Prop Owner	G	Fish, appearance	Mod Effect	Native plants necessary for fish	G	Water quality	Yes	Yes	Yes	Yes
Sherry	Prop Owner	F	Low milfoil, stable depth	Significant	They don't take over lake	F	Milfoil & Dam repair	Yes	Maybe	Maybe	Yes
Sherry	Prop Owner	F	Clean	Mod Effect		G	Fishing	Yes	Yes	Yes	Yes
Sherry	Prop Owner	F	Clean from sewage & weeds	Mod Effect		F		Yes	Yes	Yes	Yes
Sherry	Prop Owner	F	Clarity, quality to grow fish	Significant	Does not interfere with swimming	F		No	Yes	Yes	No
Sherry	Prop Owner	F	No weeds	Significant	Makes shoreline unuseable for fishing	G	Our shoreline has no weeds	Yes	Yes	Yes	Maybe
SUBTOTALS	8	0 6 2		5 M, 3 S		3 6, 5 F		6 8 6 7	3 Y 5 M 1 S 1 N	1 N	3 1 1
Thomas	Prop Owner	P	Lake Level/Weeds	Significant	Milfoil & Waterlilies	F	Lake Level	Yes	Yes	Yes	Yes
Thomas	Prop Owner	P	Clarity	Little Effect	Effect on fishing	F		Yes	Yes	Yes	Yes
Thomas	Prop Owner	F	Maintain property value.	Mod Effect	Do not curtail lake use.	G		Yes	Maybe	Maybe	Yes
Thomas	Prop Owner	F	Weed free	Significant	Spreading rapidly	G	Milfoil	No	No	No	No
Thomas	Prop Owner	F	Swim with no pollution	Mod Effect	Swimming & Boating/fishing	F	Weeds taking over swim/fish	Yes	Yes	Yes	No
Thomas	Prop Owner	F	Swim & Fishing	Mod Effect	Swimming & Boating/fishing	F	Fishing & Swimming	Yes	Yes	Yes	No
Thomas	Prop Owner	F	No Chemicals	Significant	Taking over the lake.	G	Largest lake-boats-skiing	Yes	Yes	Yes	No
Thomas	Prop Owner	G	Fed & State involved in keeping it	Little Effect	Need to be taken out	G	Good/but needs cleaning	Yes	Yes	Yes	No
Thomas	Prop Owner	F	Clarity	Significant	Get to the problem before its too late	F	Keep outsiders away on weekends	No	No	No	No
Thomas	Prop Owner	F	Health - good swimming/water skill	Significant	Provide cover & food for trout & G	G	Limit swimming in some parts	Yes	No	No	No
SUBTOTALS	16	2 10 1 5		3 M 8 S 4 L		7 6 9 F		13 15 14 10	13 Y 4 M	10 Y 1 M	1 Y 2
GRAND TOTALS	46	8 19 15		13 M 20 S 5 L		21 4 P 17 G		45 36 35 33	19 Y	29 Y	5 Y
									19 M	3 M	7 N

Appendix 4

1995 Water Quality Data

LAKE LEO

Sampling location: Mid lake (as per Bortleson et al., 1976)

FIELD ANALYSES

Analysis date: 5/16/95

Secchi Disk depth = 2.3 meters

<u>DEPTH</u>	<u>Temperature</u> (°C)	<u>Dissolved Oxygen</u> (mg/L)	<u>Conductivity</u> (µmhos/cm)
Surface	15.4	8.2	69
1.0	15.4	8.2	66
2.0	14.2	8.5	65
3.0	11.1	9.6	67
4.0	8.6	8.6	68
5.0	7.0	4.8	69
6.0	6.2	2.8	78
7.0	6.0	0.4	88
8.0	5.9	0.0	114

LABORATORY ANALYSES

Sample: composite of 1.0, 2.0 and 3.0 meters depths

Sample collection date: 5/17/95

ANALYSIS

RESULTS

Soluble Reactive Phosphorus	4 µg/L
Total Phosphorus	16 µg/L
Nitrate Nitrogen	0.04 mg/L
Nitrite Nitrogen	0.001 mg/L
Total Nitrogen (Kjeldahl)	0.30 mg/L

HERITAGE LAKE

Sampling location: Mid lake (as per Bortleson et al., 1976)

FIELD ANALYSES

Analysis date: 5/16/95

Secchi Disk depth = 2.2 meters

<u>DEPTH</u>	<u>Temperature</u> <u>(°C)</u>	<u>Dissolved Oxygen</u> <u>(mg/L)</u>	<u>Conductivity</u> <u>(µmhos/cm)</u>
Surface	14.5	8.9	193
1.0	14.5	8.9	46
2.0	12.0	9.2	48
3.0	10.0	9.0	47
4.0	10.0	6.9	46
5.0	10.0	<4 (in weeds)	-

LABORATORY ANALYSES

Sample: composite of 1.0, 2.0 and 3.0 meters depths

Sample collection date: 5/17/95

ANALYSIS

RESULTS

Soluble Reactive Phosphorus	5 µg/L
Total Phosphorus	18 µg/L
Nitrate Nitrogen	0.06 mg/L
Nitrite Nitrogen	<0.001 mg/L
Total Nitrogen (Kjeldahl)	0.23 mg/L

THOMAS LAKE

Sampling location: Mid lake (as per Bortleson et al., 1976)

FIELD ANALYSES

Analysis date: 5/16/95

Secchi Disk depth = 3.0 meters

<u>DEPTH</u>	<u>Temperature</u> (°C)	<u>Dissolved Oxygen</u> (mg/L)	<u>Conductivity</u> (µmhos/cm)
Surface	16.0	8.8	56
1.0	15.5	8.8	57
2.0	14.5	8.4	55
3.0	13.5	9.6	58
4.0	10.5	8.6	69
5.0	8.0	6.0	81
6.0	7.0	4.0	83
7.0	6.5	3.3	96
8.0	6.0	2.8	98
9.0	6.0	2.0	102
10.0	6.0	2.0	103
15.0	-	-	105

Stream Flow measured in the lake outlet = 0.36 cubic meters per second

LABORATORY ANALYSES

Sample: composite of 1.0, 2.0 and 3.0 meters depths

Sample collection date: 5/17/95

ANALYSIS

RESULTS

Soluble Reactive Phosphorus	5 µg/L
Total Phosphorus	22 µg/L
Nitrate Nitrogen	0.03 mg/L
Nitrite Nitrogen	<0.001 mg/L
Total Nitrogen (Kjeldahl)	0.27 mg/L

GILLETTE LAKE

Sampling location: Mid lake (as per Bortleson et al., 1976)

FIELD ANALYSES

Analysis date: 5/16/95

Secchi Disk depth = 4.0 meters

<u>DEPTH</u>	<u>Temperature</u> <u>(°C)</u>	<u>Dissolved Oxygen</u> <u>(mg/L)</u>	<u>Conductivity</u> <u>(µmhos/cm)</u>
Surface	16.5	8.8	69
1.0	16.0	8.9	62
2.0	13.0	9.8	59
3.0	11.0	10.7	58
4.0	9.0	11.1	56
5.0	7.0	6.5	59
6.0	6.0	3.0	62
7.0	5.5	2.0	64
8.0	5.0	0.4	56
9.0	5.0	0.0	64
10.0	5.0	0.0	107
15.0	-	-	212*

(* Hydrogen sulfide odor noted)

Stream flow measured in the lake outlet = 0.73 cubic meters per second

LABORATORY ANALYSES

Sample: composite of 1.0, 2.0 and 3.0 meters depths

Sample collection date: 5/17/95

ANALYSIS

RESULTS

Soluble Reactive Phosphorus	4 µg/L
Total Phosphorus	16 µg/L
Nitrate Nitrogen	0.04 mg/L
Nitrite Nitrogen	<0.001 mg/L
Total Nitrogen (Kjeldahl)	0.22 mg/L

SHERRY LAKE

Sampling location: Mid lake (as per Bortleson et al., 1976)

FIELD ANALYSES

Analysis date: 5/16/95

Secchi Disk depth = 4.0 meters

<u>DEPTH</u>	<u>Temperature</u> <u>(°C)</u>	<u>Dissolved Oxygen</u> <u>(mg/L)</u>	<u>Conductivity</u> <u>(µmhos/cm)</u>
Surface	16.0	8.9	64
1.0	15.5	9.1	60
2.0	14.0	9.2	59
3.0	13.0	9.8	57
4.0	10.0	9.1	59
5.0	8.0	8.2	65
6.0	7.0	7.2	62
7.0	6.0	6.3	73
8.0	6.0	2.0	91
9.0	5.5	0.2	113
10.0	5.5	0.0	117
15.0	-	-	250 *

(* Hydrogen sulfide odor noted)

Stream flow measured in the lake outlet = 0.60 cubic meters per second

LABORATORY ANALYSES

Sample: composite of 1.0, 2.0 and 3.0 meters depths

Sample collection data: 5/17/95

ANALYSIS

RESULTS

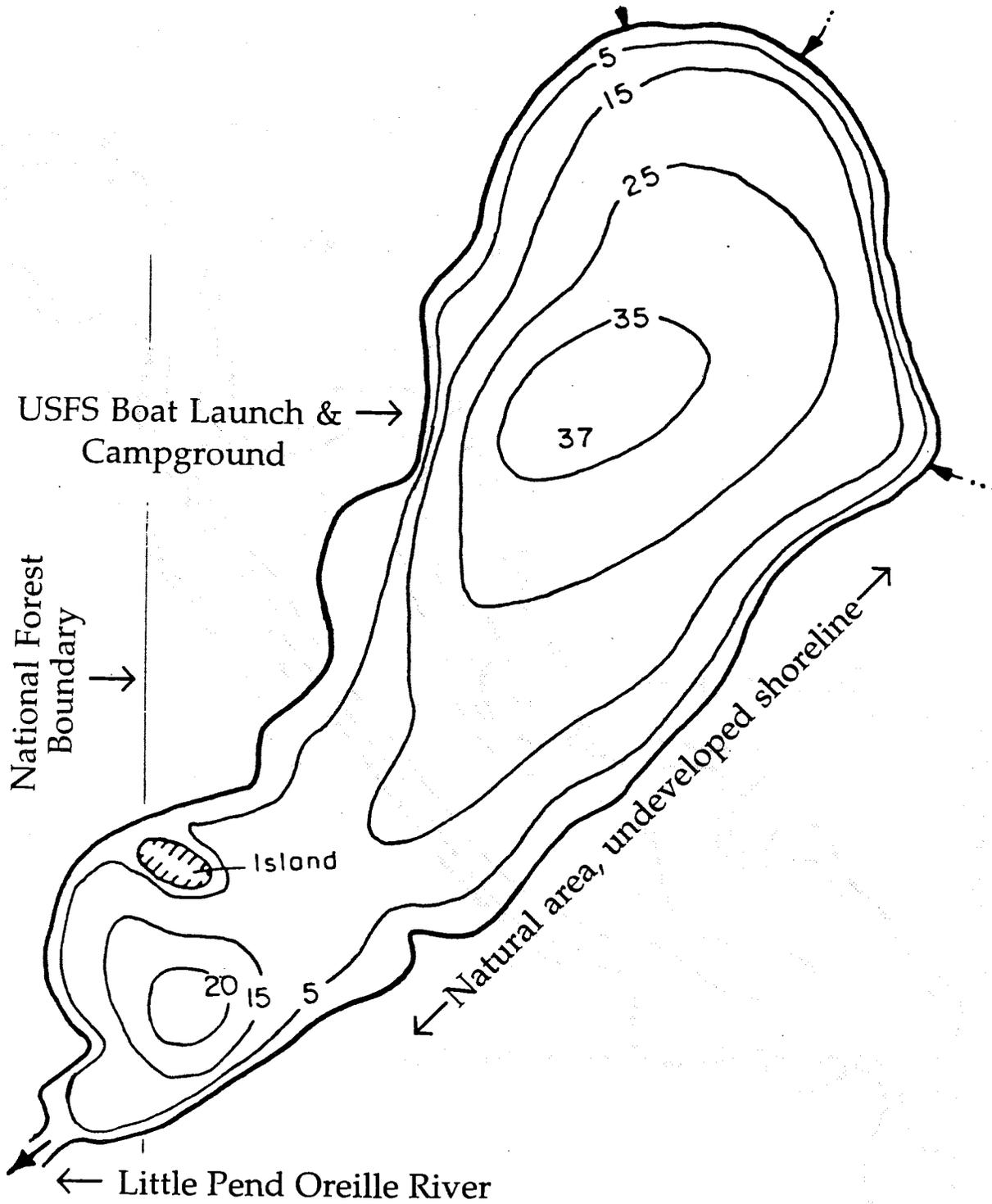
Soluble Reactive Phosphorus	5 µg/L
Total Phosphorus	21 µg/L
Nitrate Nitrogen	<0.01 mg/L
Nitrite Nitrogen	<0.001 mg/L
Total Nitrogen (Kjeldahl)	0.24 mg/L

Appendix 5

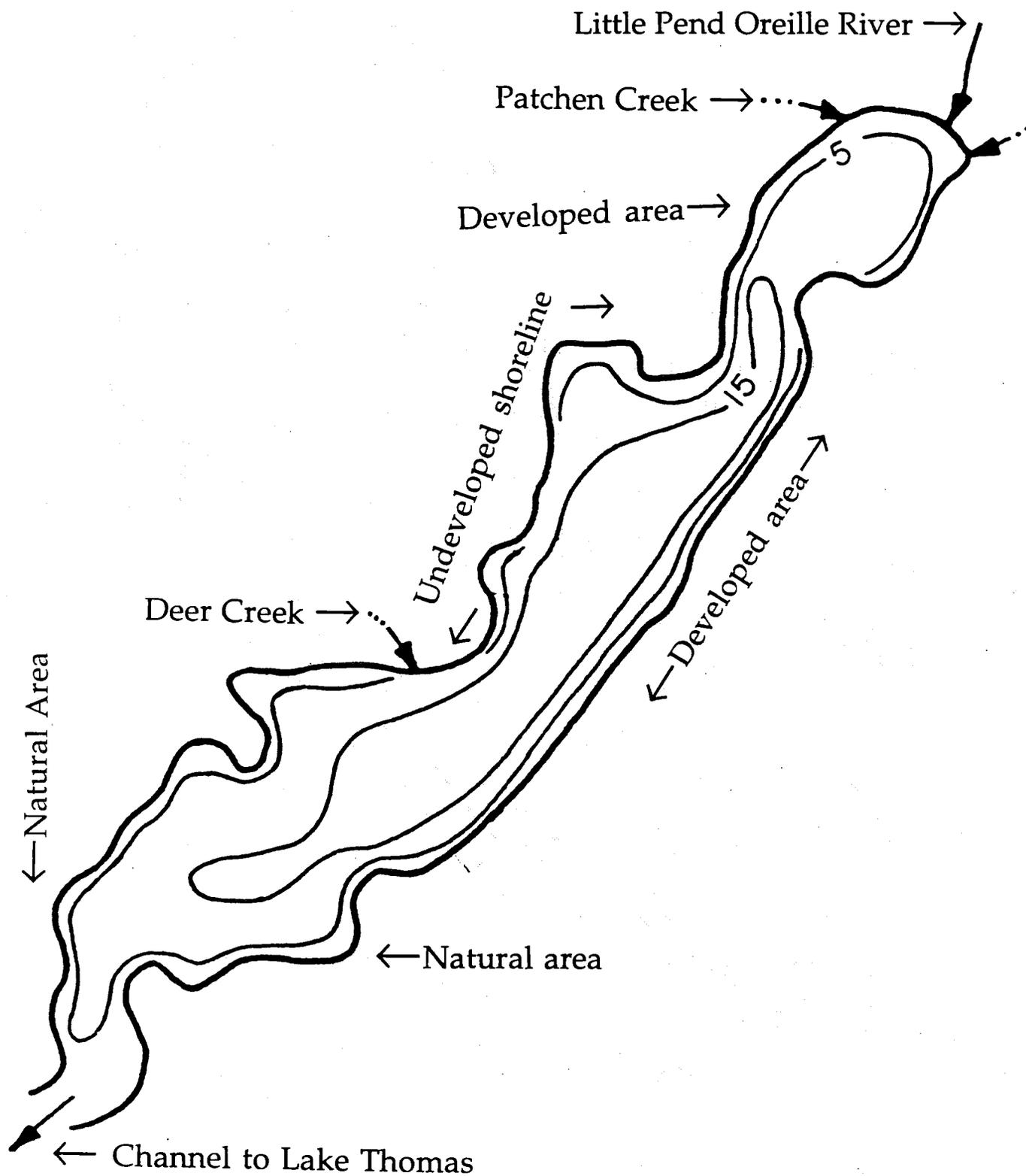
Water Body Usage Maps

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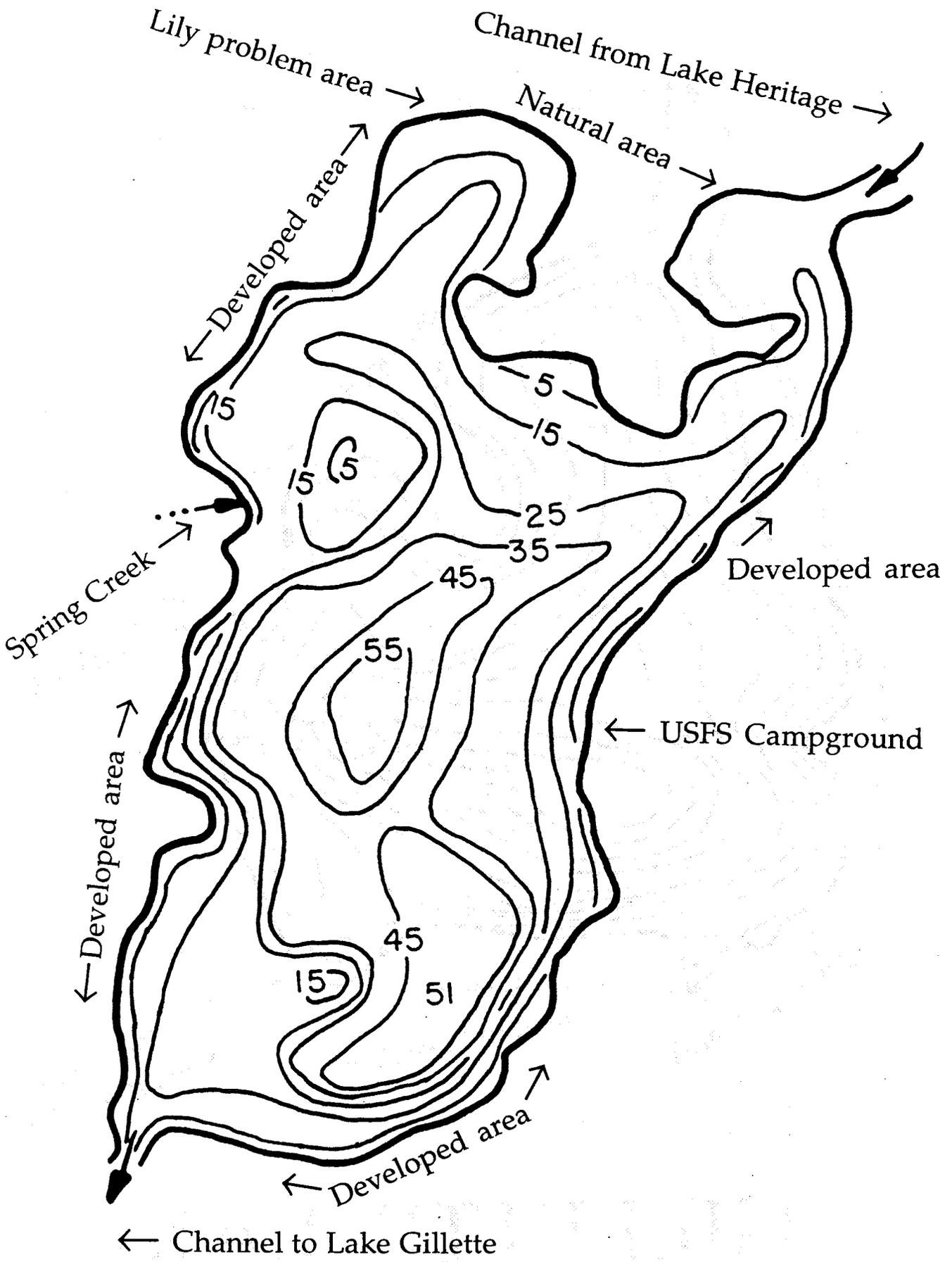
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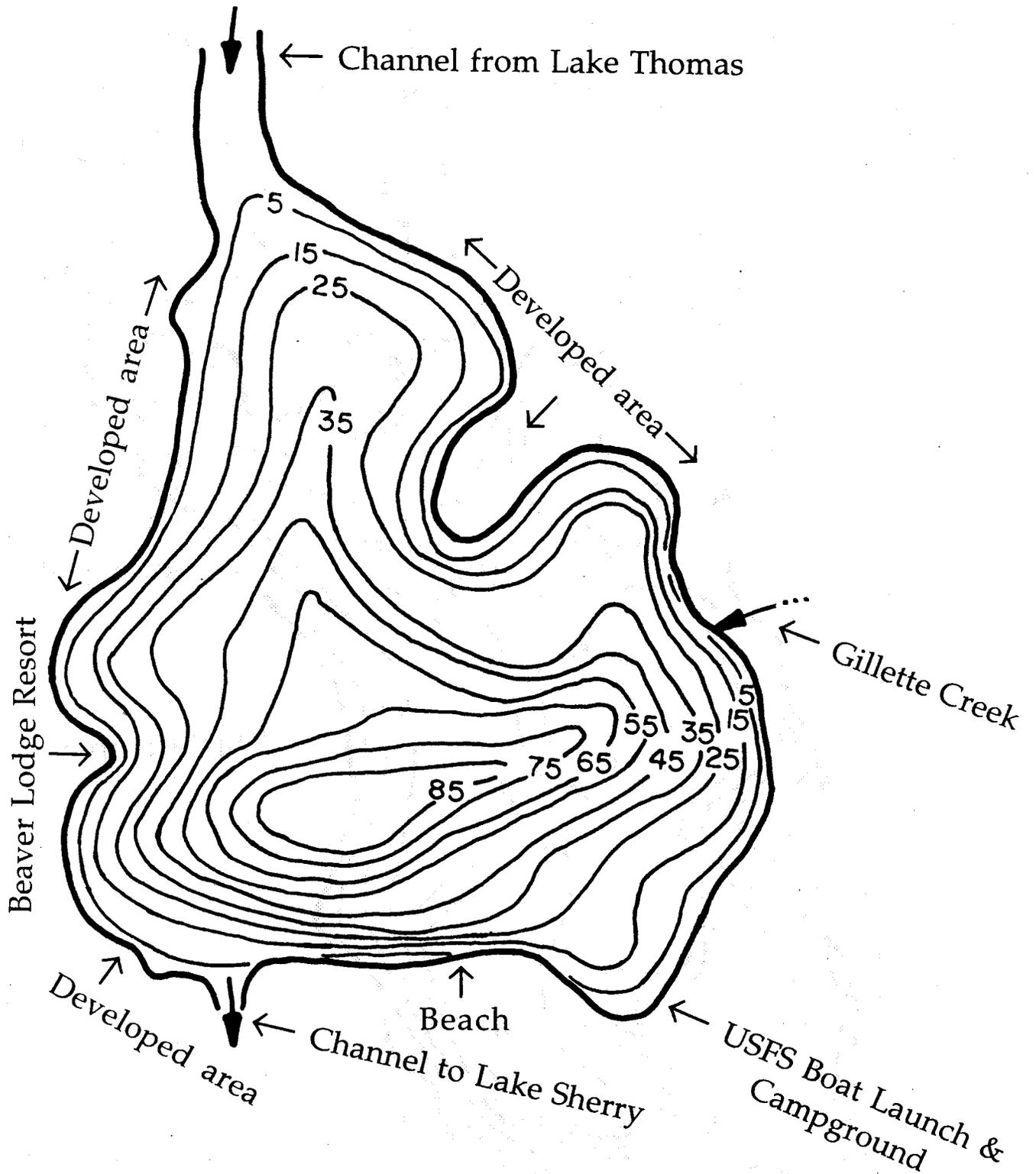
LAKE LEO



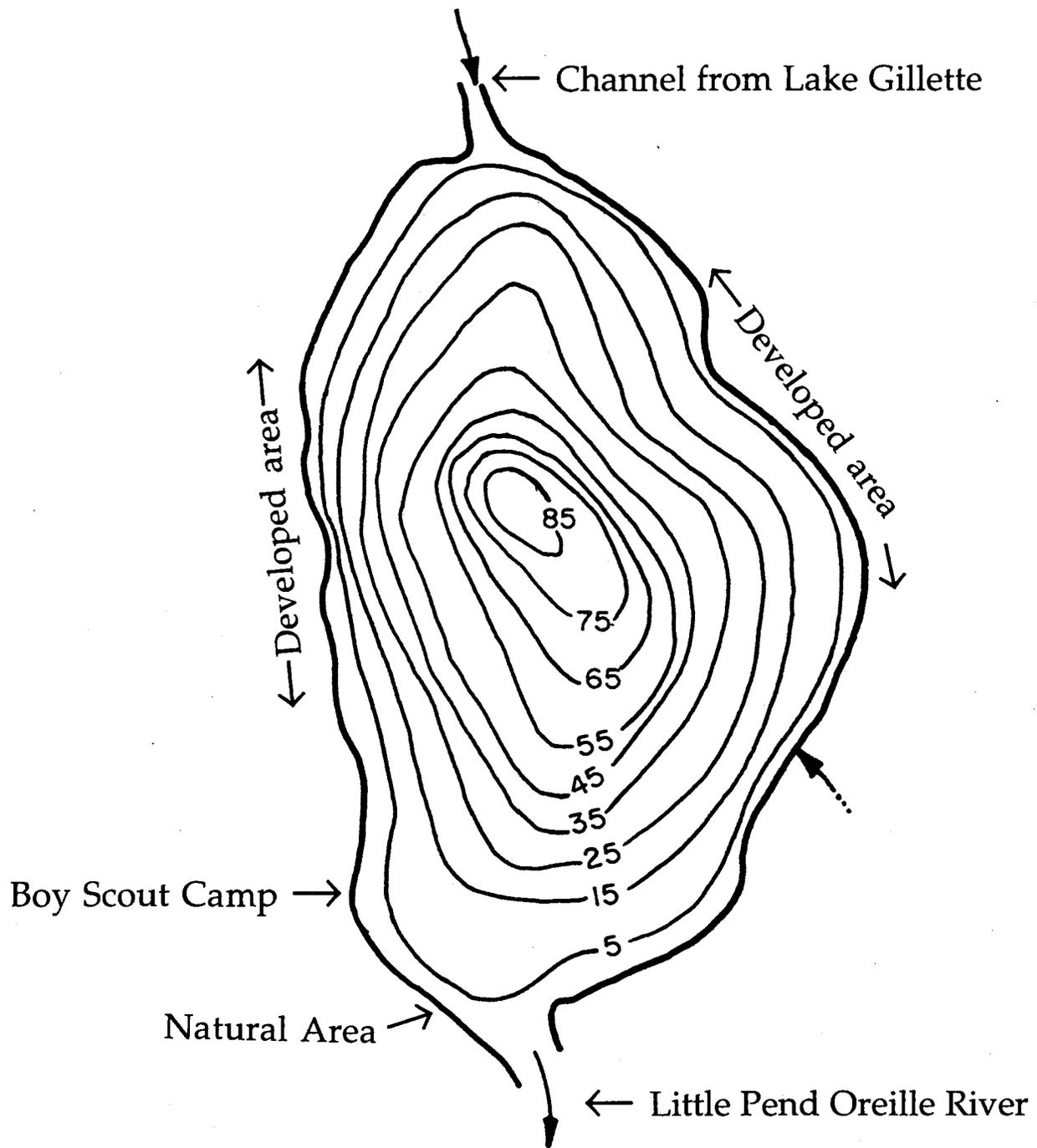
HERITAGE LAKE



THOMAS LAKE



GILLETTE LAKE



SHERRY LAKE

Appendix 6

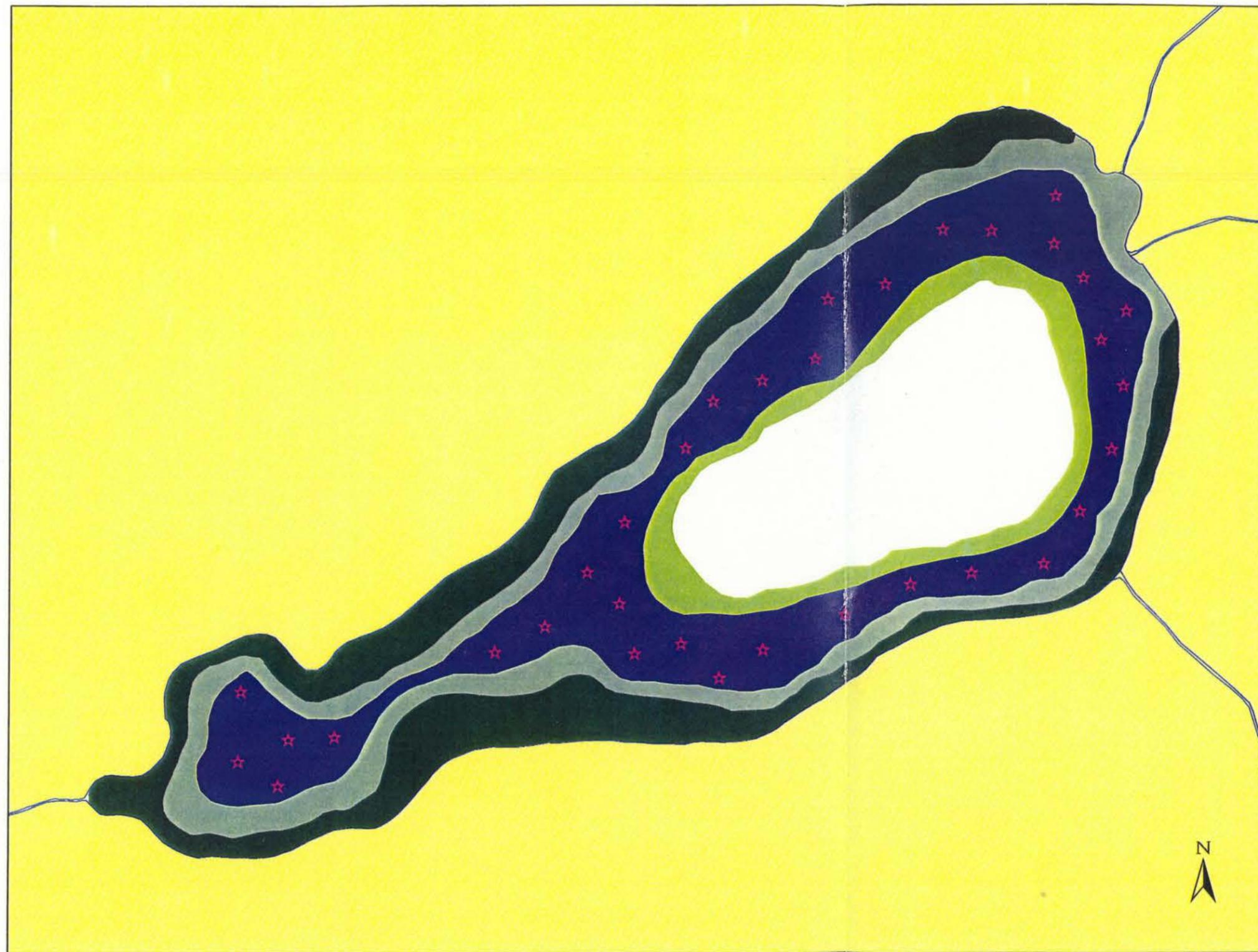
Aquatic Plant Maps

Lake Leo, Stevens Co., WA

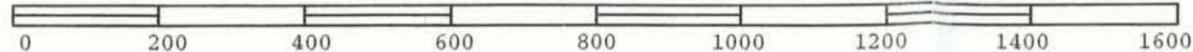
Aquatic Plant Survey 1995

Legend

-  Regions
-  *P. richardsonii*, *P. amplifolius* mix
-  Nitella
-  *Nuphar variegatum*
-  *Ceratophyllum demersum*
-  Terrestrial
-  Shorelines
-  Roads
-  Highways



Feet



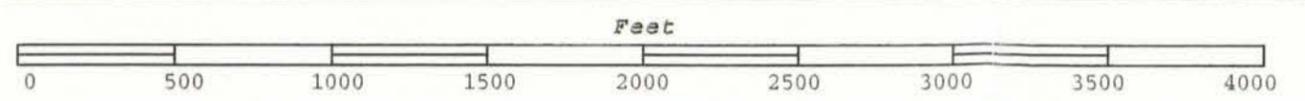
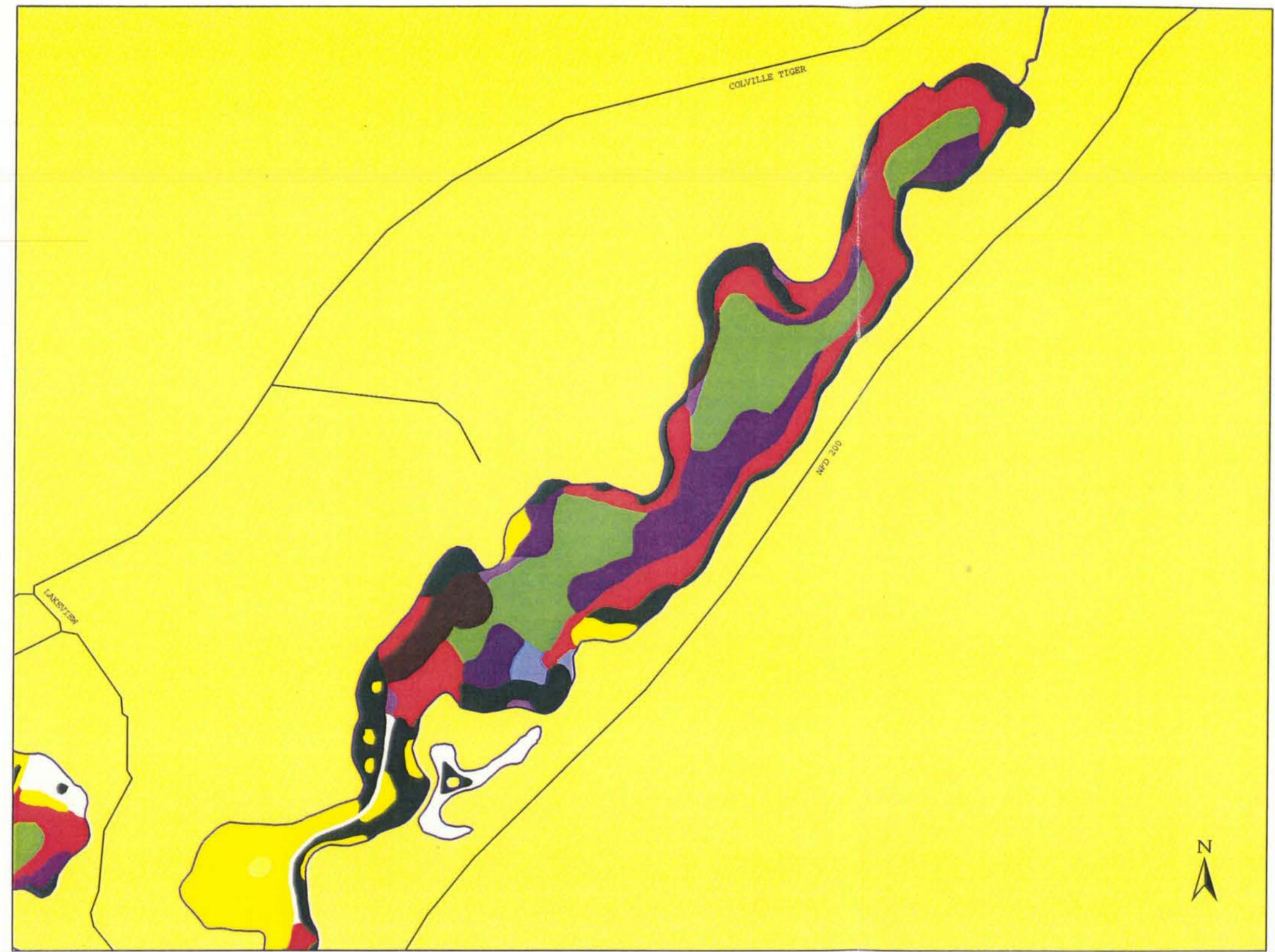
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Resource Management, Inc.
RMI Aerial Imaging & Mapping
Map © 1995

Heritage Lake, Stevens Co., WA
Aquatic Weed Survey 1995

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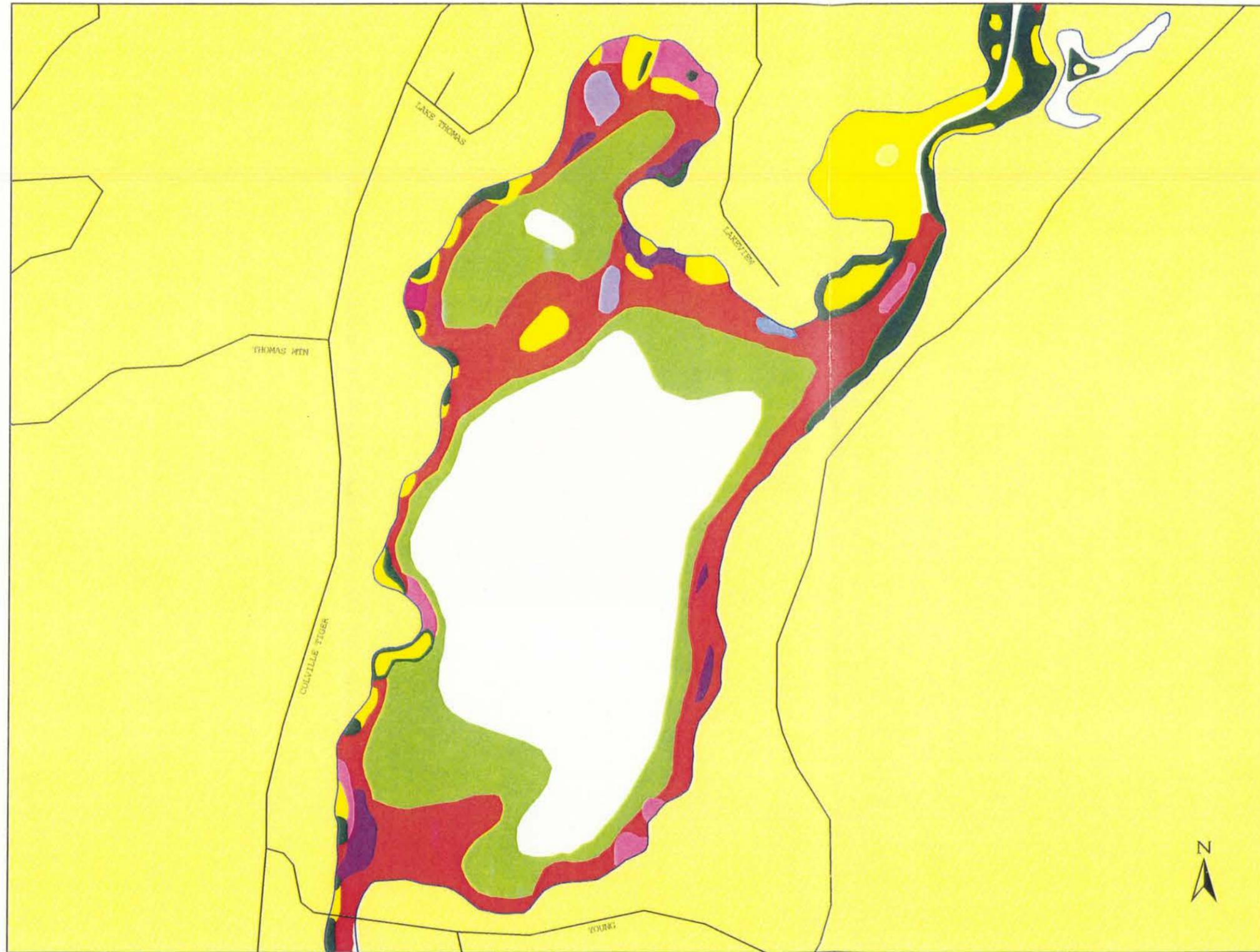
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-  Myriophyllum spicatum
-  Potamogeton ampifolius
-  Valisneria americana
-  Nitella
-  Potamogeton epihydrous
-  Potamogeton natans
-  Brasenia schreberi
-  Nuphar variegatum
-  Terrestrial
-  Shorelines
-  Roads
-  Highways



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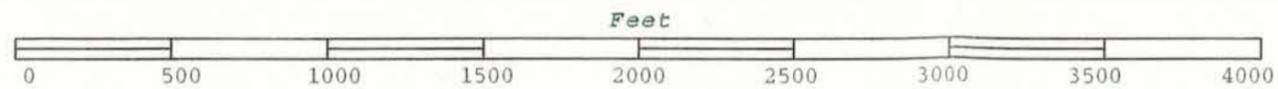
Resource Management, Inc.
 RMI Aerial Imaging & Mapping
 © 1995

Thomas Lake, Stevens County, WA
 Aquatic Weed Survey 1995



Legend

- Elodea canadensis
- Myriophyllum spicatum
- Potamogeton ampifolius
- Valisneria americana
- Nitella
- Ceratophyllum demersum
- Potamogeton natans
- Potamogeton robinsii
- Potamogeton zosteriformis
- Brasenia schreberi
- Nuphar variegatum
- Terrestrial
- Shorelines
- Roads
- Highways



SCALE = 1:7000

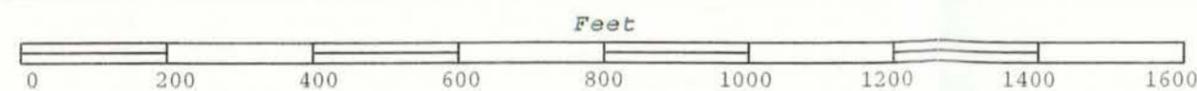


Resource Management, Inc.
 RMI Aerial Imaging & Mapping
 Map © 1995

Lake Gillette, Stevens Co., WA
 Aquatic Weed Survey 1995

Legend

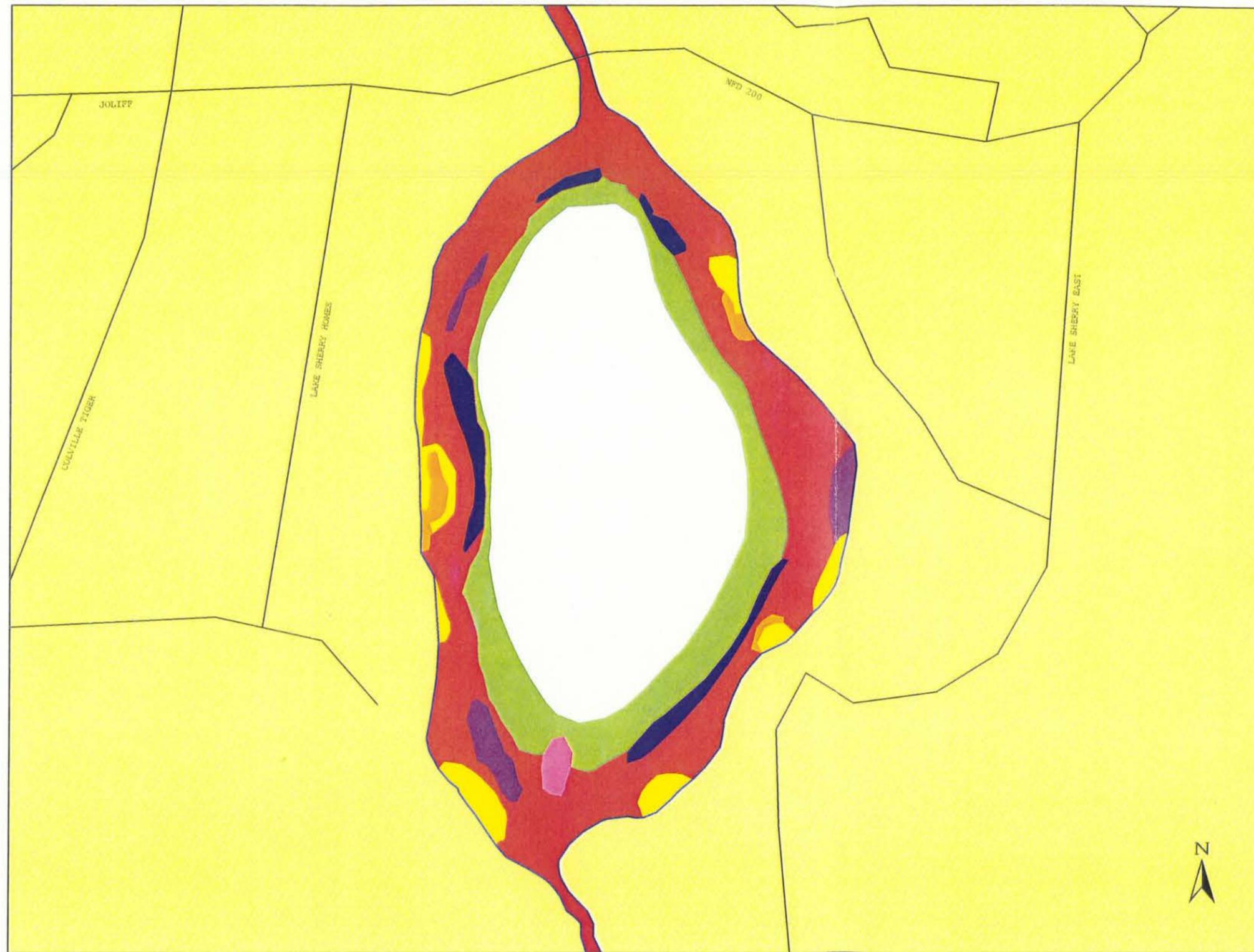
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-  Myriophyllum spicatum
-  Potamogeton ampifolius
-  Valisneria americana
-  Nitella
-  Ceratophyllum demersum
-  Potamogeton natans
-  Potamogeton robinsii
-  Potamogeton zosteriformis
-  Brasenia schreberi
-  Nuphar variegatum
-  Nymphaea spp.
-  Terrestrial
-  Shorelines
-  Roads
-  Highways



SCALE = 1:3000

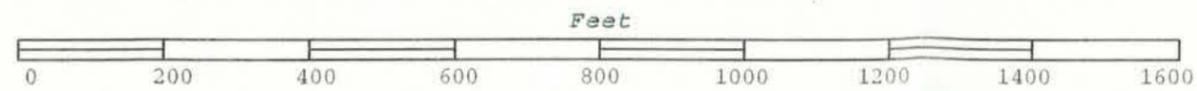
Resource Management, Inc.
 RMI Aerial Imaging & Mapping
 Map © 1995

Lake Sherry, Stevens County, WA
 Aquatic Weed Survey 1995



Legend

- Elodea canadensis
- Myriophyllum spicatum
- Potamogeton ampifolius
- Valisneria americana
- Brasenia schreberi
- Nitella
- Nymphaea spp.
- Potamogeton zosteriformis
- Terrestrial
- Shorelines
- Roads
- Highways



SCALE = 1:3000

Resource Management, Inc.
 RMI Aerial Imaging & Mapping
 Map © 1995

Appendix 7

Summary of Aquatic Plant Management Techniques

Summary of Aquatic Plant Management Techniques Available in Washington.
 (from "A Citizens Manual for Developing Aquatic Vegetation Management Plans")
 Effectiveness and duration of control depend on correct implementation for most techniques.

Method	Appropriate Scale (area or extent)	Duration of Control	Intensity of Control	Cost	Advantages	Disadvantages	Permit Required?
Physical Hand-pulling	Small-scale	Season or longer	Moderate to High (with complete removal)	\$0 with volunteer labor \$500 to \$2400/day for contract divers	<ul style="list-style-type: none"> • Site specific • Species specific • Minimum impact on native plants • Use near obstructions • Immediate plant removal 	<ul style="list-style-type: none"> • Slow, labor intensive, expensive • short-term turbidity increase • Diver visibility can restrict effectiveness 	No
Hand-cutting	Small-scale	< One season	Moderate	\$100 to \$1000 for equipment + labor	<ul style="list-style-type: none"> • Immediate plant removal 	<ul style="list-style-type: none"> • Slow • Fragments generated • Short-term increase in turbidity 	Yes
Bottom Barriers	Small-scale	2 to 3 years	High	\$0.15 to \$0.75/sq. ft. for material \$0.25 to \$0.50/sq. ft. for installation	<ul style="list-style-type: none"> • Immediate plant removal • Materials reusable • Site specific • Useful around obstructions 	<ul style="list-style-type: none"> • Not species specific • Benthic organism impacts • Material costs • Maintenance required 	Yes
Drawdown	Large-scale	None	Low	Variable	<ul style="list-style-type: none"> • Useful for repair/ maintenance of shorelines and structures • May enhance growth of emergents (waterfowl habitat) 	<ul style="list-style-type: none"> • Not species specific • May impact wetlands • Loss of recreation • Dissolved oxygen decrease • Benthic invertebrate impacts 	Yes
Watershed Controls	Small-scale	None - long-term	Low	Low	<ul style="list-style-type: none"> • Long-term improvement in water quality • May encourage rooted and discourage non- rooted species 	<ul style="list-style-type: none"> • Does not address nutrient sources used by most aquatic plants • May encourage rooted/discourage non-rooted species • Sometimes difficult to implement 	No

Summary of Aquatic Plant Management Techniques Available in Washington (continued).

Method	Appropriate Scale (area or extent)	Duration of Control	Intensity of Control	Cost	Advantages	Disadvantages	Permit Required?
Water column dye	Weeks to months	Weeks to months	Low	\$12.50/acre-ft.	<ul style="list-style-type: none"> • Non-toxic • No special equipment needed • Colors water blue 	<ul style="list-style-type: none"> • Shallow, closed systems only • Repeat treatments through growing season required • Not effective when plants near surface • No use in potable, flowing, or chlorinated water • Some classified as herbicides 	Yes/No (Those classified as herbicides require a permit)
Mechanical Harvesting	Large-scale	Less than one season	Low-Mod	\$600/acre (May vary with transport costs)	<ul style="list-style-type: none"> • Immediate plant removal to cutting depth (4 to 8 ft.) • Minimal bottom disturbance • Materials may be composted • Reduces internal loading of nutrients 	<ul style="list-style-type: none"> • Plant disposal • Fragments produced • Fish and invertebrate impacts • Slow • High initial capital costs • Operating depth limited • Operations depend on weather • Not species specific 	Yes
Rotovation/ Cultivation	Large-scale	2 to 3 years	Mod-High	\$1000 to \$1700/acre (depends on plant density and area of treatment)	<ul style="list-style-type: none"> • Winter treatment minimizes summer season recreation impacts • May increase species diversity 	<ul style="list-style-type: none"> • Bottom disturbance / increased turbidity • Long-term efficacy only on perennials • Bottom obstructions limit use • Not species specific 	Yes
Diver-operated dredge	Small-scale	Potentially long (Depends on availability of propagules for recolonization)	Mod-High	\$1100-2000/day (coverage depends on plant density)	<ul style="list-style-type: none"> • Site specific • Species specific • No depth constraints • Used near obstacles 	<ul style="list-style-type: none"> • Labor intensive • Slow • Potential fragment production • Temporary bottom disturbance and increased turbidity 	Yes

Summary of Aquatic Plant Management Techniques Available in Washington (continued).

Method	Appropriate Scale (area or extent)	Duration of Control	Intensity of Control	Cost	Advantages	Disadvantages	Permit Required?
Biological Grass carp	Large-scale	Potentially long	Low-High	\$50 to \$200/acre (depending on stocking density)	<ul style="list-style-type: none"> • Low maintenance • Large area covered • Triploid fish are sterile 	<ul style="list-style-type: none"> • Stocking densities not well established • Difficult to fine-tune control • Preference for native species over exotics • Containment structures required • Ecological impacts unknown • Not site specific • Recapture problems • Susceptible to predation by wildlife or humans 	Yes
Chemical Fluridone	Large-scale	> 1 year (depends on availability of propagules for recolonization)	High	\$700 to \$1000/acre	<ul style="list-style-type: none"> • Systemic herbicide • Some species specificity with correct application rates • Non-toxic • Systemic herbicide • Non-toxic • No label restrictions on swimming and fishing • Short contact time required • Low toxicity • Fast dissipation 	<ul style="list-style-type: none"> • Requires long contact time • Off-site movement possible • Nutrient release and dissolved oxygen • Non-selective herbicide • Emergent plants only 	Yes
Glyphosate	Large-scale	> 1 year (depends on availability of propagules for recolonization)	High	\$250/acre			Yes
Endothall	Large-scale	Weeks to months	Moderate	\$500 to \$700/acre			Yes
Copper chelates	Large-scale	Weeks to months	Mod to High (depends on species present)	\$120 to \$340/acre (depends on species present)			Yes

Appendix 8

Sonar Herbicide Information

Material Safety Data Sheet



Emergency Phone: 317-580-8282
General Phone: 1-317-580-8282

EPA Reg. Number: 67690-4
Effective Date: August 25, 1994

SONAR* A.S. Herbicide

SePRO Corporation • Carmel, IN

1. INGREDIENTS:

(% w/w, unless otherwise noted)

1-Methyl-3-phenyl-5-(3-(trifluoro-methyl)phenyl)-4
(1H)-pyridinone (Fluridone)
CAS# 059756-60-4.....41.7%

Other Ingredients, total, including:58.3%
Proprietary surfactants
Propylene glycol . . . CAS# 000057-55-6
Water . . . CAS# 007732-18-5

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: (@ 1 atmosphere) 212°F, 100°C

VAP. PRESS: 2.3 mm Hg at 25°C

VAP. DENSITY: 1.178 relative to air at 25°C

SOL. IN WATER: Disperses in water

SP. GRAVITY: 1.15 at 25°C

APPEARANCE: Light tan to gray opaque liquid

ODOR: Slight odor

pH: (aqueous 50/50) 8.45

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: Greater than 200°F, 93.3°C

METHOD USED: SCC

FLAMMABLE LIMITS:

LFL: Not applicable

UFL: Not applicable

AUTO-IGNITION TEMPERATURE: Not applicable

EXTINGUISHING MEDIA: SONAR A.S. is a water based suspension and will not burn. If product is involved in fire and water has evaporated, use water fog, CO₂, dry chemical, or foam.

FIRE AND EXPLOSION HAZARDS: This product will not burn until a sufficient amount of water has evaporated. At this point, the product will exhibit the flammability characteristics of the organic portion of this formulation. Keep unnecessary people away; isolate hazard area and deny unnecessary entry. Highly toxic fumes are released in fire situations.

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure, self-contained breathing apparatus and full protective equipment.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) None known

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) None known

HAZARDOUS DECOMPOSITION PRODUCTS: If product is allowed to dry, will emit toxic vapors as it burns.

HAZARDOUS POLYMERIZATION: Does not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ENVIRONMENTAL DATA: Follow use directions carefully so as to avoid adverse effects on nontarget organisms. In order to avoid impact on threatened or endangered aquatic plant or animal species, users must consult their state fish and game agency or the U.S. Fish and Wildlife Service before making applications. Do not contaminate water when disposing of equipment washwaters. Trees and shrubs growing in water treated with Sonar A.S. may occasionally develop chlorosis. Do not apply in tidewater or brackish waters. Lowest rates should be used in shallow areas where the water depth is considerably less than the average depth of the entire treatment site, for example, shallow shoreline areas.

ACTION TO TAKE FOR SPILLS: Use absorbent material to contain and clean up small spills and dispose as waste. Large spills report to CHEMTREC and SePro Corporation for assistance. Prevent runoff.

DISPOSAL METHOD: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

6. HEALTH HAZARD DATA:

EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely.

SKIN CONTACT: Prolonged exposure may cause slight skin irritation. Did not cause allergic skin reactions when tested in guinea pigs.

SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD₅₀ for skin absorption in rabbits is greater than 2000 mg/kg.

Material Safety Data Sheet



Emergency Phone: 317-580-8282
General Phone: 1-317-580-8282

EPA Reg. Number: 67690-4
Effective Date: August 25, 1994

SONAR* A.S. Herbicide

SePRO Corporation • Carmel, IN

INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is greater than 500 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

INHALATION: At room temperature, vapors are minimal due to physical properties; a single exposure is not likely to be hazardous.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: In chronic toxicity studies in animals, fluridone has been shown to cause liver and kidney effects.

CANCER INFORMATION: The components did not cause cancer in long-term animal studies.

TERATOLOGY (BIRTH DEFECTS): In animal studies on some of the components (including fluridone), this product did not cause birth defects; for fluridone, other fetal effects occurred only at doses toxic to the mother.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): For fluridone, results of mutagenicity tests in animals have been negative; results of a battery of in-vitro mutagenicity tests, except for one, have also been negative. Based on these results and the lack of carcinogenic response in long term studies, fluridone is not considered to be mutagenic.

7. FIRST AID:

EYES: Flush eyes with plenty of water. Get medical attention if irritation persists.

SKIN: Flush skin with plenty of water. Get medical attention if irritation persists.

INGESTION: Call a physician or poison control center. Drink one or two glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

INHALATION: Move victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): Propylene glycol: AIHA WEEL is 50 ppm total, 10 mg/m³ aerosol only.

VENTILATION: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. If respiratory irritation is experienced, use an approved air-purifying respirator.

SKIN PROTECTION: For brief contact, no precautions other than clean body-covering clothing should be needed. Use chemically-resistant gloves when prolonged or frequently-repeated contact could occur. Wash thoroughly with soap and water after handling. Wash exposed clothing before reuse.

EYE PROTECTION: Use safety glasses.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep out of reach of children. Harmful if swallowed, absorbed through skin, or if inhaled. Avoid breathing of spray mist or contact with skin, eyes, or clothing.

MSDS STATUS: Revised sections 1, 3, 5, 6, 7, 8, 9, and reg sheet.

REGULATORY INFORMATION:

(Not meant to be all-inclusive—selected regulations represented).

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in Section 1 of the MSDS.

General Information

Sonar A.S. herbicide is a selective systemic aquatic herbicide for management of aquatic vegetation in fresh water ponds, lakes, reservoirs, drainage canals and irrigation canals. Sonar A.S. is absorbed from water by plant shoots and from hydrosol by the roots of aquatic vascular plants. It is important to maintain the recommended concentration of Sonar A.S. in contact with the weeds as long as possible. Rapid water movement or any condition which results in rapid dilution of Sonar A.S. in treated water will reduce its effectiveness. In susceptible plants, Sonar A.S. inhibits the formation of carotene. In the absence of carotene, chlorophyll is rapidly degraded by sunlight. Herbicidal symptoms of Sonar A.S. appear in seven to ten days and appear as white (chlorotic) or pink growing points. Under optimum conditions 30 to 90 days are required before the desired level of aquatic weed management is achieved with Sonar A.S. Species susceptibility to Sonar A.S. may vary depending on time of year, stage of growth, and water movement. For best results, apply Sonar A.S. prior to initiation of weed growth or when weeds begin active growth.

Sonar A.S. is not corrosive to application equipment.

General Use Precautions

Obtain Required Permits: Consult with appropriate state or local water authorities before applying this product. Permits may be required by state or local public agencies.

Chemigation: Do not apply Sonar A.S. through any type of irrigation system.

Potable Water Intakes: In lakes and reservoirs, do not apply Sonar A.S. within one-fourth mile (1320 feet) of any functioning potable water intake. **Note:** Existing potable water intakes which are no longer in use, such as those replaced by potable water wells or connections to a municipal water system, are not considered to be functioning potable water intakes.

Irrigation: Irrigation with water treated with Sonar A.S. may result in injury to the irrigated vegetation. SePRO recommends informing those who irrigate from areas treated with Sonar A.S. of the irrigation time frames presented in the table below. These time frames are suggestions which should be followed to reduce the potential for injury to vegetation irrigated with water treated with Sonar A.S.:

Application Site	Days After Application		
	Established Tree Crops	Established Row Crops Turf/Plants	Newly Seeded Crops/Seedbeds or Areas to be Planted Including /Overseeded Golf Course Greens
†Ponds and Static Canals	7	30	30
Canals	7	14	30
††Lakes and Reservoirs	7	14	14

† For purposes of Sonar A.S. labeling, a pond is defined as a body of water 10 acres or less in size. A lake or reservoir is greater than 10

†† In lakes and reservoirs where one-half or greater of the body of water is treated, use the pond and static canal irrigation restrictions.

Weed Control Information

Vascular Aquatic Plants Controlled by Sonar A.S.

Floating Plants:

Common duckweed (*Lemna minor*)[†]

Emerged Plants:

spatterdock (*Nuphar luteum*)

water-lily (*Nymphaea* spp.)

† Controlled only with a surface application of Sonar A.S.

Submerged Plants:

bladderwort (*Utricularia* spp.)

common coontail (*Ceratophyllum demersum*)

common elodea (*Elodea canadensis*)

egeria, Brazilian elodea (*Egeria densa*)

fanwort, cabomba (*Cabomba caroliniana*)

hydrilla (*Hydrilla verticillata*)

naiad (*Najas* spp.)

pondweed (*Potamogeton* spp., except Illinois pondweed)

watermilfoil (*Myriophyllum* spp.)

Shoreline Grasses:

paragrass (*Brachiaria mutica*)

Vascular Aquatic Plants Partially Controlled by Sonar A.S.

alligatorweed (*Aiternanthera philoxeroides*)

American lotus (*Nelumbo lutea*)

cattail (*Typha* spp.)

common watermeal (*Wolffia columbiana*)^{††}

creeping waterprimrose (*Ludwigia peploides*)

giant cutgrass (*Zizaniopsis miliacea*)

Illinois pondweed (*Potamogeton illinoensis*)
 parrotfeather (*Myriophyllum brasiliense*)
 reed canarygrass (*Phalaris arundinacea*)
 smartweed (*Polygonum* spp.)
 spikerush (*Eleocharis* spp.)
 southern watergrass (*Hydrochloa carolinensis*)
 torpedograss (*Panicum repens*)
 waterpurslane (*Ludwigia palustris*)
 watershield (*Brasenia schreberi*)

†† Partial control only with a surface application of Sonar A.S. at the maximum labeled rate.

Vascular Aquatic Plants Not Controlled by Sonar A.S.

algae (*Chara* and *Nitella*)

American frogbit (*Limnobium spongia*)

arrowhead (*Sagittaria* spp.)

bacopa (*Bacopa* spp.)

big floatingheart, banana lily (*Nymphoides aquatica*)

bulrush (*Scirpus* spp.)

floating waterhyacinth (*Eichhornia crassipes*)

maidencane (*Panicum hemitomon*)

pickersweed, lanceleaf (*Pontederia cordata*)

rush (*Juncus* spp.)

tapegrass, American eelgrass (*Valisneria americana*)

waterlettuce (*Pistia stratiotes*)

water pennywort (*Hydrocotyle umbellata*)

Mixing and Application Directions

The aquatic plants present in the treatment site should be identified prior to application to determine their susceptibility to Sonar A.S. It is important to determine the area (acres) to be treated and the average depth in order to select the proper application rate. Do not exceed the maximum labeled rate for a given treatment site per annual growth cycle.

Shake Sonar A.S. well before using. Add the recommended amount of Sonar A.S. to water in the spray tank during the filling operation. Agitate while filling and during spraying. Surface or subsurface application of the spray can be made with conventional spray equipment. Sonar A.S. can also be applied near the surface of the hydrosol using weighted trailing hoses. A spray volume of 5 to 100 gallons per acre may be used. Sonar A.S. may also be diluted with water and the concentrated mix metered into the pumping system.

Application to Ponds

Sonar A.S. may be applied to the entire surface area of a pond. Rates may be selected to provide 0.06 to 0.09 ppm of active ingredient in the treated water. Application rates necessary to obtain these active ingredient concentrations in treated water are shown in the following table. When average water depth of the treatment site is greater than 5 feet, apply 1 to 1.5 quarts of Sonar A.S. per treated surface acre.

Average Water Depth of Treatment Site (feet)	Quarts of Sonar A.S. per Treated Surface Acre
1	0.16 - 0.25
2	0.33 - 0.50
3	0.50 - 0.75
4	0.65 - 1.00
5	0.80 - 1.25

Use the higher rate within the rate range where there is a dense weed mass or when treating more difficult to control species.

Application to Lakes and Reservoirs

For best results in lakes and reservoirs, Sonar A.S. treatment areas should be a minimum of 5 acres in size. Treatment of areas smaller than 5 acres or treatment of narrow strips such as boat lanes or shorelines may not produce satisfactory results due to dilution by untreated water. In lakes and reservoirs, do not apply Sonar A.S. within one-fourth mile (1320 feet) of any functioning potable water intake.

Rates may be selected to provide 0.075 to 0.15 ppm of active ingredient in the treated water. Application rates necessary to obtain these active ingredient concentrations in treated water are shown in the following table. When average water depth of the treatment site is greater than 10 feet, apply 3 to 4 quarts of Sonar A.S. per treated surface acre.

Average Water Depth of Treatment Site (feet)	Quarts of Sonar A.S. per Treated Surface Acre
1	0.2 - 0.4
2	0.4 - 0.8
3	0.6 - 1.2
4	0.8 - 1.6
5	1.0 - 2.0
6	1.2 - 2.4
7	1.4 - 2.8
8	1.6 - 3.2
9	1.8 - 3.6
10	2.0 - 4.0

Use the higher rate within the rate range where there is a dense weed mass or when treating more difficult to control species.

Use Rates for Control of Eurasian Watermilfoil in Whole Lake or Reservoir Treatments: The following application rates may be used for control of Eurasian watermilfoil when treating lakes or reservoirs where little dilution with untreated water is expected to occur. Under these conditions, Sonar may be applied to provide a concentration of 0.01 to 0.02 ppm (10 to 20 ppb) of active ingredient in treated water. Application rates necessary to achieve these active ingredient concentrations in treated water are shown in the following table. For optimum control, it is recommended that applications be made early in the growing season.

Average Water Depth of Treatment Site (feet)	Quarts of Sonar A.S. per Treated Surface Acre
1	0.027 - 0.05
2	0.05 - 0.11
3	0.08 - 0.16
4	0.11 - 0.22
5	0.14 - 0.27
6	0.16 - 0.32
7	0.19 - 0.38
8	0.22 - 0.43
9	0.24 - 0.49
10	0.27 - 0.54

When treated with these use rates, other less susceptible species listed under Aquatic Plants Controlled may exhibit only temporary injury or stunting followed by recovery and normal growth. These 0.01 to 0.02 ppm rates may be applied where functioning potable water intakes are present. Note: When applications for management of Eurasian watermilfoil are made to only portions of lakes or reservoirs such as bays or fingers of these water bodies, the higher rates and directions listed on this label for Applications to Lakes and Reservoirs are recommended.

Application Rate Calculation - Ponds, Lakes and Reservoirs

The amount of Sonar A.S. to be applied to provide the desired ppm concentration of active ingredient in treated water may be calculated as follows:

Quarts of Sonar A.S. required per treated surface acre = Average water depth of treatment site (feet) x Desired ppm concentration of active ingredient x 2.7

For example, the quarts per acre of Sonar A.S. required to provide a concentration of 0.075 ppm of active ingredient in water with an average depth of 5 feet is calculated as follows:

$5 \times 0.075 \times 2.7 = 1.0$ quart per treated surface acre.

When measuring quantities of Sonar A.S., quarts may be converted to fluid ounces by multiplying quarts to be measured x 32. For example 0.25 quarts x $32 = 8$ fluid ounces.

Note: Calculated rates should not exceed the maximum allowable rate in quarts per treated surface acre for the water depth listed in the application rate table for the site to be treated.

Application to Drainage Canals and Irrigation Canals

In drainage and irrigation canals, Sonar A.S. should be applied at the rate of 2 quarts per treated surface acre. Where water retention is possible, the performance of Sonar A.S. will be enhanced by restricting water flow. In moving bodies of water, use an application pattern that will provide a uniform distribution and avoid concentration of the herbicide.

Material Safety Data Sheet



Emergency Phone: 317-580-8282
General Phone: 1-317-580-8282

EPA Reg. Number: 67690-4
Effective Date: August 25, 1994

SONAR* A.S. Herbicide

SePRO Corporation • Carmel, IN

CHEMICAL NAME	CAS NUMBER	LIST
1,2-PROPANEDIOL	000057-55-6	PA1

PA1=Pennsylvania Hazardous Substance
(present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD:
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Category	Rating
Health	1
Flammability	0
Reactivity	0

The Information Herein Is Given In Good Faith,
But No Warranty, Express Or Implied, Is Made.
Consult SePRO Corporation For Further Information.

Specimen Label



Herbicide

A herbicide for management of aquatic vegetation in fresh water ponds, lakes, reservoirs, drainage canals and irrigation canals

Active Ingredient:

fluridone: 1-methyl-3-phenyl-5-[3-(trifluoromethyl)phenyl]-4(1*H*)-pyridinone..... 41.7%
 Inert ingredients 58.3%
 Total 100.0%
 Contains 4 pounds active ingredient per gallon.

EPA Reg. No. 67690-4

Precautionary Statements

Hazards to Humans and Domestic Animals
Keep Out of Reach of Children

CAUTION PRECAUCION

Precaucion al usarlo: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

Harmful If Swallowed, Absorbed Through Skin, Or If Inhaled

Avoid breathing of spray mist or contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Wash exposed clothing before reuse.

First Aid

If in eyes: Flush eyes or skin with plenty of water. Get medical attention if irritation persists.

If swallowed: Call a physician or poison control center, drink one or two glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If inhaled: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

Environmental Hazards

Follow use directions carefully so as to minimize adverse effects on nontarget organisms. In order to avoid impact on threatened or endangered aquatic plant or animal species, users must consult their State Fish and Game Agency or the U.S. Fish and Wildlife Service before making applications.

Do not contaminate water when disposing of equipment washwaters. Trees and shrubs growing in water treated with Sonar A.S. herbicide may occasionally develop chlorosis. Do not apply in tidewater/brackish water.

Lowest rates should be used in shallow areas where the water depth is considerably less than the average depth of the entire treatment site, for example, shallow shoreline areas.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

Shake well before using.

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

Storage: Store in original container only. Do not store near feed or foodstuffs. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

Pesticide Disposal: Wastes resulting from use of this product may be used according to label directions or disposed of at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Specimen Label



Sonar* SRP

Vegetation
Management

Specialty Herbicide

A herbicide for management of aquatic vegetation in fresh water ponds, lakes, reservoirs, drainage canals, irrigation canals and rivers.

Active ingredient:

fluridone: 1-methyl-3-phenyl-5-[3-(trifluoromethyl) phenyl]-4(1H)-pyridinone	5.0%
Inert ingredients	95.0%
Total	100.0%

Contains 2 pounds active ingredient per 40-pound container.

EPA Reg. No. 62719-123
EPA Est. 39578-TX-1
Net Weight 40 pounds

Precautionary Statements

Hazards to Humans and Domestic Animals:
Keep Out of Reach of Children

CAUTION PRECAUCION:

Precaucion al usarlo: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.

Harmful If Swallowed, Absorbed Through Skin, Or If Inhaled

Avoid breathing of dust or contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Wash exposed clothing before reuse.

First Aid:

If In eyes: Flush eyes or skin with plenty of water. Get medical attention if irritation persists.

If swallowed: Call a physician or poison control center, drink one or two glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If Inhaled: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

Environmental Hazards

Follow use directions carefully so as to minimize adverse effects on nontarget organisms. In order to avoid impact on threatened or endangered aquatic plant or animal species, users must consult their State Fish and Game Agency or the U.S. Fish and Wildlife Service before making applications.

Do not contaminate water when disposing of equipment washwaters. Trees and shrubs growing in water treated with Sonar SRP may occasionally develop chlorosis. Do not apply in tidewater/brackish water.

Lowest rates should be used in shallow areas where the water depth is considerably less than the average depth of the entire treatment site, for example, shallow shoreline areas.

Notice: Read the entire label before using. Use only according to label directions. **Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" elsewhere on this label.**

In case of emergency endangering health or the environment involving this product, call collect 517-636-4400

Specialty Chemical: Keep away from food, feed-stuffs and water supplies. Do not ship or store with food, feeds, drugs or clothing.

Sonar* SRP

Warranty Disclaimer

SePRO Corporation warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. SEPRO CORPORATION MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of SePRO Corporation or the seller. All such risks shall be assumed by Buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at SePRO's election, one of the following:

- (1) Refund of purchase price paid by buyer or use for product bought, or
- (2) Replacement of amount of product used.

SePRO Corporation shall not be liable for losses or damages resulting from handling or use of this product unless SePRO Corporation is promptly notified of such loss or damage in writing. In no case shall SePRO Corporation be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of SePRO Corporation or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

Directions for Use:

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Read all Directions Carefully Before Applying Sonar SRP.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Storage: Store in original container only. Do not store near feed or foodstuffs. In case of leak or spill, contain material and dispose as waste.

Pesticide Disposal: Wastes resulting from use of this product may be used according to label directions or disposed of at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

General Information

Sonar SRP herbicide is a selective systemic aquatic herbicide for management of aquatic vegetation in fresh water ponds, lakes, reservoirs, drainage canals, irrigation canals, and rivers. Sonar SRP is a pelleted formulation containing 5% fluridone. Sonar SRP is absorbed from water by plant shoots and from hydrosol by the roots of aquatic vascular plants. It is important to maintain the recommended concentration of Sonar SRP in contact with the weeds as long as possible. Rapid water movement or any condition which results in rapid dilution of Sonar SRP in treated water will reduce its effectiveness. In susceptible plants, Sonar SRP inhibits the formation of carotene. In the absence of carotene, chlorophyll is rapidly degraded by sunlight. Herbicidal symptoms of Sonar SRP appear in seven to ten days and appear as white (chlorotic) or pink growing points. Under optimum conditions 30 to 90 days are required before the desired level of aquatic weed management is achieved with Sonar SRP. Species susceptibility to Sonar SRP may vary depending on time of year, stage of growth and water movement. For best results, apply Sonar SRP prior to initiation of weed growth or when weeds begin active growth.

Sonar SRP is not corrosive to application equipment.

Special Use Precautions

Obtain Required Permits: Consult with appropriate state or local water authorities before applying this product. Permits may be required by state or local public agencies.

Potable Water Intakes: In lakes and reservoirs, do not apply Sonar SRP within one-fourth mile (1320 feet) of any functioning potable water intake.

Irrigation: Irrigation with Sonar SRP treated water may result in injury to the irrigated vegetation. DowEanco recommends informing those who irrigate from Sonar SRP treated areas of the irrigation time frames presented in the table below. These time frames are suggestions which should be followed to reduce the potential for injury to vegetation irrigated with Sonar SRP treated water:

Application Site	Days After Application		
	Established Tree Crops	Established Row Crops/Turf/Plants	Newly Seeded Crops/Seedbeds or Areas to be Planted Including Overseeded Golf Course Greens
¹ Ponds and Static Canals	7	30	30
Canals	7	7	30
Rivers	7	7	7
² Lakes and Reservoirs	7	7	7

¹For purposes of Sonar SRP labeling, a pond is defined as a body of water 10 acres or less in size. A lake or reservoir is greater than 10 acres.

²In lakes and reservoirs where one-half or greater of the body of water is treated, use the pond and static canal irrigation restrictions.

Weed Control Information

Vascular Aquatic Plants Controlled by Sonar SRP:

Submersed Plants:

Bladderwort (*Utricularia* spp.)
 Common coontail (*Ceratophyllum demersum*)
 Common Elodea (*Elodea canadensis*)
 Egeria, Brazilian Elodea (*Egeria densa*)
 Fanwort, Cabomba (*Cabomba caroliniana*)
 Hydrilla (*Hydrilla verticillata*)
 Naiad (*Najas* spp.)
 Pondweed (*Potamogeton* spp., except Illinois pondweed)
 Watermilfoil (*Myriophyllum* spp.)

Shoreline Grasses:

Paragrass (*Brachiaria mutica*)

Vascular Aquatic Plants Partially Controlled by Sonar SRP:

Alligatorweed (*Alternanthera philoxeroides*)
 American lotus (*Nelumbo lutea*)
 Cattail (*Typha* spp.)
 Creeping Waterprimrose (*Ludwigia peploides*)
 Giant cutgrass (*Zizaniopsis miliacea*)
 Illinois pondweed (*Potamogeton illinoensis*)
 Parrotfeather (*Myriophyllum brasiliense*)
 Reed Canarygrass (*Phalaris arundinaceae*)
 Smartweed (*Polygonum* spp.)
 Spatterdock (*Nuphar luteum*)
 Spikerush (*Eleocharis* spp.)
 Southern watergrass (*Hydrochloa carolinensis*)
 Torpedograss (*Panicum repens*)
 Waterlily (*Nymphaea* spp.)
 Waterpurslane (*Ludwigia palustris*)
 Watershield (*Brasenia schreber*)

Vascular Aquatic Plants Not Controlled by Sonar SRP:

- Algae (*Chara* and *Nitella*)
- American frogbit (*Limnobium spongia*)
- Arrowhead (*Sagittaria* spp.)
- Bacopa (*Bacopa* spp.)
- Big floatingheart, Banana Lily (*Nymphoides aquatica*)
- Bulrush (*Scirpus* spp.)
- Floating waterhyacinth (*Eichhornia crassipes*)
- Maidencane (*Panicum hemitomon*)
- Pickeralweed, lanceleaf (*Pontederia cordata*)
- Rush (*Juncus* spp.)
- Tapegrass, American Eelgrass (*Vallisneria americana*)
- Waterlettuce (*Pistia stratiotes*)
- Water pennywort (*Hydrocotyle umbellata*)

Application Directions

The aquatic plants present in the treatment site should be identified prior to application to determine their susceptibility to Sonar SRP. It is important to determine the area (acres) to be treated and the average depth in order to select the proper application rate. Do not exceed the maximum labeled rate for a given treatment site per annual growth cycle.

Application to Ponds

Sonar SRP may be applied to the entire surface area of a pond. Rates may be selected which are equivalent to addition of 0.06 to 0.09 ppm of active ingredient to the treated water, although actual concentrations in treated water may be substantially lower at any point in time due to the slow-release formulation of this product. Application rates of Sonar SRP necessary to obtain these active ingredient equivalents in treated water are shown in the following table. When average water depth of the treatment site is greater than 5 feet, apply 20 to 30 pounds of Sonar SRP per treated surface acre.

Average Water Depth of Treatment Site (feet)	Pounds of Sonar SRP per Treated Surface Acre
1	3.2 - 5
2	6.5 - 10
3	10 - 15
4	13 - 20
5	16 - 25

Use the higher rate within the rate range where there is a dense weed mass or when treating more difficult to control species.

Application to Lakes and Reservoirs

For best results in lakes and reservoirs, Sonar SRP treatment areas should be a minimum of 5 acres in size. Treatment of areas smaller than 5 acres or treatment of narrow strips such as boat lanes or shorelines may not produce satisfactory results due to dilution by untreated water. In lakes and reservoirs, do not apply Sonar SRP within one-fourth mile (1320 feet) of any functioning potable water intake.

Rates may be selected which are equivalent to addition of 0.075 to 0.15 ppm of active ingredient to the treated water, although actual concentrations in treated water may be substantially lower at any point in time due to the slow-release formulation of this product. Application rates of Sonar SRP necessary to obtain these active ingredient equivalents in treated water are shown in the following table. When average water depth of the treatment site is greater than 10 feet, apply 60 to 80 pounds of Sonar SRP per treated surface acre.

Average Water Depth of Treatment Site (feet)	Pounds of Sonar SRP per Treated Surface Acre
1	4 - 8
2	8 - 16
3	12 - 24
4	16 - 32
5	20 - 40
6	24 - 48
7	28 - 56
8	32 - 64
9	36 - 72
10	40 - 80

Use the higher rate within the rate range where there is a dense weed mass or when treating more difficult to control species.

Application Rate Calculation - Ponds, Lakes and Reservoirs

The amount of Sonar SRP to be applied to provide the desired ppm concentration of active ingredient equivalents in treated water may be calculated as follows:

$$\text{Pounds of Sonar SRP required per treated acre} = \text{Average water depth of treatment site} \times \text{Desired ppm concentration of active ingredient equivalents} \times 54$$

For example, the pounds per acre of Sonar SRP required to provide a concentration of 0.075 ppm of active ingredient equivalent in water with an average depth of 5 feet is calculated as follows:

$$5 \times 0.075 \times 54 = 20 \text{ pounds per treated surface acre.}$$

Note: Calculated rates should not exceed the maximum allowable rate in pounds per treated surface acre for the water depth listed in the application rate table for the site to be treated.

Application to Drainage Canals, Irrigation Canals and Rivers

In drainage canals, irrigation canals and rivers, Sonar SRP should be applied at the rate of 40 pounds per treated surface acre. Where water retention is possible, the performance of Sonar SRP will be enhanced by restricting water flow. In slow moving bodies of water, use an application pattern that will provide a uniform distribution and avoid concentration of the herbicide.

WARRANTY DISCLAIMER

DowElanco warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. DowElanco makes no other express or implied warranty of merchantability or fitness for a particular purpose or any other express or implied warranty.

INHERENT RISKS OF USE

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to the label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of DowElanco or the seller. All such risks shall be assumed by the buyer.

LIMITATION OF REMEDIES

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at DowElanco's election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought,
or
- (2) Replacement of amount of product used.

DowElanco shall not be liable for losses or damages resulting from handling or use of this product unless DowElanco is promptly notified of such loss or damage in writing. In no case shall DowElanco be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of DowElanco or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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LABEL CODE 113-36-004 DATE CODE 892
EPA APPROVAL 07/21/92

Revisions include:

1. Sonar SRP label reformatted and edited for clarity.
2. Precautionary Statements and Environmental Hazards sections updated.
3. Use prohibition in areas used for crayfish farming removed.
4. Weeds (plants) controlled section revised and plants "not controlled" by Sonar SRP added.
5. Application rate recommendations for ponds, lakes and reservoirs refined to provide more accurate control of herbicide concentrations in water.
6. Added DowElanco Warranty and Disclaimer, Inherent Risks of Use, and Limitation of Remedies sections.
7. Precautions section revised as per EPA request.

Appendix 9

Legal Taxing District Information

Chapter 36.61 RCW

LAKE MANAGEMENT DISTRICTS

Sections

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36.61.270	Imposition of rates and charges.

Boat trailer fee: RCW 46.16.670.

RCW 36.61.010 Purpose. The legislature finds that the environmental, recreational, and aesthetic values of many of the state's lakes are threatened by eutrophication and other deterioration and that existing governmental authorities are unable to adequately improve and maintain the quality of the state's lakes.

It is the purpose of this chapter to establish a governmental mechanism by which property owners can embark on a program of lake improvement and maintenance for their and the general public's benefit, health, and welfare. Public property, including state property, shall be considered the same as private property in this chapter, except liens for special assessments and liens for rates and charges shall not extend to public property. Lake bottom property shall not be considered to be benefited, shall not be subject to special assessments or rates and charges, and shall not receive voting rights under this chapter. [1987 c 432 § 1; 1985 c 398 § 1.]

RCW 36.61.020 Creation of district—Special assessments or rates and charges. Any county may create lake management districts to finance the improvement and maintenance of lakes located within or partially within the boundaries of the county. All or a portion of a lake and the adjacent land areas may be included within one or more lake management districts. More than one lake, or portions of lakes, and the adjacent land areas may be included in a single lake management district. A lake management district may be created for a period of up to ten years.

Special assessments or rates and charges may be imposed on the property included within a lake management district to finance lake improvement and maintenance activities, including: (1) The control or removal of aquatic plants and vegetation; (2) water quality; (3) the control of water levels; (4) storm water diversion and treatment; (5) agricultural waste control; (6) studying lake water quality problems and solutions; (7) cleaning and maintaining ditches and streams entering or leaving the lake; and (8) the related administrative, engineering, legal, and operational costs, including the costs of creating the lake management district.

Special assessments or rates and charges may be imposed annually on all the land in a lake management district for the duration of the lake management district without a related issuance of lake management district bonds or revenue bonds. Special assessments also may be imposed in the manner of special assessments in a local improvement district with each landowner being given the choice of paying the entire special assessment in one payment, or to paying installments, with lake management district bonds being issued to obtain moneys not derived by the initial full payment of the special assessments, and the installments covering all of the costs related to issuing, selling, and redeeming the lake management district bonds. [1987 c 432 § 2; 1985 c 398 § 2.]

Cities and towns authorized to establish lake management districts: RCW 35.21.403.

Flood control districts authorized to engage in activities under RCW 36.61.020: RCW 86.09.151.

RCW 36.61.030 Creation of district—Resolution or petition—Contents. A lake management district may be initiated upon either the adoption of a resolution of intention by a county legislative authority or the filing of a petition signed by ten landowners or the owners of at least fifteen percent of the acreage contained within the proposed lake management district, whichever is greater. A petition or resolution of intention shall set forth: (1) The nature of the lake improvement or maintenance activities proposed to be financed; (2) the amount of money proposed to be raised by special assessments or rates and charges; (3) if special assessments are to be imposed, whether the special assessments will be imposed annually for the duration of the lake management district, or the full special assessments will be

imposed at one time, with the possibility of installments being made to finance the issuance of lake management district bonds, or both methods; (4) if rates and charges are to be imposed, the annual amount of revenue proposed to be collected and whether revenue bonds payable from the rates and charges are proposed to be issued; (5) the number of years proposed for the duration of the lake management district; and (6) the proposed boundaries of the lake management district.

The county legislative authority may require the posting of a bond of up to five thousand dollars before the county considers the proposed creation of a lake management district initiated by petition. The bond may only be used by the county to finance its costs in studying, holding hearings, making notices, preparing special assessment rolls or rolls showing the rates and charges on each parcel, and conducting elections related to the lake management district if the proposed lake management district is not created.

A resolution of intention shall also designate the number of the proposed lake management district, and fix a date, time, and place for a public hearing on the formation of the proposed lake management district. The date for the public hearing shall be at least thirty days and no more than ninety days after the adoption of the resolution of intention unless an emergency exists.

Petitions shall be filed with the county legislative authority. The county legislative authority shall determine the sufficiency of the signatures, which shall be conclusive upon all persons. No person may withdraw his or her name from a petition after it is filed. If the county legislative authority determines a petition to be sufficient and the proposed lake management district appears to be in the public interest and the financing of the lake improvement or maintenance activities is feasible, it shall adopt a resolution of intention, setting forth all of the details required to be included when a resolution of intention is initiated by the county legislative authority. [1987 c 432 § 3; 1985 c 398 § 3.]

RCW 36.61.040 Creation of district—Public hearing—Notice—Contents. Notice of the public hearing shall be published in at least two consecutive issues of a newspaper of general circulation in the proposed lake management district, the date of the first publication to be at least fifteen days prior to the date fixed for the public hearing by the resolution of intention. Notice of the public hearing shall also be given to the owner or reputed owner of any lot, tract, parcel of land, or other property within the proposed lake management district by mailing the notice at least fifteen days before the date fixed for the public hearing to the owner or reputed owner of the property as shown on the tax rolls of the county assessor at the address shown thereon. Notice of the public hearing shall also be mailed to the departments of fish and wildlife and ecology at least fifteen days before the date fixed for the public hearing.

Notices of the public hearing shall: (1) Refer to the resolution of intention; (2) designate the proposed lake management district by number; (3) set forth a proposed plan describing: (a) The nature of the proposed lake improvement or maintenance activities; (b) the amount of special assessments or rates and charges proposed to be raised by

the lake management district; (c) if special assessments are proposed to be imposed, whether the special assessment will be imposed annually for the duration of the lake management district, or the full special assessments will be payable at one time, with the possibility of periodic installments being paid and lake management bonds being issued or both; (d) if rates and charges are proposed to be imposed, the annual amount of revenue proposed to be collected and whether revenue bonds payable from the rates and charges are proposed to be issued; and (e) the proposed duration of the lake management district; and (4) indicate the date, time, and place of the public hearing designated in the resolution of intention.

In the case of the notice sent to each owner or reputed owner by mail, the notice shall set forth the estimate amount of the cost of the lake improvement or maintenance activities to be borne by special assessment, or annual special assessments, or rates and charges on the lot, tract, parcel of land, or other property owned by the owner or reputed owner.

If the county legislative authority has designated a committee of itself or an officer to hear complaints and make recommendations to the full county legislative authority, as provided in RCW 36.61.060, the notice shall also describe this additional step before the full county legislative authority may adopt a resolution creating the lake management district. [1994 c 264 § 9; 1988 c 36 § 9; 1987 c 4 § 4; 1985 c 398 § 4.]

RCW 36.61.050 Creation of district—Public hearing—Amendments to original plan. The county legislative authority shall hold a public hearing on the proposed lake management district at the date, time, and place designated in the resolution of intention.

At this hearing the county legislative authority shall hear objections from any person affected by the formation of the lake management district. Representatives of the departments of fish and wildlife and ecology shall be afforded opportunities to make presentations on and comment on the proposal. Members of the public shall be afforded opportunity to comment on the proposal. The county legislative authority must consider recommendations provided to it by the departments of fish and wildlife and ecology. The public hearing may be extended to other times and dates declared at the public hearing. The county legislative authority may make such changes in the boundaries of the lake management district or such modification in plans for the proposed lake improvement or maintenance activities it deems necessary. The county legislative authority may change boundaries of the lake management district to include property that was not included previously without first passing an amended resolution of intention and giving notice to the owners or reputed owners of property not included in the proposed lake management district in the manner and form and within the time provided for in the original notice. The county legislative authority shall alter the plans for the proposed lake improvement or maintenance activities to result in an increase in the amount of money proposed to be raised, and shall not increase the amount of money proposed to be raised, without first passing an amended resolution of intention and giving new notice

property owners in the manner and form and within the time provided for the original notice. [1994 c 264 § 10; 1988 c 36 § 10; 1985 c 398 § 5.]

RCW 36.61.060 Creation of district—Public hearing—Legislative authority may delegate responsibility. A county legislative authority may adopt an ordinance providing for a committee of itself, or an officer, to hold public hearings on the proposed formation of a lake management district and hear objections to the proposed formation as provided in RCW 36.61.050. The committee or officer shall make a recommendation to the full legislative authority, which need not hold a public hearing on the proposed creation of the lake management district. The full county legislative authority by resolution may approve or disapprove the recommendation and submit the question of creating the lake management district to the property owners as provided in RCW 36.61.070 through 36.61.100. [1985 c 398 § 10.]

RCW 36.61.070 Creation of district—Submittal of question to landowners. After the public hearing, the county legislative authority may adopt a resolution submitting the question of creating the lake management district to the owners of land within the proposed lake management district, including publicly owned land, if the county legislative authority finds that it is in the public interest to create the lake management district and the financing of the lake improvement and maintenance activities is feasible. The resolution shall also include: (1) A plan describing the proposed lake improvement and maintenance activities which avoid adverse impacts on fish and wildlife and provide for appropriate measures to protect and enhance fish and wildlife; (2) the number of years the lake management district will exist; (3) the amount to be raised by special assessments or rates and charges; (4) if special assessments are to be imposed, whether the special assessments shall be imposed annually for the duration of the lake management district or only once with the possibility of installments being imposed and lake management bonds being issued, or both, and, if both types of special assessments are proposed to be imposed, the lake improvement or maintenance activities proposed to be financed by each type of special assessment; (5) if rates and charges are to be imposed, a description of the rates and charges and the possibility of revenue bonds being issued that are payable from the rates and charges; and (6) the estimated special assessment or rate and charge proposed to be imposed on each parcel included in the proposed lake management district.

No lake management district may be created by a county that includes territory located in another county without the approval of the legislative authority of the other county. [1987 c 432 § 5; 1985 c 398 § 6.]

RCW 36.61.080 Creation of district—Submittal of question to landowners—Mail ballot. A ballot shall be mailed to each owner or reputed owner of any lot, tract, parcel of land, or other property within the proposed lake management district, including publicly owned land, which ballot shall contain the following proposition:

"Shall lake management district No. . . . be formed?
Yes"

(1994)

No"

In addition, the ballot shall contain appropriate spaces for the signatures of the landowner or landowners, or officer authorized to cast such a ballot. Each ballot shall include a description of the property owner's property and the estimated special assessment, or rate and charge, proposed to be imposed upon the property. A copy of the instructions and the resolution submitting the question to the landowners shall also be included. [1987 c 432 § 6; 1985 c 398 § 7.]

RCW 36.61.090 Creation of district—Submittal of question to landowners—Balloting—Conditions. The balloting shall be subject to the following conditions, which shall be included in the instructions mailed with each ballot, as provided in RCW 36.61.080: (1) All ballots must be signed by the owner or reputed owner of property according to the assessor's tax rolls; (2) each ballot must be returned to the county legislative authority not later than five o'clock p.m. of a specified day, which shall be at least twenty but not more than thirty days after the ballots are mailed; (3) each property owner shall mark his or her ballot for or against the creation of the proposed lake management district, with the ballot weighted so that the property owner has one vote for each dollar of estimated special assessment or rate and charge proposed to be imposed on his or her property; and (4) the valid ballots shall be tabulated and a simple majority of the votes cast shall determine whether the proposed lake management district shall be approved or rejected. [1987 c 432 § 7; 1985 c 398 § 8.]

RCW 36.61.100 Creation of district—Submittal of question to landowners—Majority vote required—Adoption of ordinance. If the proposal receives a simple majority vote in favor of creating the lake management district, the county legislative authority shall adopt an ordinance creating the lake management district and may proceed with establishing the special assessments or rates and charges, collecting the special assessments or rates and charges, and performing the lake improvement or maintenance activities. If a proposed lake management district includes more than one lake and its adjacent areas, the lake management district may only be established if the proposal receives a simple majority vote in favor of creating it by the voters on each lake and its adjacent areas. The county legislative authority shall publish a notice in a newspaper of general circulation in a lake management district indicating that such an ordinance has been adopted within ten days of the adoption of the ordinance.

The ballots shall be available for public inspection after they are counted. [1987 c 432 § 8; 1985 c 398 § 9.]

RCW 36.61.110 Creation of district—Limitations on appeals. No lawsuit may be maintained challenging the jurisdiction or authority of the county legislative authority to proceed with the lake improvement and maintenance activities and creating the lake management district or in any way challenging the validity of the actions or decisions or any proceedings relating to the actions or decisions unless the lawsuit is served and filed no later than forty days after publication of a notice that the ordinance has been adopted ordering the lake improvement and maintenance activities

and creating the lake management district. Written notice of the appeal shall be filed with the county legislative authority and clerk of the superior court in the county in which the property is situated. [1985 c 398 § 11.]

RCW 36.61.115 Limitation on special assessments, rates and charges. A special assessment, or rate and charge, on any lot, tract, parcel of land, or other property shall not be increased beyond one hundred ten percent of the estimated special assessment, or rate and charge, proposed to be imposed as provided in the resolution adopted in RCW 36.61.070, unless the creation of a lake management district is approved under another mailed ballot election that reflects the weighted voting arising from such increases. [1987 c 432 § 9.]

RCW 36.61.120 Special assessment roll—Adoption—Public hearing. After a lake management district is created, the county shall prepare a proposed special assessment roll. A separate special assessment roll shall be prepared for annual special assessments if both annual special assessments and special assessments paid at one time are imposed. The proposed special assessment roll shall list: (1) Each separate lot, tract, parcel of land, or other property in the lake management district; (2) the acreage of such property, and the number of feet of lake frontage, if any; (3) the name and address of the owner or reputed owner of each lot, tract, parcel of land, or other property as shown on the tax rolls of the county assessor; and (4) the special assessment proposed to be imposed on each lot, tract, parcel of land, or other property, or the annual special assessments proposed to be imposed on each lot, tract, parcel of land, or other property.

At the time, date, and place fixed for a public hearing, the county legislative authority shall act as a board of equalization and hear objections to the special assessment roll, and at the times to which the public hearing may be adjourned, the county legislative authority may correct, revise, raise, lower, change, or modify the special assessment roll or any part thereof, or set the proposed special assessment roll aside and order a new proposed special assessment roll to be prepared. The county legislative authority shall confirm and approve a special assessment roll by adoption of a resolution.

If a proposed special assessment roll is amended to raise any special assessment appearing thereon or to include omitted property, a new public hearing shall be held. The new public hearing shall be limited to considering the increased special assessments or omitted property. Notices shall be sent to the owners or reputed owners of the affected property in the same manner and form and within the time provided for the original notice.

Objections to a proposed special assessment roll must be made in writing, shall clearly state the grounds for objections, and shall be filed with the governing body prior to the public hearing. Objections to a special assessment or annual special assessments that are not made as provided in this section shall be deemed waived and shall not be considered by the governing body or a court on appeal. [1985 c 398 § 12.]

RCW 36.61.130 Special assessment roll—Public hearing—Legislative authority may delegate responsibility—Appeals. A county legislative authority may adopt an ordinance providing for a committee of itself, or an officer to hear objections to the special assessment roll, act as a board of equalization, and make recommendations to the full county legislative authority, which need not hold a public hearing on the special assessment roll. The ordinance shall provide a process by which an appeal may be made in writing to the full county legislative authority by a person protesting his or her special assessment or annual special assessments as confirmed by the committee or officer. The full county legislative authority by resolution shall approve the special assessment roll, modify and approve the special assessment roll as a result of hearing objections, or reject the special assessment roll and return it to the committee or officer for further work and recommendations. No objection to the decision of the full county legislative authority approving the special assessment roll may be considered by a court unless an objection to the decision has been timely filed with the county legislative authority as provided in this section. [1985 c 398 § 13.]

RCW 36.61.140 Special assessment roll—Public hearing—Notice—Contents. Notice of the original public hearing on the proposed special assessment roll, and any public hearing held as a result of raising special assessments or including omitted property, shall be published and mailed to the owner or reputed owner of the property as provided in RCW 36.61.040 for the public hearing on the formation of the lake management district. However, the notice need not provide the total amount to be collected by the special assessment roll and shall state that: (1) A public hearing on the proposed special assessment roll will be held, giving the time, date, and place of the public hearing; (2) the proposed special assessment roll is available for public perusal, giving the times and location where the proposed special assessment roll is available for public perusal; (3) objections to the proposed special assessment must be in writing, include clear grounds for objections, and must be filed prior to the public hearing; and (4) failure to so object shall be deemed to waive an objection.

Notices mailed to the owners or reputed owners shall additionally indicate the amount of special assessment ascribed to the particular lot, tract, parcel of land, or other property owned by the person so notified. [1985 c 398 § 14.]

RCW 36.61.150 Special assessment roll—Appeal superior and appellate courts—Procedure. The decision of a county legislative authority upon any objection to a special assessment roll may be appealed to the superior court only if the objection had been timely made in the manner prescribed in this chapter. The appeal shall be made within ten days after publication of a notice that the resolution confirming the special assessment roll has been adopted. Filing written notice of the appeal with the county legislative authority and the clerk of the superior court in the county in which the real property is situated. The notice of appeal shall describe the property and set forth the objections of the appellant to the special assessment. Within ten days fr

the filing of such notice of appeal with the clerk of the superior court, the appellant shall file with the clerk of the court a transcript consisting of the special assessment roll and his or her objections thereto, together with the resolution confirming such special assessment roll and the record of the county legislative authority with reference to the special assessment or annual special assessments, which transcript, upon payment of the necessary fees therefor, shall be furnished by an officer of the county and by him or her certified to contain full, true, and correct copies of all matters and proceedings required to be included in the transcript. Such fees shall be the same as the fees payable to the county clerk for the preparation and certification of transcripts on appeal to the supreme court or the court of appeals in civil actions.

At the time of the filing of the notice of appeal with the clerk of the superior court a sufficient bond in the penal sum of two hundred dollars, with a surety or sureties thereon as provided by law for appeals in civil cases, shall be filed conditioned to prosecute such appeal without delay, and if unsuccessful, to pay all costs incurred by the county because of the appeal. The court may order the appellant, upon application therefor, to execute and file such additional bond or bonds as the necessity of the case may require.

Within three days after such transcript is filed in the superior court, the appellant shall give written notice to the county legislative authority that such transcript is filed. The notice shall state a time, not less than three days from the service thereof, when the appellant will call up the cause for hearing.

The superior court shall, at this time or at such further time as may be fixed by order of the court, hear and determine such appeal without a jury, and such cause shall have preference over all civil causes pending in the court, except proceedings under an act relating to eminent domain in such county and actions of forcible entry and detainer. The judgment of the court shall confirm, correct, modify, or annul the special assessment or annual special assessments insofar as the same affects the property of the appellant. A certified copy of the decision of the court shall be filed with the officer having custody of the special assessment roll, and he or she shall modify and correct such special assessment roll in accordance with the decision.

An appeal shall lie to the supreme court or the court of appeals from the judgment of the superior court, as in other cases, however, such appeal must be taken within fifteen days after the date of the entry of the judgment of the superior court, and the record and opening brief of the appellant in the cause shall be filed in the supreme court or the court of appeals within sixty days after the appeal is taken by notice as provided in this section. The time for filing the record and serving and filing of briefs may be extended by order of the superior court, or by stipulation of the parties concerned. The supreme court or the court of appeals on such appeal may correct, modify, confirm, or annul the special assessment or annual special assessments insofar as the same affects the property of the appellant. A certified copy of the order of the supreme court or the court of appeals upon such appeal shall be filed with the officer having custody of such special assessment roll, who shall thereupon modify and correct such special assessment roll in accordance with such decision. [1985 c 398 § 15.]

(1994)

RCW 36.61.160 Special assessments—Calculation. Whenever special assessments are imposed, all property included within a lake management district shall be considered to be the property specially benefited by the lake improvement or maintenance activities and shall be the property upon which special assessments are imposed to pay the costs and expenses of the lake improvement or maintenance activities, or such part of the costs and expenses as may be chargeable against the property specially benefited. The special assessments shall be imposed on property in accordance with the special benefits conferred on the property up to but not in excess of the total costs and expenses of the lake improvement or maintenance activities as provided in the special assessment roll.

Special assessments may be measured by front footage, acreage, the extent of improvements on the property, or any other factors that are deemed to fairly reflect special benefits, including those authorized under RCW 35.51.030. Special assessments may be calculated by using more than one factor. Zones around the public improvement may be used that reflect different levels of benefit in each zone that are measured by a front footage, acreage, the extent of improvements, or other factors.

Public property, including property owned by the state of Washington, shall be subject to special assessments to the same extent that private property is subject to the special assessments, except no lien shall extend to public property. [1987 c 432 § 10; 1985 c 398 § 16.]

RCW 36.61.170 Special assessments—Limitations. The total annual special assessments may not exceed the estimated cost of the lake improvement or maintenance activities proposed to be financed by such special assessments, as specified in the resolution of intention. The total of special assessments imposed in a lake management district that are of the nature of special assessments imposed in a local improvement district shall not exceed one hundred fifty percent of the estimated total cost of the lake improvement or maintenance activities that are proposed to be financed by the lake management district as specified in the resolution of intention. After a lake management district has been created, the resolution of intention may be amended to increase the amount to be financed by the lake management district by using the same procedure in which a lake management district is created. [1985 c 398 § 17.]

RCW 36.61.180 Special assessments—Modification. Whenever annual special assessments are being imposed, the county legislative authority may modify the level of annual special assessments imposed by conforming with the procedures and subject to the limitations included in RCW 36.61.120 through 36.61.170. [1985 c 398 § 18.]

RCW 36.61.190 Special assessments—Collection—Notice. Special assessments and installments on any special assessment shall be collected by the county treasurer.

The county treasurer shall publish a notice indicating that the special assessment roll has been confirmed and that the special assessments are to be collected. The notice shall indicate the duration of the lake management district and shall describe whether the special assessments will be paid

in annual payments for the duration of the lake management district, or whether the full special assessments will be payable at one time, with the possibility of periodic installments being paid and lake management bonds being issued, or both.

If the special assessments are to be payable at one time, the notice additionally shall indicate that all or any portion of the special assessments may be paid within thirty days from the date of publication of the first notice without penalty or interest. This notice shall be published in a newspaper of general circulation in the lake management district.

Within ten days of the first newspaper publication, the county treasurer shall notify each owner or reputed owner of property whose name appears on the special assessment roll, at the address shown on the special assessment roll, for each item of property described on the list: (1) Whether one special assessment payable at one time or special assessments payable annually have been imposed; (2) the amount of the property subject to the special assessment or annual special assessments; and (3) the total amount of the special assessment due at one time, or annual amount of special assessments due. If the special assessment is due at one time, the notice shall also describe the thirty-day period during which the special assessment may be paid without penalty, interest, or cost. [1985 c 398 § 19.]

RCW 36.61.200 Special assessments—Payment period—Interest and penalty. If the special assessments are to be payable at one time, all or any portion of any special assessment may be paid without interest, penalty, or costs during this thirty-day period and placed into a special fund to defray the costs of the lake improvement or maintenance activities. The remainder shall be paid in installments as provided in a resolution adopted by the county legislative authority, but the last installment shall be due at least two years before the maximum term of the bonds issued to pay for the improvements or maintenance. The installments shall include amounts sufficient to redeem the bonds issued to pay for the lake improvement and maintenance activities. A twenty-day period shall be allowed after the due date of any installment within which no interest, penalty, or costs on the installment may be imposed.

The county shall establish by ordinance an amount of interest that will be imposed on late special assessments imposed annually or at once, and on installments of a special assessment. The ordinance shall also specify the penalty, in addition to the interest, that will be imposed on a late annual special assessment, special assessment, or installment which shall not be less than five percent of the delinquent special assessment or installment.

The owner of any lot, tract, parcel of land, or other property charged with a special assessment may redeem it from all liability for the unpaid amount of the installments by paying, to the county treasurer, the remaining portion of the installments that is attributable to principal on the lake management district bonds. [1985 c 398 § 20.]

RCW 36.61.210 Special assessments—Subdivision of land—Segregation of assessment. Whenever any land against which there has been levied any special assessment

or annual special assessments by any county has been sold in part, subdivided, or short subdivided, the county legislative authority may order a segregation of the special assessment or annual special assessments. If an installment has been made, the segregation shall apportion the remaining installments on the parts or lots created.

Any person desiring to have such a special assessment or annual special assessments against a tract of land segregated to apply to smaller parts thereof shall apply to the county legislative authority which levied the special assessment or annual special assessments. If the county legislative authority determines that a segregation should be made, it shall by resolution order the county treasurer to segregate the special assessment or annual special assessments on the original assessment roll as directed in the resolution. The segregation shall be made as nearly as possible on the same basis as the original special assessment or annual special assessments were levied, and the total of the segregated parts of the special assessment or annual special assessments shall equal the amount of the special assessment or annual special assessments unpaid before segregation. The resolution shall describe the original tract and the amount and date of the original special assessment or annual special assessments and shall define the boundaries of the divided parts and the amount of the special assessment or annual special assessments chargeable to each part. A certified copy of the resolution shall be delivered to the county treasurer who shall proceed to segregate the special assessment or annual special assessments upon being tendered a fee of three dollars for each tract of land for which a segregation is to be made. In addition to such charge the county legislative authority may require as a condition to the order of segregation that the person seeking it pay the local government the reasonable engineering and clerical costs incident to making the segregation. [1985 c 398 § 21.]

RCW 36.61.220 Special assessments—Filing with county treasurer. Within fifteen days after a county create a lake management district, the county shall cause to be filed with the county treasurer, a description of the lake improvement and maintenance activities proposed that the lake management district finances, the lake management district number, and a copy of the diagram or print showing the boundaries of the lake management district and preliminary special assessment roll or abstract of same showing thereon the lots, tracts, parcels of land, and other property that will be specially benefited thereby and the estimated cost and expense of such lake improvement and maintenance activities to be borne by each lot, tract, parcel of land, or other property. The treasurer shall immediately post the proposed special assessment roll upon his or her index of special assessments against the properties affected by the lake improvement or maintenance activities. [1985 c 398 § 22]

RCW 36.61.230 Special assessments—Lien created. The special assessment or annual special assessment imposed upon the respective lots, tracts, parcels of land, or other property in the special assessment roll or annual special assessment roll confirmed by resolution of the county legislative authority for the purpose of paying the cost and expense in whole or in part of any lake improvement

maintenance activities shall be a lien upon the property assessed from the time the special assessment roll is placed in the hands of the county treasurer for collection, but as between the grantor and grantee, or vendor and vendee of any real property, when there is no express agreement as to payment of the special assessments against the real property, the lien of such special assessments shall attach thirty days after the filing of the diagram or print and the estimated cost and expense of such lake improvement or maintenance activities to be borne by each lot, tract, parcel of land, or other property, as provided in RCW 36.61.220. Interest and penalty shall be included in and shall be a part of the special assessment lien. No lien shall extend to public property subjected to special assessments.

The special assessment lien shall be paramount and superior to any other lien or encumbrance theretofore or thereafter created except a lien for general taxes. [1985 c 398 § 23.]

RCW 36.61.240 Special assessments—Lien—Validity—Foreclosure. Special assessments shall be valid and enforceable as such and the lien thereof on the property assessed shall be valid if the county legislative authority in making the special assessments acted in good faith and without fraud. Delinquent special assessments or installments shall be foreclosed in the same manner as special assessments are foreclosed under chapter 36.94 RCW. Public property subject to special assessments shall not be subject to liens. [1985 c 398 § 24.]

RCW 36.61.250 Special assessments—Legislative authority may stop. The county legislative authority may stop the imposition of annual special assessments if, in its opinion, the public interest will be served by such action. [1985 c 398 § 25.]

RCW 36.61.260 Bonds. (1) Counties may issue lake management district bonds in accordance with this section. Lake management district bonds may be issued to obtain money sufficient to cover that portion of the special assessments that are not paid within the thirty-day period provided in RCW 36.61.190. The maximum term of lake management district bonds shall be ten years.

Whenever lake management district bonds are proposed to be issued, the county legislative authority shall create a special fund or funds for the lake management district from which all or a portion of the costs of the lake improvement and maintenance activities shall be paid. Lake management district bonds shall not be issued in excess of the costs and expenses of the lake improvement and maintenance activities and shall not be issued prior to twenty days after the thirty days allowed for the payment of special assessments without interest or penalties.

Lake management district bonds shall be exclusively payable from the special fund or funds and from a guaranty fund that the county may have created out of a portion of proceeds from the sale of the lake management district bonds.

(2) Lake management district bonds shall not constitute a general indebtedness of the county issuing the bond nor an obligation, general or special, of the state. The owner of any

lake management district bond shall not have any claim for the payment thereof against the county that issues the bonds except for payment from the special assessments made for the lake improvement or maintenance activities for which the lake management district bond was issued and from a lake management district guaranty fund that may have been created. The county shall not be liable to the owner of any lake management district bond for any loss to the lake management district guaranty fund occurring in the lawful operation of the fund. The owner of a lake management district bond shall not have any claim against the state arising from the lake management district bond, special assessments, or guaranty fund. Tax revenues shall not be used to secure or guarantee the payment of the principal of or interest on lake management district bonds.

The substance of the limitations included in this subsection shall be plainly printed, written, engraved, or reproduced on: (a) Each lake management district bond that is a physical instrument; (b) the official notice of sale; and (c) each official statement associated with the lake management district bonds.

(3) If the county fails to make any principal or interest payments on any lake management district bond or to promptly collect any special assessment securing the bonds when due, the owner of the lake management district bond may obtain a writ of mandamus from any court of competent jurisdiction requiring the county to collect the special assessments, foreclose on the related lien, and make payments out of the special fund or guaranty fund if one exists. Any number of owners of lake management districts may join as plaintiffs.

(4) A county may create a lake management district bond guaranty fund for each issue of lake management district bonds. The guaranty fund shall only exist for the life of the lake management district bonds with which it is associated. A portion of the bond proceeds may be placed into a guaranty fund. Unused moneys remaining in the guaranty fund during the last two years of the installments shall be used to proportionally reduce the required level of installments and shall be transferred into the special fund into which installment payments are placed.

(5) Lake management district bonds shall be issued and sold in accordance with chapter 39.46 RCW. The authority to create a special fund or funds shall include the authority to create accounts within a fund. [1985 c 398 § 26.]

RCW 36.61.270 Imposition of rates and charges. Whenever rates and charges are to be imposed in a lake management district, the county legislative authority shall prepare a roll of rates and charges that includes those matters required to be included in a special assessment roll and shall hold a public hearing on the proposed roll of rates and charges as provided under RCW 36.61.120 through 36.61.150 for a special assessment roll. The county legislative authority shall have full jurisdiction and authority to fix, alter, regulate, and control the rates and charges imposed by a lake management district and may classify the rates or charges by any reasonable factor or factors, including benefit, use, front footage, acreage, the extent of improvements on the property, the type of improvements on the property, uses to which the property is put, service to be

provided, and any other reasonable factor or factors. The flexibility to establish rates and charges includes the authority to reduce rates and charges on property owned by low-income persons.

Except as provided in this section, the collection of rates and charges, lien status of unpaid rates and charges, and method of foreclosing on such liens shall be subject to the provisions of chapter 36.94 RCW. Public property, including state property, shall be subject to the rates and charges to the same extent that private property is subject to them, except that liens may not be foreclosed on the public property, and the procedure for imposing such rates and charges on state property shall conform with the procedure provided for in chapter 79.44 RCW concerning the imposition of special assessments upon state property. The total amount of rates and charges cannot exceed the cost of lake improvement or maintenance activities proposed to be financed by such rates and charges, as specified in the resolution of intention. Revenue bonds exclusively payable from the rates and charges may be issued by the county under chapter 39.46 RCW. [1987 c 432 § 11.]

Title 56

SEWER DISTRICTS

Chapters

- 56.02 General provisions.
- 56.04 Formation and dissolution.
- 56.08 Powers—Comprehensive plan.
- 56.12 Commissioners.
- 56.16 Finances.
- 56.20 Utility local improvement districts.
- 56.22 Contracts for sewer extensions.
- 56.24 Annexation of territory.
- 56.28 Withdrawal of territory.
- 56.32 Consolidation or merger of districts—
Transfer of part of district.
- 56.36 Merger of water districts into sewer district—
Merger of sewer districts into water district.
- 56.40 Voluntary contributions to assist low-income customers.

Annexation of district territory to cities and towns: Chapter 35.13A RCW.

Aquifer protection areas: Chapter 36.36 RCW.

Assumption of jurisdiction over district or territory by city or town: Chapter 35.13A RCW.

Boundary review board, extension of permanent sewer service outside corporate boundaries to go before: RCW 36.93.090.

City and town sewerage systems, authority, elections: Chapter 35.67 RCW.

City sewerage, drainage, and water supply: RCW 35.21.210.

Conveyance of real property by public bodies—Recording: RCW 65.08.095.

County sewerage systems, authority, procedure: Chapter 36.94 RCW.

*Hospitalization and medical aid for public employees and dependents—
Premiums, governmental contributions authorized: RCW 41.04.180, 41.04.190.*

Local governmental organizations, actions affecting boundaries, etc., review by boundary review board: Chapter 36.93 RCW.

Metropolitan municipal corporations: Chapter 35.58 RCW.

Municipal corporation may authorize investment of funds which are in custody of county treasurer or other municipal corporation treasurer: RCW 36.29.020.

Port district may provide sewer and water utilities in adjacent areas: RCW 53.08.040.

Public bodies may retain collection agencies to collect public debts: RCW 19.16.500.

Sewerage improvement districts: Title 85 RCW.

Water district may establish and operate sewer systems: RCW 57.08.065.

Chapter 56.02

GENERAL PROVISIONS

Sections

- 56.02.010 Petition signatures of property owners—Rules governing.
- 56.02.020 Claims against districts.
- 56.02.030 Validation—1959 c 103.
- 56.02.040 Title to be liberally construed.
- 56.02.050 Jurisdiction of elections in joint sewer districts—Filing of declarations of candidacy—Joint sewer district defined.

- 56.02.055 Districts comprising territory in more than one county—
Delegation of duties—Exceptions.
- 56.02.060 Sewer district activities to be approved—Criteria for approval by county legislative authority.
- 56.02.070 Approval by county legislative authority final, when—
Boundary review board approval.
- 56.02.080 Formation of districts validated.
- 56.02.100 Sewer districts desiring to merge into irrigation districts—
Procedure.
- 56.02.110 Board of commissioners may notify property owners about petitions under chapter 56.20 or 56.24 RCW—Review of petitions—Information.
- 56.02.120 Ratification of actions for the formation, annexation, consolidation, or merger of sewer districts prior to July 10, 1982.

**56.02.010 Petition signatures of property owners—
Rules governing.** Wherever in Title 56 RCW petitions are required to be signed by the owners of property, the following rules shall govern the sufficiency thereof:

(1) The signature of a record owner, as determined by the records of the county auditor, shall be sufficient without the signature of his or her spouse.

(2) In the case of mortgaged property, the signature of the mortgagor shall be sufficient.

(3) In the case of property purchased on contract, the signature of the contract purchaser, as shown by the records of the county auditor, shall be deemed sufficient.

(4) Any officer of a corporation owning land in the district duly authorized to execute deeds or encumbrances on behalf of the corporation may sign on behalf of such corporation, provided that there shall be attached to the petition a certified excerpt from the bylaws showing such authority.

(5) If any property in the district stands in the name of a deceased person or any person for whom a guardian has been appointed the signature of the executor, administrator or guardian, as the case may be, shall be equivalent to the signature of the owner of the property. [1953 c 250 § 26.]

56.02.020 Claims against districts. See chapter 4.96 RCW.

56.02.030 Validation—1959 c 103. All debts, contracts and obligations heretofore made or incurred by or in favor of any sewer district, all bonds, warrants, or other obligations issued by such districts, any connection or service charges made by such districts, any and all assessments heretofore levied in any utility local improvement districts of any sewer districts, and all other things and proceedings relating thereto done or taken by such sewer districts or by their respective officers are hereby declared to be legal and valid and of full force and effect from the date thereof: PROVIDED, That nothing in this section shall apply to ultra vires acts or acts of fraud committed by the officers or agents of said district. [1959 c 103 § 17.]

Severability—1959 c 103: See note following RCW 56.08.010.

56.02.040 Title to be liberally construed. The rule of strict construction shall have no application to this title, but the same shall be liberally construed to carry out the purposes and objects for which this title is intended. [1959 c 103 § 18.]

Severability—1959 c 103: See note following RCW 56.08.010.

56.02.050 Jurisdiction of elections in joint sewer districts—Filing of declarations of candidacy—Joint sewer district defined. (1) Jurisdiction of any general election or special election held on the same date as a general election in a joint sewer district shall rest with the county auditor of each of the counties in which the joint sewer district is located. Election returns of such elections shall be canvassed by the canvassing board of each county and the official results certified to the county auditor of the county in which fifty-one percent or more of the area of the joint sewer district is located. Such county auditor shall then combine the official results from each county in which the joint sewer district is located into a single official result.

(2) Jurisdiction of any special election held on a different date than a general election in a joint sewer district shall rest with the county auditor of the county in which fifty-one percent or more of the area of the joint sewer district is located. Election returns of such elections shall be canvassed by the canvassing board of such county and certified to the county auditor of such county as required by law.

(3) Elections referred to in subsections (1) and (2) of this section shall be conducted as provided by such subsections and by the general election laws not inconsistent therewith.

(4) Candidates for the office of sewer commissioner in a joint sewer district shall file declarations of candidacy with the county auditor of the county in which fifty-one percent or more of the area of the joint sewer district is located and their election shall be conducted as provided by this section and by the general election laws not inconsistent herewith. The candidate receiving the greatest number of votes for each sewer commissioner position shall be declared elected.

For the purposes of this section, "joint sewer district" means any sewer district composed of territory lying in more than one county. [1971 ex.s. c 272 § 12.]

56.02.055 Districts comprising territory in more than one county—Delegation of duties—Exceptions. Whenever the boundaries or proposed boundaries of a sewer district include or are proposed to include by means of formation, annexation, consolidation, or merger (including merger with a water district) territory in more than one county, all duties delegated by Title 56 RCW to officers of the county in which the district is located shall be delegated to the officers of the county in which the largest land area of the district is located, except that elections shall be conducted pursuant to RCW 56.02.050, actions subject to review and approval under RCW 56.02.060 and 56.02.070 shall be reviewed and approved by only the officers or boards in the county in which such actions are proposed to occur, verification of electors' signatures shall be conducted by the county election officer of the county in which such signatories reside,

and comprehensive plan review and approval or rejection by the respective county legislative authorities under RCW 56.08.020 shall be limited to that part of such plans within the respective counties. [1982 1st ex.s. c 17 § 1.]

56.02.060 Sewer district activities to be approved—Criteria for approval by county legislative authority. Notwithstanding any provision of law to the contrary, no sewer district shall be formed or reorganized under chapter 56.04 RCW, nor shall any sewer district annex territory under chapter 56.24 RCW, nor shall any sewer district withdraw territory under chapter 56.28 RCW, nor shall any sewer district consolidate or be merged under chapter 56.32 RCW, nor shall any water district be merged into a sewer district under chapter 56.36 RCW, unless such proposed action shall be approved as provided for in RCW 56.02.070.

The county legislative authority shall within thirty days after receiving notice of the proposed action, approve such action or hold a hearing on such action. In addition, a copy of such proposed action shall be mailed to the state department of ecology and to the state department of social and health services.

The county legislative authority shall decide within sixty days of a hearing whether to approve or not approve such proposed action. In approving or not approving the proposed action, the county legislative authority shall consider the following criteria:

(1) Whether the proposed action in the area under consideration is in compliance with the development program which is outlined in the county comprehensive plan and its supporting documents; and/or

(2) Whether the proposed action in the area under consideration is in compliance with the basinwide water and/or sewage plan as approved by the state department of ecology and the state department of social and health services; and/or

(3) Whether the proposed action is in compliance with the policies expressed in the county plan for water and/or sewage facilities.

If the proposed action is inconsistent with subsections (1), (2), or (3) of this section, the county legislative authority shall not approve it. If such action is consistent with all such subsections, the county legislative authority shall approve it unless it finds that utility service in the area under consideration will be most appropriately served by the county itself under the provisions of chapter 36.94 RCW, by a city, town, or municipality, or by another existing special purpose district rather than by the proposed action under consideration. If there has not been adopted for the area under consideration a plan under any one of subsections (1), (2) or (3) of this section, the proposed action shall not be found inconsistent with such subsection.

Where a sewer district is proposed to be formed, and where no boundary review board has been established, the petition described in RCW 56.04.030 shall serve as the notice of proposed action under this section, and the hearing provided for in RCW 56.04.040 shall serve as the hearing provided for in this section and in RCW 56.02.070. [1988 c 162 § 5; 1971 ex.s. c 139 § 1.]

56.02.070 Approval by county legislative authority final, when—Boundary review board approval. In any county where a boundary review board, as provided in chapter 36.93 RCW, has not been established, the approval of the proposed action shall be by the county legislative authority pursuant to RCW 56.02.060 and 57.02.040, and shall be final and the procedures required to adopt such proposed action shall be followed as provided by law.

In any county where a boundary review board, as provided in chapter 36.93 RCW, has been established, notice of intention of the proposed action shall be filed with the board as required by RCW 36.93.090 and a copy thereof with the legislative authority. The latter shall transmit to the board a report of its approval or disapproval of the proposed action together with its findings and recommendations thereon under the provisions of RCW 56.02.060 and 57.02.040. If the county legislative authority has approved of the proposed action, such approval shall be final and the procedures required to adopt such proposal shall be followed as provided by law, unless the board reviews the action under the provisions of RCW 36.93.100 through 36.93.180. If the county legislative authority has not approved the proposed action, the board shall review the action under the provisions of RCW 36.93.150 through 36.93.180. Action of the board after review of the proposed action shall supersede approval or disapproval by the county legislative authority.

Where a water or sewer district is proposed to be formed, and where no boundary review board has been established, the hearings provided for in RCW 56.04.040 and 57.04.030 shall serve as the hearing provided for in this section, in RCW 56.02.060, and in RCW 57.02.040. [1988 c 162 § 6; 1971 ex.s. c 139 § 3.]

1988 validation: RCW 57.06.180.

56.02.080 Formation of districts validated. The existence of all sewer districts formed in counties without a boundary review board in compliance with the requirements of chapter 56.04 RCW, whether or not the requirements of RCW 56.02.060 and 56.02.070 were satisfied, is validated and such districts shall be deemed to be legally formed. [1988 c 162 § 8.]

56.02.100 Sewer districts desiring to merge into irrigation districts—Procedure. The procedure and provisions of RCW 85.08.830 through 85.08.890, which are applicable to drainage improvement districts, joint drainage improvement districts, or consolidated drainage improvement districts which desire to merge into an irrigation district, shall also apply to sewer districts organized, or reorganized, under this title which desire to merge into irrigation districts.

The authority granted by this section shall be cumulative and in addition to any other power or authority granted by law to any sewer district. [1977 ex.s. c 208 § 3.]

Merger of irrigation district with drainage, joint drainage, consolidated drainage improvement, or sewer district: RCW 87.03.720, 87.03.725.

56.02.110 Board of commissioners may notify property owners about petitions under chapter 56.20 or 56.24 RCW—Review of petitions—Information. (1) The board of commissioners of a sewer district may notify the owner or reputed owner of any tract, parcel of land, or other

property located within the area included in a petition for a local improvement district being circulated under chapter 56.20 RCW or in a petition for annexation being circulated under chapter 56.24 RCW.

(2) Upon the request of any person, the board of commissioners of a sewer district may:

(a) Review a proposed petition to check if the petition is properly drafted; and

(b) Provide information regarding the effects of the adoption of any proposed petition. [1979 c 35 § 3.]

56.02.120 Ratification of actions for the formation, annexation, consolidation, or merger of sewer districts prior to July 10, 1982. All actions taken in regard to the formation, annexation, consolidation, or merger of sewer districts prior to July 10, 1982, but consistent with this title, as amended, are hereby approved and ratified and shall be legal for all purposes. [1982 1st ex.s. c 17 § 2.]

Chapter 56.04

FORMATION AND DISSOLUTION

Sections

- 56.04.001 Actions subject to review by boundary review board.
- 56.04.020 Districts authorized—System of sewers defined.
- 56.04.030 Petition or resolution—Notice of hearing.
- 56.04.040 Hearing—Boundaries.
- 56.04.050 Election—Time—Notice—Ballots—Excess tax levy.
- 56.04.060 Canvass—District created—Name.
- 56.04.065 Alternative method of formation.
- 56.04.070 When two or more petitions are filed.
- 56.04.080 County election board to conduct elections—Expenses.
- 56.04.090 Dissolution.
- 56.04.100 Disincorporation of district located in county with a population of two hundred ten thousand or more and inactive for five years.
- 56.04.110 Sewer district activities to be approved—Criteria for approval by county legislative authority.
- 56.04.120 Sewerage improvement districts located in counties with populations of from forty thousand to less than seventy thousand become sewer districts.
- 56.04.130 Sewerage improvement districts operating as sewer districts become sewer districts—Procedure.

Elections: Title 29 RCW.

56.04.001 Actions subject to review by boundary review board. Actions taken under chapter 56.04 RCW may be subject to potential review by a boundary review board under chapter 36.93 RCW. [1989 c 84 § 50.]

56.04.020 Districts authorized—System of sewers defined. Sewer districts for the acquirement, construction, maintenance, operation, development, reorganization, and regulation of a system of sewers, including treatment and disposal plants and all necessary appurtenances and providing for additions and betterments thereto, are hereby authorized to be established or reorganized in the various counties of this state. A system of sewers means and includes: Sanitary sewage disposal sewers, combined sanitary sewage disposal and storm or surface water sewers, storm or surface water sewers, outfalls for storm or sanitary sewage, and works, plants, and facilities for sanitary sewage treatment and disposal, or any combination of or part of any or all of such facilities. Such districts may include within their

created under Title 56 RCW, upon being so ordered by the county legislative authority of the county in which such district is located after a hearing of which notice is given by publication in a newspaper of general circulation within the district and mailed to any known creditors, holders of contracts and obligees at least thirty days prior to such hearing. After such hearing if the county legislative authority finds the converting of such district to be in the best interest of that district, it shall order that such sewer improvement district shall become a sewer district and fix the date of such conversion. All debts, contracts and obligations created while attempting to organize or operate a sewerage improvement district and all other financial obligations and powers of the district to satisfy such obligations established under Title 85 RCW are legal and valid until they are fully satisfied or discharged under Title 85 RCW.

(2) The board of supervisors of a sewerage improvement district in a county with a population of from forty thousand to less than seventy thousand shall act as the board of commissioners of the sewer district created under subsection (1) of this section until other members of the board of commissioners of the sewer district are elected and qualified. There shall be an election on the same date as the 1979 state general election and the seats of all three members of the governing authority of every entity which was previously known as a sewerage improvement district in a county with a population of from forty thousand to less than seventy thousand shall be up for election. The election shall be held in the manner provided for in RCW 56.12.020 for the election of the first board of commissioners of a sewer district. Thereafter, the terms of office of the members of the governing body shall be determined under RCW 56.12.020. [1991 c 363 § 136; 1979 c 35 § 1.]

Purpose—Captions not law—1991 c 363: See notes following RCW 2.32.180.

56.04.130 Sewerage improvement districts operating as sewer districts become sewer districts—Procedure. Any sewerage improvement district which has been operating as a sewer district shall be a sewer district under this title as of March 16, 1979 upon being so ordered by the board of county commissioners of the county in which such district is located after a hearing of which notice is given by publication in a newspaper of general circulation within the district and mailed to any known creditors, holders of contracts and obligees at least thirty days prior to such hearing. After such hearing if the board of county commissioners finds that the sewerage improvement district was operating as a sewer district and that the converting of such district will be in the best interest of that district, it shall order that such sewer improvement district shall become a sewer district immediately upon the passage of the resolution containing such order. The debts, contracts and obligations of any sewerage improvement district which has been erroneously operating as a sewer district are recognized as legal and binding. The members of the government authority of any sewerage improvement district which has been operating as a sewer district and who were erroneously elected as sewer district commissioners shall be recognized as the governing authority of a sewer district. The members of the governing authority shall continue in office for the term for which they were elected. [1979 c 35 § 2.]

[Title 56 RCW—page 6]

Chapter 56.08

POWERS—COMPREHENSIVE PLAN

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56.08.012	Public property subject to rates and charges for storm water control facilities.
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	<i>Special purpose districts, expenditures to recruit job candidates: RCW 42.24.170.</i>

56.08.010 Power to acquire property and rights—Eminent domain—Construction and operation of system—Generation of electricity—Rates and charges. A sewer district may acquire by purchase or by condemnation and purchase all lands, property rights, water, and water rights, both within and without the district, necessary for its purposes. A sewer district may lease real or personal property necessary for its purposes for a term of years for which such leased property may reasonably be needed where

in the opinion of the board of sewer commissioners such property may not be needed permanently or substantial savings to the district can be effected thereby. The right of eminent domain shall be exercised in the same manner and by the same procedure as provided for cities and towns, insofar as consistent with the provisions of this title, except that all assessments or reassessment rolls required to be filed by eminent domain commissioners or commissioners appointed by the court shall be prepared and filed by the district, and the duties devolving upon the city treasurer shall be imposed upon the county treasurer for the purposes hereof. A sewer district may construct, condemn and purchase, add to, maintain, and operate systems of sewers for the purpose of furnishing the district and inhabitants thereof with an adequate system of sewers for all uses and purposes, public and private, including but not limited to on-site sewage disposal facilities, approved septic tanks or approved septic tank systems, other facilities and systems for the collection, interception, treatment, and disposal of wastewater, and for the control of pollution from wastewater and for the protection, preservation, and rehabilitation of surface and underground waters, facilities for the drainage of storm or surface waters, public highways, streets, and roads with full authority to regulate the use and operation thereof and the service rates to be charged and may construct, acquire, or own buildings and other necessary district facilities. Such sewage facilities may include facilities which result in combined sewage disposal, treatment, or drainage and electric generation, provided that the electricity generated thereby is a byproduct of the system of sewers. Such electricity may be used by the sewer district or sold to any entity authorized by law to distribute electricity. Such electricity is a byproduct when the electrical generation is subordinate to the primary purpose of sewage disposal, treatment, or drainage. For such purposes a district may conduct sewage throughout the district and throughout other political subdivisions within the district, and construct and lay sewer pipe along and upon public highways, roads, and streets, within and without the district, and condemn and purchase or acquire land and rights of way necessary for such sewer pipe. A district may erect sewage treatment plants, within or without the district, and may acquire by purchase or condemnation, properties or privileges necessary to be had to protect any lakes, rivers, or watercourses and also other areas of land from pollution, from its sewers or its sewage treatment plant. For the purposes of sewage facilities which include facilities which result in combined sewage disposal, treatment, or drainage and electric generation where the electric generation is a byproduct, nothing in this section may be construed to authorize a district to condemn electric generating, transmission, or distribution rights or facilities of entities authorized by law to distribute electricity, or to acquire such rights or facilities without the consent of the owner. A district may charge property owners seeking to connect to the district system of sewers, as a condition to granting the right to so connect, in addition to the cost of such connection, such reasonable connection charge as the board of commissioners shall determine to be proper in order that such property owners shall bear their equitable share of the cost of such system. For purposes of calculating a connection charge, the board of commissioners shall determine the pro rata share of the cost of existing facilities and

facilities planned for construction within the next ten years and contained in an adopted comprehensive plan and other costs borne by the district which are directly attributable to the improvements required by property owners seeking to connect to the system. The cost of existing facilities shall not include those portions of the system which have been donated or which have been paid for by grants.

The connection charge may include interest charges applied from the date of construction of the sewer system until the connection, or for a period not to exceed ten years, whichever is shorter, at a rate commensurate with the rate of interest applicable to the district at the time of construction or major rehabilitation of the sewer system, or at the time of installation of the sewer lines to which the property owner is seeking to connect.

A district may permit payment of the cost of connection and the reasonable connection charge to be paid with interest in installments over a period not exceeding fifteen years. The county treasurer may charge and collect a fee of three dollars per parcel for each year for the treasurer's services. Such fees shall be a charge to be included as part of each annual installment, and shall be credited to the county current expense fund by the county treasurer. A district may compel all property owners within the sewer district located within an area served by the district system of sewers to connect their private drain and sewer systems with the district system under such penalty as the sewer commissioners shall prescribe by resolution. The district may for such purpose enter upon private property and connect the private drains or sewers with the district system and the cost thereof shall be charged against the property owner and shall be a lien upon property served.

Revenues from connection charges excluding permit fees are to be considered payments in aid of construction as defined by department of revenue rule. [1989 c 389 § 2; 1989 c 308 § 1; 1987 c 449 § 1. Prior: 1985 c 444 § 5; 1985 c 250 § 1; 1981 c 190 § 4; 1974 ex.s. c 58 § 2; 1959 c 103 § 1; 1953 c 250 § 3; 1945 c 140 § 9; 1941 c 210 § 10; Rem. Supp. 1945 § 9425-19.]

Reviser's note: This section was amended by 1989 c 308 § 1 and by 1989 c 389 § 2, each without reference to the other. Both amendments are incorporated in the publication of this section pursuant to RCW 1.12.025(2). For rule of construction, see RCW 1.12.025(1).

Intent—Construction—Severability—1985 c 444: See notes following RCW 35.92.010.

Severability—1959 c 103: "If any provision of this act, or its application to any person or circumstance is held invalid, the remainder of the act, or the application of the provision to other persons or circumstances is not affected." [1959 c 103 § 19.]

Eminent domain

cities: Chapter 8.12 RCW.

second class cities: RCW 35.23.311.

Evaluation of application to appropriate water for electric generation facility: RCW 90.54.170.

56.08.012 Public property subject to rates and charges for storm water control facilities. Except as otherwise provided in RCW 90.03.525, any public entity and public property, including the state of Washington and state property, shall be subject to rates and charges for storm water control facilities to the same extent private persons and private property are subject to such rates and charges that are imposed by sewer districts pursuant to RCW 56.08.010 or

district may be subject to potential review by a boundary review board under chapter 36.93 RCW. [1989 c 84 § 51.]

56.08.070 Contracts for labor and materials—Call for bids—Small works roster—Award of contract—Requirements waived, when. (1) All materials purchased and work ordered, the estimated cost of which is in excess of five thousand dollars shall be let by contract. All contract projects, the estimated cost of which is less than fifty thousand dollars, may be awarded to a contractor using the small works roster process provided in RCW 39.04.155 or the process provided in RCW 39.04.190 for purchases. The board of sewer commissioners may set up uniform procedures to prequalify contractors for inclusion on the small works roster. All contract projects equal to or in excess of fifty thousand dollars shall be let by competitive bidding. Before awarding any competitive contract the board of sewer commissioners shall publish a notice in a newspaper of general circulation where the district is located at least once, thirteen days before the last date upon which bids will be received, inviting sealed proposals for such work, plans and specifications which must at the time of publication of such notice be on file in the office of the board of sewer commissioners subject to public inspection. Such notice shall state generally the work to be done and shall call for proposals for doing the same to be sealed and filed with the board of sewer commissioners on or before the day and hour named therein.

(2) Each bid shall be accompanied by a bid proposal deposit in the form of a certified check, cashier's check, postal money order, or surety bond payable to the order of the county treasurer for a sum not less than five percent of the amount of the bid and no bid shall be considered unless accompanied by such bid proposal deposit. At the time and place named such bids shall be publicly opened and read and the board of sewer commissioners shall proceed to canvass the bids and may let such contract to the lowest responsible bidder upon plans and specifications: PROVIDED, That no contract shall be let in excess of the cost of the materials or work. The board of sewer commissioners may reject all bids for good cause and readvertise and in such case all checks, cash or bid bonds shall be returned to the bidders. If such contract be let, then all checks, cash or bid bonds shall be returned to the bidders, except that of the successful bidder, which shall be retained until a contract shall be entered into for the purchase of such materials or doing such work, and a bond to perform such work furnished with sureties satisfactory to the board of sewer commissioners in the full amount of the contract price between the bidder and the commission in accordance with bid. If the bidder fails to enter into the contract in accordance with the bid and furnish such bond within ten days from the date at which the bidder is notified that he or she is the successful bidder, the check, cash, or bid bonds and the amount thereof shall be forfeited to the sewer district.

(3) In the event of an emergency when the public interest or property of the sewer district would suffer material injury or damage by delay, upon resolution of the board of sewer commissioners, or proclamation of an official designated by the board to act for the board during such emergencies, declaring the existence of such emergency and

reciting the facts constituting the same, the board, or the official acting for the board, may waive the requirements of this chapter with reference to any purchase or contract. In addition, these requirements may be waived for purchases which are clearly and legitimately limited to a single source of supply and purchases involving special facilities, services, or market conditions, in which instances the purchase price may be best established by direct negotiation. [1994 c 31 § 1. Prior: 1993 c 198 § 16; 1993 c 45 § 4; 1989 c 105 § 1; 1987 c 309 § 1; 1985 c 154 § 1; 1983 c 38 § 1; 1979 ex.s. c 137 § 1; 1975 1st ex.s. c 64 § 1; 1971 ex.s. c 272 § 3; 1965 c 71 § 1; 1941 c 210 § 44; Rem. Supp. 1941 § 9425-53.]

56.08.075 Powers as to street lighting systems—Establishment. (1) In addition to the powers given sewer districts by law, they also have power to acquire, construct, maintain, operate, and develop street lighting systems.

(2) To establish a street lighting system, the board of sewer commissioners shall adopt a resolution proposing a street lighting system and delineating the boundaries of the area to be served by the proposed street lighting system. The board shall conduct a public hearing on the resolution to create a street lighting system. Notice of the hearing shall be published at least once each week for two consecutive weeks in one or more newspapers of general circulation in the area to be served by the proposed street lighting system. Following the hearing, the board may by resolution establish the street lighting system.

(3) A street lighting system shall not be established if, within thirty days following the decision of the board, a petition opposing the street lighting system is filed with the board and contains the signatures of at least forty percent of the voters registered in the area to be served by the proposed system.

(4) The sewer district has the same powers of collection for delinquent street lighting charges as the sewer district has for collection of delinquent sewer service charges.

(5) Any street lighting system established by a sewer district prior to March 31, 1982, is declared to be legal and valid. [1987 c 449 § 2; 1982 c 105 § 2.]

56.08.080 Sale of unnecessary property authorized—Notice. The board of commissioners of a sewer district may sell, at public or private sale, property belonging to the district if the board determines that the property is not and will not be needed for district purposes and if the board gives notice of intention to sell as in this section provided: PROVIDED, That no notice of intention is required to sell personal property of less than two thousand five hundred dollars in value.

The notice of intention to sell shall be published once a week for two consecutive weeks in a newspaper of general circulation in the district. The notice shall describe the property and state the time and place at which it will be sold or offered for sale, the terms of sale, whether the property is to be sold at public or private sale, and if at public sale the notice shall call for bids, fix the conditions thereof and shall reserve the right to reject any and all bids. [1993 c 198 § 17; 1989 c 308 § 5; 1984 c 172 § 1; 1953 c 51 § 1.]

56.08.090 Sale of unnecessary property authorized—Additional requirements for sale of realty. (1) Subject to the provisions of subsection (2) of this section, no real property valued at two thousand five hundred dollars or more of the district shall be sold for less than ninety percent of the value thereof as established by a written appraisal made not more than six months prior to the date of sale by three disinterested real estate brokers licensed under the laws of the state or professionally designated real estate appraisers as defined in RCW 74.46.020. The appraisal shall be signed by the appraisers and filed with the secretary of the board of commissioners of the district, who shall keep it at the office of the district open to public inspection. Any notice of intention to sell real property of the district shall recite the appraised value thereof: PROVIDED, That there shall be no private sale of real property where the appraised value exceeds the sum of two thousand five hundred dollars.

(2) If no purchasers can be obtained for the property at ninety percent or more of its appraised value after one hundred twenty days of offering the property for sale, the board of commissioners of the sewer district may adopt a resolution stating that the district has been unable to sell the property at the ninety percent amount. The sewer district then may sell the property at the highest price it can obtain at public auction. A notice of intention to sell at public auction shall be published once a week for two consecutive weeks in a newspaper of general circulation in the sewer district. The notice shall describe the property, state the time and place at which it will be offered for sale and the terms of sale, and shall call for bids, fix the conditions thereof, and reserve the right to reject any and all bids. [1993 c 198 § 18; 1989 c 308 § 6; 1988 c 162 § 1; 1984 c 103 § 2; 1953 c 51 § 2.]

56.08.092 Application of sections to certain service provider agreements under chapter 70.150 RCW. RCW 56.08.070, 56.08.080 through 56.08.090, and 56.08.120 through 56.08.160 shall not apply to an agreement entered into under authority of chapter 70.150 RCW provided there is compliance with the procurement procedure under RCW 70.150.040. [1986 c 244 § 15.]

Severability—1986 c 244: See RCW 70.150.905.

56.08.100 Health care, group, life, and social security insurance contracts for employees', commissioners' benefit—Joint action with water district. Subject to chapter 48.62 RCW, a sewer district, by a majority vote of its board of commissioners, may enter into contracts to provide health care services and/or group insurance and/or term life insurance and/or social security insurance for the benefit of its employees and may pay all or any part of the cost thereof. Any two or more sewer districts or one or more sewer districts and one or more water districts, by a majority vote of their respective boards of commissioners, may, if deemed expedient, join in the procuring of such health care services and/or group insurance and/or term life insurance, and the board of commissioners of each participating sewer and/or water district may by appropriate resolution authorize their respective district to pay all or any portion of the cost thereof.

A sewer district with five thousand or more customers providing health, group, or life insurance to its employees may provide its commissioners with the same coverage: PROVIDED, That the per person amounts for such insurance paid by the district shall not exceed the per person amounts paid by the district for its employees. [1991 sp.s. c 30 § 24; 1991 c 82 § 1; 1981 c 190 § 5; 1973 c 24 § 1; 1961 c 261 § 1.]

Effective date, implementation, application—Severability—1991 sp.s. c 30: See RCW 48.62.900 and 48.62.901.

Hospitalization and medical insurance authorized: RCW 41.04.180.

Hospitalization and medical insurance not deemed additional compensation: RCW 41.04.190.

Water districts: Joint health care, group insurance contracts with sewer districts: RCW 57.08.100.

56.08.105 Liability insurance for officials and employees. The board of commissioners of each sewer district may purchase liability insurance with such limits as they may deem reasonable for the purpose of protecting their officials and employees against liability for personal or bodily injuries and property damage arising from their acts or omissions while performing or in good faith purporting to perform their official duties. [1973 c 125 § 6.]

56.08.107 Liability insurance for officers and employees authorized. See RCW 36.16.138.

56.08.110 Association of district commissioners—Purpose—Expenses—Personnel—Limitation on district's contribution—Audit by state division of municipal corporations. To improve the organization and operation of sewer districts, the commissioners of two or more such districts may form an association thereof, for the purpose of securing and disseminating information of value to the members of the association and for the purpose of promoting the more economical and efficient operation of the comprehensive plans of sewer systems in their respective districts. The commissioners of sewer districts so associated shall adopt articles of association, select such officers as they may determine, and employ and discharge such agents and employees as shall be deemed convenient to carry out the purposes of the association. Sewer district commissioners and their employees are authorized to attend meetings of the association. The expense of the association may be paid from the maintenance or general funds of the associated districts in such manner as shall be provided in the articles of association: PROVIDED, That the aggregate contributions made to the association by the district in any calendar year shall not exceed the amount which would be raised by a levy of two and one-half cents per thousand dollars of assessed value against the taxable property of the district. The financial records of such association shall be subject to audit by the Washington state division of municipal corporations of the state auditor. [1973 1st ex.s. c 195 § 62; 1970 ex.s. c 47 § 4; 1961 c 267 § 1.]

Severability—Effective dates and termination dates—Construction—1973 1st ex.s. c 195: See notes following RCW 84.52.043.

56.08.112 Association of district commissioners—Association to furnish information to legislature and governor. See RCW 44.04.170.

56.08.120 Lease of property not necessary for use of district—When. Within the limitations prescribed by RCW 56.08.130 through 56.08.160, a sewer district may lease out any real property held by it which is not necessary for its immediate use and purposes, and upon such terms and conditions as the board of sewer district commissioners deems proper, when and only after:

In the case of real property, the board has by resolution declared the property, to be property for which there is a future need by the district and for which provision is made in the comprehensive plan of the sewer system of the district as it exists or may from time to time be revised, altered or amended. [1967 c 178 § 1.]

56.08.130 Proposed lease—Notice, contents, publication—Hearing. No lease shall be made until the sewer district has first caused notice thereof, with full description by name of the proposed lessees, the purpose for which the property is to be leased, the street address and location of the property, and a full legal description thereof as described in the records of the county auditor of the county wherein the property is located or situated, and the term for which the property is proposed to be leased, twice in a newspaper of general circulation within the sewer district. Such notice shall also include a date and place of hearing on the proposed lease, for the presentation by any and all persons interested therein of any legal objections thereto; and the first notice shall be published at least fifteen days prior to the execution of the lease, and the second at least seven days prior thereto. [1967 c 178 § 2.]

56.08.140 Performance bond—Conditions and terms—Duration of leases. No such lease shall be made unless secured by a bond conditioned on the performance of the terms of the lease, with surety satisfactory to the commissioners, in a penalty of not less than one-sixth of the term of the lease or for one year's rental, whichever is greater; and no such lease shall be made for a term longer than twenty-five years. However, the board of commissioners may require a reasonable security deposit in lieu of a bond on leased real property owned by the water or sewer district. [1991 c 82 § 2; 1967 c 178 § 3.]

56.08.150 Performance bond—Leases of more than five years. In cases involving leases of more than five years, the commissioners may in their discretion provide for and stipulate to acceptance of a bond conditioned on the performance of a part of the term for five years or more whenever it is further provided that the lessee must procure and deliver to the board of commissioners renewal bonds with like terms and conditions no more than two years prior nor less than one year prior to the expiration of each such bond during the entire term of the lease: **PROVIDED**, That no such bond shall be construed to secure the furnishing of any other bond by the same surety or indemnity company. [1967 c 178 § 4.]

56.08.160 Performance bond—Surety—Security in lieu of bond—Additional bond security. The commissioners may accept as surety on any bond required by RCW 56.08.140 and 56.08.150 an approved surety company, or may accept in lieu thereof a secured interest in property of a value at least twice the amount of the bond required, conditioned further that in the event the commissioners determine that the value of the bond security has become or is about to become impaired, additional security shall be required from the lessee. [1967 c 178 § 5.]

56.08.170 Use of property not immediately necessary to district for park or recreational purposes. A district may operate and maintain a park or recreational facilities on real property that it owns or in which it has an interest that is not immediately necessary for its purposes.

If such park or recreational facilities are operated by a person other than the district, including a corporation, partnership, or other business enterprise, the person shall indemnify and hold harmless the district for any injury or damage caused by the action of the person. [1991 c 82 § 3.]

56.08.180 Excess sewer capacity not grounds for zoning decision challenge. The construction of or existence of sewer capacity in excess of the needs of the density allowed by zoning shall not be grounds for any legal challenge to any zoning decision by the county. [1982 c 213 § 3.]

56.08.190 Extensions by private party—Preparation of plans—Review by district. A sewer district may not require that a specified engineer prepare plans or designs for extensions to its systems if the extensions are to be financed and constructed by a private party, but may review, and approve or reject, the plans or designs which have been prepared for such a private party based upon standards and requirements established by the sewer district. [1987 c 309 § 3.]

56.08.200 Sewer connections without district permission—Penalties. It is unlawful and a misdemeanor to make, or cause to be made, or to maintain any sewer connection with any sewer of any sewer district, or with any sewer which is connected directly or indirectly with any sewer of any sewer district without having permission from the sewer district. [1991 c 190 § 1.]

Chapter 56.12 COMMISSIONERS

Sections

- 56.12.010 Number—Officers—Compensation—Waiver of compensation—Business, proceedings, etc.
- 56.12.015 Increase in number of commissioners.
- 56.12.020 Elections—Terms.
- 56.12.030 Commissioner districts.
- 56.12.040 Unexcused absences—When position declared vacant—Procedure.
- 56.12.050 Conformity with election laws—Vacancies.

Elections: Title 29 RCW.

Jurisdiction of elections in joint sewer districts—Filing of declarations of candidacy—Joint sewer district defined: RCW 56.02.050.

56.12.010 Number—Officers—Compensation—Waiver of compensation—Business, proceedings, etc. The governing body of a sewer district shall be a board of commissioners consisting of three members. The commissioners shall annually elect one of their number as president and another as secretary of the board.

A district shall provide by resolution for the payment of compensation to each of its commissioners at a rate of fifty dollars for each day or portion thereof devoted to the business of the district: **PROVIDED**, That the compensation for each commissioner shall not exceed four thousand eight hundred dollars per year. In addition, the secretary may be paid a reasonable sum for clerical services.

Any commissioner may waive all or any portion of his or her compensation payable under this section as to any month or months during his or her term of office, by a written waiver filed with the district as provided in this section. The waiver, to be effective, must be filed any time after the commissioner's election and prior to the date on which the compensation would otherwise be paid. The waiver shall specify the month or period of months for which it is made.

No commissioner shall be employed full time by the district.

The board shall by resolution adopt rules governing the transaction of its business and shall adopt an official seal. All proceedings shall be by resolution recorded in a book kept for that purpose, which shall be a public record. [1985 c 330 § 5; 1980 c 92 § 1; 1969 ex.s. c 148 § 7; 1959 c 103 § 4; 1955 c 373 § 1; 1945 c 140 § 8; 1941 c 210 § 9; Rem. Supp. 1945 § 9425-18.]

Severability—1969 ex.s. c 148: See note following RCW 56.36.010.
Severability—1959 c 103: See note following RCW 56.08.010.

56.12.015 Increase in number of commissioners. If a three-member board of commissioners of any sewer district with any number of customers determines by resolution that it would be in the best interest of the district to increase the number of commissioners from three to five, or if the board of a sewer district with any number of customers is presented with a petition signed by ten percent of the registered voters resident within the district who voted in the last general municipal election calling for an increase in the number of commissioners of the district, the board shall submit a resolution to the county auditor requesting that an election be held. Upon receipt of the resolution, the county auditor shall call a special election to be held within the sewer district in accordance with RCW 29.13.010 and 29.13.020, at which election a proposition in substantially the following language shall be submitted to the voters:

Shall the Board of Commissioners of (Name and/or No. of sewer district) be increased from three to five members?

Yes

No

If the proposition receives a majority approval at the election the board of commissioners of the sewer district shall be increased to five members. In any sewer district with more

than ten thousand customers, if a three-member board of commissioners determines by resolution that it would be in the best interest of the district to increase the number of commissioners from three to five, the number of commissioners shall be so increased without an election, unless within ninety days of adoption of that resolution, a petition requesting an election and signed by at least ten percent of the registered voters who voted in the last general municipal election is filed with the board. If such a petition is received, the board shall submit the resolution and the petition to the county auditor, who shall call a special election in the manner described in this section and in accordance with the provisions of RCW 29.13.010 and 29.13.020.

The two positions created on boards of sewer commissioners by this section shall be filled initially either as for a vacancy or by nomination under RCW 56.12.030, except that the appointees or newly elected commissioners shall draw lots, one appointee to serve until the next general sewer district election after the appointment, at which two commissioners shall be elected for six-year terms, and the other appointee to serve until the second general sewer district election after the appointment, at which two commissioners shall be elected for six-year terms. [1994 c 223 § 62; 1991 c 190 § 2; 1990 c 259 § 23; 1987 c 449 § 3.]

56.12.020 Elections—Terms. At the election held to form or reorganize a sewer district, three sewer district commissioners shall be elected. The election of sewer district commissioners shall be null and void if the ballot proposition to form or reorganize the sewer district is not approved. Candidates shall run for one of three separate commissioner positions. A special filing period shall be opened as provided in RCW 29.15.170 and 29.15.180. The person receiving the greatest number of votes for each position shall be elected to that position.

The newly elected sewer district commissioners shall assume office immediately when they are elected and qualified. Staggering of the terms of office for the new sewer district commissioners shall be accomplished as follows: (1) The person who is elected receiving the greatest number of votes shall be elected to a six-year term of office if the election is held in an odd-numbered year or a five-year term of office if the election is held in an even-numbered year; (2) the person who is elected receiving the next greatest number of votes shall be elected to a four-year term of office if the election is held in an odd-numbered year or a three-year term of office if the election is held in an even-numbered year; and (3) the other person who is elected shall be elected to a two-year term of office if the election is held in an odd-numbered year or a one-year term of office if the election is held in an even-numbered year. The terms of office shall be calculated from the first day of January in the year following the election.

Thereafter commissioners shall be elected to six-year terms of office. Commissioners shall serve until their successors are elected and qualified and assume office in accordance with RCW 29.04.170. [1994 c 223 § 63; 1979 ex.s. c 126 § 38; 1963 c 200 § 17; 1955 c 55 § 12; 1953 c 110 § 1. Prior: 1945 c 140 § 6; 1941 c 210 § 7; Rem. Supp. 1945 § 9425-16.]

Purpose—1979 ex.s. c 126: See RCW 29.04.170(1).

Terms of district officers: State Constitution Art. 11 § 5.

56.12.030 Commissioner districts. The board of commissioners of any sewer district may adopt a resolution providing that each subsequent commissioner be elected as a commissioner of a commissioner district within the district. If the board exercises this option, it shall divide the district into a number of commissioner districts equal in number to the number of commissioners on the board, each with approximately equal population following current precinct and district boundaries as far as practicable. Commissioner districts shall be used as follows: (1) Only a registered voter who resides in a commissioner district may be a candidate for, or serve as, a commissioner of the commissioner district; and (2) only voters of a commissioner district may vote at a primary to nominate candidates for a commissioner of the commissioner district. Voters of the entire sewer district may vote at a general election to elect a person as a commissioner of the commissioner district. Commissioner districts shall be redrawn as provided in chapter 29.70 RCW. [1994 c 223 § 64; 1990 c 259 § 24; 1986 c 41 § 1; 1985 c 141 § 3; 1981 c 169 § 2; 1953 c 250 § 9; 1947 c 212 § 1; 1945 c 140 § 7; 1941 c 210 § 8; Rem. Supp. 1947 § 9425-17.]

56.12.040 Unexcused absences—When position declared vacant—Procedure. If a sewer commissioner is absent from three consecutive regularly scheduled meetings unless by permission of the board, the office may be declared vacant by the board of commissioners and the vacancy shall then be filled as provided for in this chapter. However, such an action shall not be taken unless the commissioner is notified by mail after two consecutive unexcused absences that the position will be declared vacant if the commissioner is absent without being excused from the next regularly scheduled meeting. [1987 c 449 § 4.]

56.12.050 Conformity with election laws—Vacancies. Sewer district elections shall conform with general election laws.

Vacancies on a board of sewer commissioners shall occur and shall be filled as provided in chapter 42.12 RCW. [1994 c 223 § 65.]

Chapter 56.16 FINANCES

Sections

- 56.16.010 General indebtedness.
- 56.16.020 Revenue bonds authorized.
- 56.16.030 Additions and betterments—Financing plan.
- 56.16.035 Additional revenue bonds for increased cost of improvements.
- 56.16.040 General obligation bonds—Bond retirement property tax levies.
- 56.16.050 Limitation of indebtedness.
- 56.16.060 Revenue bonds—Issuance, form, payment, etc.
- 56.16.065 Revenue warrants and revenue bond anticipation warrants.
- 56.16.070 Special fund to pay revenue bonds.
- 56.16.080 Special fund, considerations in creating—Rights of bond owner.
- 56.16.085 Covenants to guarantee payment of revenue bonds—Bonds payable from same source may be issued on parity.
- 56.16.090 Rates and charges—Classification of services.

- 56.16.100 Collection of charges—Lien.
- 56.16.110 Foreclosure of lien for charges.
- 56.16.115 Refunding bonds.
- 56.16.130 Interest payments.
- 56.16.135 Treasurer—Designation—Approval—Powers and duties—Bond.
- 56.16.140 Maintenance or general fund and special funds.
- 56.16.150 Maintenance or general fund and special funds—Use of surplus in maintenance or general fund.
- 56.16.160 Maintenance or general fund and special funds—Deposits and investments.
- 56.16.165 Deposit account requirements.
- 56.16.170 Maintenance or general fund and special funds—Loans from maintenance or general funds to construction funds.

County treasurer's duty to segregate certified assessments and charges in sewer districts: RCW 36.29.160.

Levy of taxes: Chapter 84.52 RCW.

Limitation on levies: State Constitution Art. 7 § 2.

Public contracts and indebtedness: Title 39 RCW.

56.16.010 General indebtedness. The sewer commissioners may submit to the sewer district voters a ballot proposition authorizing the sewer district to incur a general indebtedness payable from annual tax levies to be made in excess of the constitutional and/or statutory tax limitations for the construction of any part or all of the comprehensive plan for the district. Elections shall be held as provided in RCW 39.36.050. The proposition authorizing both the bond issue and bond retirement levies must be approved by three-fifths of the qualified voters of the said sewer district voting on said proposition, at which election the total number of persons voting on the proposition shall constitute not less than forty percent of the total number of votes cast in the sewer district at the last preceding general election. Such bonds shall be issued and sold in accordance with chapter 39.46 RCW. [1984 c 186 § 46; 1973 1st ex.s. c 195 § 63; 1953 c 250 § 10; 1951 2nd ex.s. c 26 § 1; 1941 c 210 § 14; Rem. Supp. 1941 § 9425-23.]

Purpose—1984 c 186: See note following RCW 39.46.110.

Severability—Effective dates and termination dates—Construction—1973 1st ex.s. c 195: See notes following RCW 84.52.043.

Limitations on municipal corporation indebtedness: State Constitution Art. 8 § 6; RCW 35.30.040, 35.37.040.

56.16.020 Revenue bonds authorized. The sewer commissioners may, by resolution, issue revenue bonds for the construction costs, interest during the period of construction and six months thereafter, working capital, or other costs of any part or all of the general comprehensive plan or for other purposes or functions of a sewer district authorized by statute without submitting a proposition therefor to the voters. The resolution shall include the amount of the bonds to be issued. [1987 c 449 § 5; 1977 ex.s. c 300 § 3; 1959 c 103 § 5; 1953 c 250 § 11; 1951 c 129 § 2; 1941 c 210 § 16; Rem. Supp. 1941 § 9425-25.]

Severability—1959 c 103: See note following RCW 56.08.010.

Special assessments and taxation for local improvements: State Constitution Art. 7 § 9.

56.16.030 Additions and betterments—Financing plan. (1) In the same manner as herein provided for the adoption of the general comprehensive plan, and after the adoption of the general comprehensive plan, a plan providing for additions and betterments to the general comprehensive

plan, or reorganized district may be adopted. Without limiting its generality "additions and betterments" shall include any necessary change in, amendment of, or addition to the general comprehensive plan. The sewer district may incur a general indebtedness payable from annual tax levies to be made in excess of the constitutional and/or statutory tax limitations for the construction of the additions and betterments in the same way the general indebtedness may be incurred for the construction of the general comprehensive plan as provided in RCW 56.16.010. Upon ratification by the voters of the entire district, of the proposition to incur such indebtedness, the additions and betterments may be carried out by the sewer commissioners to the extent specified or referred to in the proposition to incur such general indebtedness. The sewer district may issue revenue bonds to pay for the construction of the additions and betterments by resolution of the board of sewer commissioners.

(2) After July 23, 1989, when the district adopts a general comprehensive plan or plans for an area annexed as provided for in RCW 56.08.020, the district shall include a long-term plan for financing the planned projects. [1989 c 389 § 3; 1984 c 186 § 47; 1977 ex.s. c 300 § 4; 1973 1st ex.s. c 195 § 64; 1959 c 103 § 6; 1953 c 250 § 12; 1951 2nd ex.s. c 26 § 2; 1951 c 129 § 3; 1945 c 140 § 11; 1941 c 210 § 17; Rem. Supp. 1945 § 9425-26.]

Purpose—1984 c 186: See note following RCW 39.46.110.

Severability—Effective dates and termination dates—Construction—1973 1st ex.s. c 195: See notes following RCW 84.52.043.

Severability—1959 c 103: See note following RCW 56.08.010.

Adoption of general comprehensive plan: RCW 56.08.020.

56.16.035 Additional revenue bonds for increased cost of improvements. Whenever a sewer district shall have adopted a general comprehensive plan, and bonds to defray the cost thereof shall have been authorized by the board of commissioners, and if before completion of the improvements the board of commissioners shall by resolution find that the authorized bonds are not sufficient to defray the cost of such improvements due to the increase of costs of construction subsequent to the adoption of said plan, the board of commissioners may, by resolution, authorize the issuance and sale of additional sewer revenue bonds for such purpose in excess of those previously issued. [1977 ex.s. c 300 § 5; 1959 c 103 § 7.]

Severability—1959 c 103: See note following RCW 56.08.010.

56.16.040 General obligation bonds—Bond retirement property tax levies. Whenever any such sewer district shall hereafter adopt a plan for a sewer system as herein provided, or any additions and betterments thereto, or whenever any reorganized sewer district shall hereafter adopt a plan for any additions or betterments thereto, and the qualified voters of any such sewer district or reorganized sewer district shall hereafter authorize both bond retirement property tax levies and a general indebtedness for all the said plan, or any part thereof, or any additions and betterments thereto or for refunding in whole or in part bonds theretofore issued, general obligation bonds for the payment thereof may be issued.

The general obligation bonds shall never be issued to run for a longer period than thirty years from the date of the issue and shall as nearly as practicable be issued for a period which will not exceed the life of the improvement to be acquired by the issue of the bonds.

Such bonds shall be issued and sold in accordance with chapter 39.46 RCW. [1984 c 186 § 48; (1983 c 167 § 272 repealed by 1984 c 186 § 70); 1983 c 167 § 155; 1973 1st ex.s. c 195 § 65; 1970 ex.s. c 56 § 80; 1969 ex.s. c 232 § 85; 1953 c 250 § 13; 1951 2nd ex.s. c 26 § 3; 1945 c 140 § 12; 1941 c 210 § 18; Rem. Supp. 1945 § 9425-27.]

Purpose—1984 c 186: See note following RCW 39.46.110.

Effective dates—1983 c 167: See note following RCW 36.68.520.

Liberal construction—Severability—1983 c 167: See RCW 39.46.010 and note following.

Severability—Effective dates and termination dates—Construction—1973 1st ex.s. c 195: See notes following RCW 84.52.043.

Purpose—1970 ex.s. c 56: See note following RCW 39.52.020.

Validation—Saving—Severability—1969 ex.s. c 232: See notes following RCW 39.52.020.

56.16.050 Limitation of indebtedness. Each and every sewer district hereafter to be organized pursuant to this title, or reorganized under chapter 140. Laws of 1945, may contract indebtedness pursuant to the provisions of RCW 56.16.040, but not exceeding in amount, together with existing indebtedness two and one-half percent of the value of the taxable property in said district, as the term "value of the taxable property" is defined in RCW 39.36.015, whenever three-fifths of the voters voting at said election in such sewer district assent thereto, at which election the total number of persons voting on the proposition shall constitute not less than forty percent of the total number of votes cast at the last preceding general election. The election shall be held as provided in RCW 39.36.050. All bonds so to be issued shall be subject to the provisions regarding bonds as set out in RCW 56.16.040. [1984 c 186 § 49; 1970 ex.s. c 42 § 34; 1945 c 140 § 15; 1941 c 210 § 42; Rem. Supp. 1945 § 9425-51.]

Purpose—1984 c 186: See note following RCW 39.46.110.

Severability—Effective date—1970 ex.s. c 42: See notes following RCW 39.36.015.

56.16.060 Revenue bonds—Issuance, form, payment, etc. (1) When sewer revenue bonds are issued for authorized purposes, said bonds shall be in bearer form or registered as to principal or interest or both, as provided in RCW 39.46.030, and may provide for conversion between registered and coupon bonds; shall be in such denominations, shall be numbered, shall bear such date, shall be payable at such time or times up to a maximum period of not to exceed thirty years and at such place or places one of which must be the office of the treasurer of the county in which the district is located, or of the county in which fifty-one percent or more of the area of the district is located such place or places to be determined by the board of commissioners of the district; shall bear interest at such rate or rates payable at such time or times as authorized by the board of sewer commissioners; shall be executed by the president of the board of commissioners and attested by the secretary thereof, one of which signatures may, with the written permission of the signator whose facsimile signature is being used, be a

facsimile and have the seal of the district impressed thereon; and may have facsimile signatures of the president and secretary imprinted on any interest coupons in lieu of original signatures.

(2) Notwithstanding subsection (1) of this section, such bonds may be issued in accordance with chapter 39.46 RCW. [1983 c 167 § 156; 1975 1st ex.s. c 25 § 1; 1971 ex.s. c 272 § 4; 1970 ex.s. c 56 § 81; 1969 ex.s. c 232 § 86; 1959 c 103 § 8; 1941 c 210 § 19; Rem. Supp. 1941 § 9425-28.]

Liberal construction—Severability—1983 c 167: See RCW 39.46.010 and note following.

Purpose—1970 ex.s. c 56: See note following RCW 39.52.020.

Validation—Saving—Severability—1969 ex.s. c 232: See notes following RCW 39.52.020.

Severability—1959 c 103: See note following RCW 56.08.010.

Facsimile signature on bonds and coupons: RCW 39.44.100 through 39.44.102.

56.16.065 Revenue warrants and revenue bond anticipation warrants. Sewer districts may also issue revenue warrants and revenue bond anticipation warrants for the same purposes for which such districts may issue revenue bonds. The provisions of this chapter relating to the authorization, terms, conditions, covenants, issuance and sale of revenue bonds (exclusive of provisions relating to refunding) shall be applicable to such warrants. Sewer districts issuing revenue bond anticipation warrants may make covenants relative to the issuance of revenue bonds to provide funds for the redemption of part or all of such warrants and may contract for the sale of such bonds and warrants. [1975 1st ex.s. c 25 § 4.]

56.16.070 Special fund to pay revenue bonds. The sewer commissioners shall have power and are required to create a special fund, or funds, for the sole purpose of paying the interest and principal of sewer revenue bonds, as herein provided into which special fund or funds the said sewer commissioners shall obligate and bind the sewer district to set aside and pay a fixed proportion of the gross revenues of the system of sewers, or any fixed amount out of and not exceeding a fixed proportion of such revenues, or a fixed amount or amounts without regard to any fixed proportion, and such bonds and the interest thereof shall be payable only out of such special fund or funds, and shall be a lien and charge against all revenues of the district and payments received from any utility local improvement district or districts pledged to secure such bonds, subject only to operating and maintenance expenses. [1959 c 103 § 9; 1941 c 210 § 20; Rem. Supp. 1941 § 9425-29.]

Severability—1959 c 103: See note following RCW 56.08.010.

56.16.080 Special fund, considerations in creating—Rights of bond owner. (1) In creating any special fund or funds the sewer commissioners of such sewer district shall have due regard to the cost of operation and maintenance of the plant or system as constructed or added to, and to any proportion or part of the revenue previously pledged as a fund for the payment of bonds, warrants or other indebtedness, and shall not set aside into such special fund a greater amount or proportion of the revenue and proceeds than in

their judgment will be available over and above such cost of maintenance and operation and the amount or proportion, if any, of the revenue so previously pledged. Any such bonds, and the interest thereon, issued against any such fund as herein provided, shall be a valid claim of the owner thereof only as against the said special fund and its fixed proportion or amount of the revenue pledged to such fund, and shall not constitute an indebtedness of such sewer district within the meaning of the constitutional provisions and limitations. Each such bond or warrant shall state upon its face that it is payable from a special fund, naming the said fund and the resolution creating it. Said bonds shall be sold in such manner, at such prices and at such rate or rates of interest as the sewer commissioners shall deem for the best interests of the sewer district, either at public or private sale, and the said commissioners may provide in any contract for the construction and acquirement of the proposed improvement that payment therefor shall be made in such bonds at par value thereof.

When any such special fund shall have been heretofore or shall be created and any such bonds shall have been heretofore or shall hereafter be issued against the same, a fixed proportion or a fixed amount out of and not to exceed such fixed proportion, or a fixed amount without regard to any fixed proportion, of revenue shall be set aside and paid into said special fund as provided in the resolution creating such fund or authorizing such bonds. In case any sewer district shall fail thus to set aside and pay said fixed proportion or amount as aforesaid, the owner of any bond payable from such special fund may bring suit or action against the sewer district and compel such setting aside and payment.

(2) Notwithstanding subsection (1) of this section, such bonds may be issued and sold in accordance with chapter 39.46 RCW. [1983 c 167 § 157; 1975 1st ex.s. c 25 § 2; 1970 ex.s. c 56 § 82; 1941 c 210 § 21; Rem. Supp. 1941 § 9425-30.]

Liberal construction—Severability—1983 c 167: See RCW 39.46.010 and note following.

Purpose—1970 ex.s. c 56: See note following RCW 39.52.020.

56.16.085 Covenants to guarantee payment of revenue bonds—Bonds payable from same source may be issued on parity. The board of commissioners may make such covenants as it may deem necessary to secure and guarantee the payment of the principal of and interest on sewer revenue bonds of the district, including but not being limited to covenants for the establishment and maintenance of adequate reserves to secure or guarantee the payment of such principal and interest; the protection and disposition of the proceeds of sale of such bonds; the use and disposition of the gross revenues of the sewer system of the district and any additions or betterments thereto or extensions thereof; the use and disposition of any utility local improvement district assessments; the creation and maintenance of funds for renewals and replacements of the system; the establishment and maintenance of rates and charges adequate to pay principal and interest of such bonds and to maintain adequate coverage over debt service; the maintenance, operation and management of the system and the accounting, insuring and auditing of the business in connection therewith; the terms upon which such bonds or any of them may be redeemed at

the election of the district; limitations upon the right of the district to dispose of its system or any part thereof; the appointment of trustees, depositories and paying agents to receive, hold, disburse, invest and reinvest all or any part of the proceeds of sale of the bonds and all or any part of the income, revenue and receipts of the district, and the board of commissioners may make such other covenants as it may deem necessary to accomplish the most advantageous sale of such bonds. The board of commissioners may also provide that revenue bonds payable out of the same source or sources may later be issued on a parity with any revenue bonds being issued and sold. [1959 c 103 § 10.]

Severability—1959 c 103: See note following RCW 56.08.010.

56.16.090 Rates and charges—Classification of services. The sewer commissioners of any sewer district, in the event that such sewer revenue bonds are issued, shall provide for revenues by fixing rates and charges for the furnishing of sewerage disposal service to those to whom such service is available. Such rates and charges may be combined for the furnishing of more than one type of sewer service such as but not limited to storm or surface water and sanitary. Such rates and charges are to be fixed as deemed necessary by such sewer commissioners, so that uniform charges will be made for the same class of customer or service.

In classifying customers served or service furnished by such system of sewerage, the board of commissioners may in its discretion consider any or all of the following factors: The difference in cost of service to the various customers; the location of the various customers within and without the district; the difference in cost of maintenance, operation, repair, and replacement of the various parts of the system; the different character of the service furnished various customers; the quantity and quality of the sewage delivered and the time of its delivery; the achievement of water conservation goals and the discouragement of wasteful water use practices; capital contributions made to the system including but not limited to assessments; and any other matters which present a reasonable difference as a ground for distinction. Such rates are to be made on a monthly basis and shall produce revenues sufficient to take care of the costs of maintenance and operation, revenue bond and warrant interest and principal amortization requirements, and all other charges necessary for efficient and proper operation of the system. [1991 c 347 § 19; 1974 ex.s. c 58 § 3; 1959 c 103 § 11; 1941 c 210 § 22; Rem. Supp. 1941 § 9425-31.]

Purposes—1991 c 347: See note following RCW 90.42.005.

Severability—1991 c 347: See RCW 90.42.900.

Severability—1959 c 103: See note following RCW 56.08.010.

Authority to adjust or delay rates and charges for low-income persons: RCW 56.08.014.

Public property subject to rates and charges for storm water control facilities: RCW 56.08.012.

56.16.100 Collection of charges—Lien. The commissioners shall enforce collection of the sewer connection charges and sewerage disposal service charges against property to which and its owners to whom the service is available, such charges being deemed charges against the property to which the service is available, by addition of

penalties of not more than ten percent thereof in case of failure to pay the charges at times fixed by resolution. The commissioners may provide by resolution that where either sewer connection charges or sewer service charges are delinquent for any specified period of time, the district shall certify the delinquencies to the treasurer of the county in which the real property is located, and the charges and any penalties added thereto and interest thereon at the rate fixed by resolution, shall be a lien against the property to which the service was available, subject only to the lien for general taxes. [1977 ex.s. c 300 § 6; 1971 ex.s. c 272 § 5; 1953 c 250 § 14; 1941 c 210 § 23; Rem. Supp. 1941 § 9425-32.]

56.16.110 Foreclosure of lien for charges. The district may, at any time after the sewer connection charges or sewerage disposal service charges and penalties provided for in RCW 56.16.100, as now or hereafter amended, are delinquent for a period of sixty days, bring suit in foreclosure by civil action in the superior court of the county in which the real property is situated. The court may allow, in addition to the costs and disbursements provided by statute, such an attorney's fee as it may adjudge reasonable. The action shall be in rem against the property, and in addition may be brought in the name of the district against an individual, or against all of those who are delinquent in one action, and the laws and rules of the court shall control as in other civil-actions. [1977 ex.s. c 300 § 7; 1971 ex.s. c 272 § 6; 1953 c 250 § 15; 1941 c 210 § 24; Rem. Supp. 1941 § 9425-33.]

56.16.115 Refunding bonds. The board of sewer commissioners may by resolution, without submitting the matter to the voters of the district, authorize the issuance of refunding general obligation bonds to refund any outstanding general obligation bonds, or any part thereof, at maturity thereof, or before the maturity thereof, if they are subject to call for prior redemption, or if all of the holders thereof consent thereto. The total cost to the district over the life of the refunding bonds shall not exceed the total cost, which the district would have incurred but for such refunding, over the remainder of the life of the bonds being refunded. The provisions of RCW 56.16.040 specifying the issuance and sale of general obligation bonds and providing for annual tax levies in excess of the constitutional and/or statutory tax limitations shall apply to the refunding general obligation bonds issued under this title.

The board of sewer commissioners may by resolution provide for the issuance of refunding revenue bonds to refund outstanding general obligation bonds and/or revenue bonds, or any part thereof, at maturity thereof, or before maturity thereof, if they are subject to call for prior redemption, or if all of the holders thereof consent thereto. The total cost to the district over the life of said refunding revenue bonds shall not exceed the total cost, which the district would have incurred but for such refunding, over the remainder of the life of the bonds being refunded. Uncollected assessments originally payable into the revenue bond fund of a refunded revenue bond issue shall be paid into the revenue bond fund of the refunding issue. The provisions of RCW 56.16.060 specifying the form and maturities of

revenue bonds shall apply to the refunding revenue bonds issued under this title.

Refunding general obligation bonds or refunding revenue bonds may be exchanged for the bonds being refunded or may be sold in such manner as the sewer commissioners shall deem for the best interest of the sewer district. [1984 c 186 § 50; 1977 ex.s. c 300 § 8; 1973 1st ex.s. c 195 § 66; 1959 c 103 § 12; 1953 c 250 § 16.]

Purpose—1984 c 186: See note following RCW 39.46.110.

Severability—Effective dates and termination dates—

Construction—1973 1st ex.s. c 195: See notes following RCW 84.52.043.

Severability—1959 c 103: See note following RCW 56.08.010.

56.16.130 Interest payments. Any coupons for the payment of interest on bonds of any sewer district shall be considered for all purposes as warrants drawn upon the general fund of the said sewer district issuing such bonds, and when presented to the treasurer of the county having custody of the funds of such sewer district at maturity, or thereafter, and when so presented, if there are not funds in the treasury to pay the said coupons, it shall be the duty of the county treasurer to endorse said coupons as presented for payment, in the same manner as county warrants are indorsed, and thereafter said coupons shall bear interest at the same rate as the bonds to which they were attached. When there are no funds in the treasury to make interest payments on bonds not having coupons, the overdue interest payment shall continue bearing interest at the bond rate until it is paid, unless otherwise provided in the proceedings authorizing the sale of the bonds. [1983 c 167 § 158; 1941 c 210 § 45; Rem. Supp. 1941 § 9425-54.]

Liberal construction—**Severability**—1983 c 167: See RCW 39.46.010 and note following.

56.16.135 Treasurer—Designation—Approval—Powers and duties—Bond. Upon obtaining the approval of the county treasurer, the board of commissioners of a sewer district with more than twenty-five hundred customers may designate by resolution some other person having experience in financial or fiscal matters as the treasurer of the district. Such a treasurer shall possess all of the powers, responsibilities, and duties of, and shall be subject to the same restrictions as provided by law for, the county treasurer with regard to a sewer district, and the county auditor with regard to sewer district financial matters. Such treasurer shall be bonded for not less than twenty-five thousand dollars. Approval by the county treasurer authorizing such a sewer district to designate its treasurer shall not be arbitrarily or capriciously withheld. [1988 c 162 § 10; 1983 c 57 § 2.]

Ratification—1988 c 162 §§ 10, 11: "Any action taken by a sewer district treasurer or water district treasurer prior to March 21, 1988, and consistent with sections 10 and 11 of this act is ratified and confirmed." [1988 c 162 § 12.]

56.16.140 Maintenance or general fund and special funds. Unless the board of commissioners of a sewer district designates a treasurer under RCW 56.16.135, the county treasurer of the county in which the district is located or the county in which fifty-one percent or more of the area of the district is located shall create and maintain a separate fund designated as the maintenance fund or general fund of the sewer district into which shall be paid all money re-

ceived by him from the collection of taxes levied by such district other than taxes levied for the payment of general obligation bonds thereof, and into which shall be paid all revenues of the district other than assessments levied in utility local improvement districts, and no money shall be disbursed therefrom except upon warrants of the county auditor issued by authority of the commissioners or upon a resolution of the commissioners ordering a transfer to any other fund of the district. The county treasurer of each county in which the district or a portion thereof is located shall also maintain such other special funds as may be prescribed by the sewer district, into which shall be placed such moneys as the board of sewer commissioners may by its resolution direct, and from which disbursements shall be made upon proper warrants of the county auditor issued against the same by authority of the board of sewer commissioners. [1983 c 57 § 1; 1971 ex.s. c 272 § 7; 1959 c 103 § 13; 1941 c 210 § 46; Rem. Supp. 1941 § 9425-55.]

Severability—1959 c 103: See note following RCW 56.08.010.

56.16.150 Maintenance or general fund and special funds—Use of surplus in maintenance or general fund. Whenever a sewer district has accumulated moneys in the maintenance fund or general fund of the district in excess of the requirements of such fund, the board of commissioners may in its discretion use any of such surplus moneys for any of the following purposes: (1) Redemption or servicing of outstanding obligations of the district; (2) maintenance expenses of the district; (3) construction or acquisition of any facilities necessary to carry out the purpose of the district. [1959 c 103 § 14.]

Severability—1959 c 103: See note following RCW 56.08.010.

56.16.160 Maintenance or general fund and special funds—Deposits and investments. Whenever there shall have accumulated in any general or special fund of a sewer district moneys, the disbursement of which is not yet due, the board of commissioners may, by resolution, authorize the county treasurer to deposit or invest such moneys in qualified public depositories, or to invest such moneys in any investment permitted at any time by RCW 36.29.020: PROVIDED, That the county treasurer may refuse to invest any district moneys the disbursement of which will be required during the period of investment to meet outstanding obligations of the district. [1986 c 294 § 12; 1983 c 66 § 21; 1981 c 24 § 3; 1973 1st ex.s. c 140 § 2; 1959 c 103 § 15.]

Severability—1983 c 66: See note following RCW 39.58.010.

Severability—1959 c 103: See note following RCW 56.08.010.

Public depositories: Chapter 39.58 RCW.

56.16.165 Deposit account requirements. Sewer district moneys shall be deposited by the district in an account, which may be interest-bearing, subject to such requirements and conditions as may be prescribed by the state auditor. The account shall be in the name of the district except, upon request by the treasurer, the accounts shall be in the name of the "(name of county) county treasurer." The treasurer may instruct the financial institutions holding the deposits to transfer them to the treasurer at such times as the treasurer may deem appropriate, consistent

with regulations governing and policies of the financial institution. [1981 c 24 § 1.]

56.16.170 Maintenance or general fund and special funds—Loans from maintenance or general funds to construction funds. The board of commissioners of any sewer district may, by resolution, authorize and direct a loan or loans from maintenance funds or general funds of the district to construction funds of the district: **PROVIDED**, That such loan does not, in the opinion of the board of commissioners, impair the ability of the district to operate and maintain its system of sewers. [1959 c 103 § 16.]

Severability—1959 c 103: See note following RCW 56.08.010.

Chapter 56.20

UTILITY LOCAL IMPROVEMENT DISTRICTS

Sections

- 56.20.010 Local districts authorized—Special assessments.
- 56.20.015 Certain powers of cities and water districts granted to sewer districts—General obligation bonds for water system purposes—Election.
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- 56.20.100 Acquisition of property subject to local improvement assessment—Payment.
- 56.20.110 Service fees for sewers not constructed within ten years after voter approval—Credit against future assessments, service charges.
- 56.20.120 Foreclosure of assessments—Attorneys' fees.

Deferral of special assessments: Chapter 84.38 RCW.

Local improvements, supplemental authority: Chapter 35.51 RCW.

56.20.010 Local districts authorized—Special assessments. Any sewer district shall have the power to establish utility local improvement districts within its territory as hereinafter provided, and to levy special assessments under a mode of annual installments extending over a period not exceeding twenty years on all property specially benefited by any local improvement, on the basis of the special benefits to pay in whole or in part the damages or costs of any improvements ordered in such sewer district. The levying, collection and enforcement of all special assessments hereby authorized shall be in the manner now and hereafter provided by law for the levying, collection and enforcement of special assessments by cities and towns, insofar as the same shall not be inconsistent with the provisions of this title. The duties devolving upon the city or town treasurer under said laws are imposed upon the county treasurer of each county in which the real property is located for the purposes of this title. The mode of assessment shall be in the manner to be determined by the sewer commission-

ers by resolution. It must be specified in any petition for the establishment of a utility local improvement district and in the approved general comprehensive plan or approved amendment thereto, that, except as provided in this section, the special assessments shall be for the sole purpose of payment into the revenue bond fund for the payment of revenue bonds. Special assessments in any utility local improvement district may be made on the basis of special benefits up to but not in excess of the total cost of any comprehensive scheme or plan payable by issuance of revenue bonds. No warrants or bonds shall be issued in any such utility local improvement district, but the collection of interest and principal on all special assessments in such utility local improvement district, when collected, shall be paid into the revenue bond fund, except that special assessments paid before the issuance and sale of bonds may be deposited in a fund for the payment of costs of improvements in the utility local improvement district. [1987 c 169 § 1; 1971 ex.s. c 272 § 8; 1941 c 210 § 26; Rem. Supp. 1941 § 9425-35.]

Local improvements, collection of assessments: Chapter 35.49 RCW.

56.20.015 Certain powers of cities and water districts granted to sewer districts—General obligation bonds for water system purposes—Election. In addition to all of the powers and authorities set forth in Title 56 RCW, any sewer district shall have all of the powers of cities as set forth in chapter 35.44 RCW. Sewer districts may also exercise all of the powers permitted to a water district under Title 57 RCW, except that a sewer district may not exercise water district powers in any area within its boundaries which is part of an existing district which previously shall have been duly authorized to exercise water district powers in such area without the consent by resolution of the board of commissioners of such district.

A sewer district shall have the power to issue general obligation bonds for water system purposes: **PROVIDED**, That a proposition to authorize general obligation bonds payable from excess tax levies for water system purposes pursuant to chapters 57.16 and 57.20 RCW shall be submitted to all of the qualified voters within that part of the sewer district which is not contained within another existing district duly authorized to exercise water district powers, and the taxes to pay the principal of and interest on the bonds approved by such voters shall be levied only upon all of the taxable property within such part of the sewer district. Such bonds may also be issued and sold in accordance with chapter 39.46 RCW. [1983 c 167 § 159; 1981 c 45 § 5; 1980 c 12 § 1; 1977 ex.s. c 300 § 9; 1974 ex.s. c 58 § 4.]

Liberal construction—Severability—1983 c 167: See RCW 39.46.010 and note following.

Legislative declaration—"District" defined—Severability—1981 c 45: See notes following RCW 56.36.060.

56.20.020 Petition or resolution to form local district—Procedure—Written protest. Utility local improvement districts to carry out all or any portion of the comprehensive plan, or additions and betterments thereof, adopted for the sewer district may be initiated either by resolution of the board of sewer commissioners or by petition signed by the owners according to the records of the

office of the county auditor of at least fifty-one percent of the area of the land within the limits of the utility local improvement district to be created.

In case the board of sewer commissioners desires to initiate the formation of a utility local improvement district by resolution, it shall first pass a resolution declaring its intention to order such improvement, setting forth the nature and territorial extent of such proposed improvement, designating the number of the proposed utility local improvement district, describing the boundaries thereof, stating the estimated cost and expense of the improvement and the proportionate amount thereof which will be borne by the property within the proposed district, and fixing a date, time, and place for a public hearing on the formation of the proposed local district, which date shall, unless there is an emergency, be no less than thirty days and no more than ninety days from the day the resolution of intention was adopted.

In case any such utility local improvement district is initiated by petition, such petition shall set forth the nature and territorial extent of such proposed improvement and the fact that the signers thereof are the owners according to the records of the county auditor of at least fifty-one percent of the area of land within the limits of the utility local improvement district to be created. Upon the filing of such petition with the secretary of the board of sewer commissioners, the board shall determine whether the petition is sufficient, and the board's determination thereof shall be conclusive upon all persons. No person may withdraw his name from the petition after the filing thereof with the secretary of the board of sewer commissioners. If the board finds the petition to be sufficient, it shall proceed to adopt a resolution declaring its intention to order the improvement petitioned for, setting forth the nature and territorial extent of the improvement, designating the number of the proposed local district, describing the boundaries thereof, stating the estimated cost and expense of the improvement and the proportionate amount thereof which will be borne by the property within the proposed local district, and fixing a date, time, and place for a public hearing on the formation of the proposed local district.

Notice of the adoption of the resolution of intention, whether the resolution was adopted on the initiative of the board or pursuant to a petition of the property owners, shall be published in at least two consecutive issues of a newspaper of general circulation in the proposed local district, the date of the first publication to be at least fifteen days prior to the date fixed by such resolution for hearing before the board of sewer commissioners. Notice of the adoption of the resolution of intention shall also be given each owner or reputed owner of any lot, tract, parcel of land, or other property within the proposed improvement district by mailing the notice at least fifteen days before the date fixed for the public hearing to the owner or reputed owner of the property as shown on the tax rolls of the county treasurer at the address shown thereon. Whenever such notices are mailed, the sewer commissioners shall maintain a list of such reputed property owners, which list shall be kept on file at a location within the sewer district and shall be made available for public perusal. The notices shall refer to the resolution of intention and designate the proposed improvement district by number. The notices shall also set forth the

nature of the proposed improvement, the total estimated cost, the proportion of total cost to be borne by assessments, the date, time, and place of the hearing before the board of sewer commissioners. In the case of improvements initiated by resolution, the notice shall also: (1) State that all persons desiring to object to the formation of the proposed district must file their written protests with the secretary of the board of sewer commissioners no later than ten days after the public hearing; (2) state that if owners of at least forty percent of the area of land within the proposed district file written protests with the secretary of the board, the power of the sewer commissioners to proceed with the creation of the proposed district shall be divested; (3) provide the name and address of the secretary of the board; and (4) state the hours and location within the sewer district where the names of the property owners within the proposed district are kept available for public perusal. In the case of the notice given each owner or reputed owner by mail, the notice shall set forth the estimated amount of the cost and expense of such improvement to be borne by the particular lot, tract, parcel of land, or other property. [1986 c 256 § 1; 1977 ex.s. c 300 § 10; 1974 ex.s. c 58 § 5; 1965 ex.s. c 40 § 1; 1953 c 250 § 17; 1941 c 210 § 27; Rem. Supp. 1941 § 9425-36.]

56.20.030 Hearing—Improvement ordered—Divestment of power to order—Notice—Appeal—Assessment roll. Whether the improvement is initiated by petition or resolution, the board shall conduct a public hearing at the time and place designated in the notice to property owners. At this hearing the board shall hear objections from any person affected by the formation of the local district and may make such changes in the boundaries of the district or such modifications in plans for the proposed improvement as shall be deemed necessary. The board may not change the boundaries of the district to include property not previously included in it without first passing a new resolution of intention and giving a new notice to property owners in the manner and form and within the time provided in this chapter for the original notice.

After the hearing and the expiration of the ten-day period for filing written protests, the commissioners shall have jurisdiction to overrule protests and proceed with any such improvement initiated by petition or resolution. The jurisdiction of the commissioners to proceed with any improvement initiated by resolution shall be divested: (a) By protests filed with the secretary of the board no later than ten days after the hearing, signed by the owners, according to the records of the county auditor, of at least forty percent of the area of land within the proposed local district or (b) by the commissioners not adopting a resolution ordering the improvement at a public hearing held not more than ninety days from the day the resolution of intention was adopted, unless the commissioners file with the county auditor a copy of the notice required by RCW 56.20.020, and in no event at a hearing held more than two years from the day the resolution of intention was adopted.

If the commissioners find that the district should be formed, they shall by resolution form the district and order the improvement. After execution of the resolution forming the district, the secretary of the board of commissioners shall publish, in a legal publication that serves the area subject to

the district, a notice setting forth that a resolution has been passed forming the district and that a lawsuit challenging the jurisdiction or authority of the sewer district to proceed with the improvement and creating the district must be filed, and notice to the sewer district served, within thirty days of the publication of the notice. The notice shall set forth the nature of the appeal. Property owners bringing the appeal shall follow the procedures as set forth under appeal under RCW 56.20.080. Whenever a resolution forming a district has been adopted, the formation is conclusive in all things upon all parties, and cannot be contested or questioned in any manner in any proceeding whatsoever by any person not commencing a lawsuit in the manner and within the time provided in this section, except for lawsuits made under RCW 56.20.080.

Following an appeal, if it is unsuccessful or if no appeal is made under RCW 56.20.080, the commissioners may proceed with the improvement and provide the general funds of the sewer district to be applied thereto, adopt detailed plans of the utility local improvement district and declare the estimated cost thereof, acquire all necessary land therefor, pay all damages caused thereby, and commence in the name of the sewer district such eminent domain proceedings and supplemental assessment or reassessment proceedings to pay all eminent domain awards as may be necessary to entitle the district to proceed with the work. The board of sewer commissioners shall proceed with the work and file with the county treasurer of each county in which the real property is to be assessed its roll levying special assessments in the amount to be paid by special assessment against the property situated within the local improvement district in proportion to the special benefits to be derived by the property therein from the improvement. [1991 c 190 § 3; 1986 c 256 § 2; 1974 ex.s. c 58 § 6; 1971 ex.s. c 272 § 9; 1953 c 250 § 18; 1941 c 210 § 28; Rem. Supp. 1941 § 9425-37.]

56.20.032 Notice must contain statement that assessments may vary from estimates. Any notice given to the public or to the owners of specific lots, tracts, or parcels of land relating to the formation of a utility local improvement district shall contain a statement that actual assessments may vary from assessment estimates so long as they do not exceed a figure equal to the increased true and fair value the improvement adds to the property. [1989 c 243 § 10.]

56.20.033 Sanitary sewer facilities—Notice to certain property owners. Whenever it is proposed that a utility local improvement district finance sanitary sewers facilities, additional notice of the public hearing on the proposed improvement district shall be mailed to the owners of any property located outside of the proposed utility local improvement district that would be required as a condition of federal housing administration loan qualification, at the time of notice, to be connected to the specific sewer facilities installed by the utility local improvement district. The notice shall include information about this restriction. [1987 c 315 § 5.]

56.20.035 Exemption of farm and agricultural land from special benefit assessments. See RCW 84.34.300 through 84.34.380 and 84.34.922.

56.20.040 Notice of filing roll. Before the approval of the roll a notice shall be published once a week for two consecutive weeks in a newspaper of general circulation in the local district, stating that the roll is on file and open to inspection in the office of the secretary, and fixing the time, not less than fifteen or more than thirty days from the date of the first publication of the notice, within which protests must be filed with the secretary against any assessments shown thereon, and fixing a time when a hearing will be held by the commission on the protests. The notice shall also be given by mailing at least fifteen days before the hearing, a similar notice to the owners or reputed owners of the land in the local district as they appear on the books of the treasurer of the county in which the sewer district is located. [1953 c 250 § 19; 1941 c 210 § 29; Rem. Supp. 1941 § 9425-38.]

56.20.050 Hearing on protests—Order. At such hearing on a protest to an assessment, or any adjournment thereof, the sewer commissioners shall have power to correct, revise, raise, lower, change or modify such roll, or any part thereof, and to set aside such roll, and order that such assessment be made de novo, as to such body shall appear equitable and just and may then by resolution approve the same. In the event of any assessment being raised a new notice similar to such first notice shall be given, after which final approval of such roll may be made by the sewer commissioners. Whenever any property shall have been entered originally upon such roll and the assessment upon any such property shall not be raised, no objection thereto shall be considered by the sewer commissioners or by any court on appeal unless such objection be made in writing at, or prior, to the date fixed for the original hearing upon such roll. [1941 c 210 § 30; Rem. Supp. 1941 § 9425-39.]

56.20.060 Enlarged local district may be formed. In the event that any portion of the system after its installation in such utility local improvement district is not adequate for the purpose for which it was intended, or that for any reason changes, alterations or betterments are necessary in any portion of the system after its installation, then such district, with boundaries which may include one or more existing utility local improvement districts, may be created in the sewer district in the same manner as is provided herein for the creation of utility local improvement districts. Upon the organization of such a utility local improvement district as provided for in this section the plan of the improvement and the payment of the cost of the improvement shall be carried out in the same manner as is provided herein for the carrying out of and the paying for the improvement in the utility local improvement districts previously provided for in this title. [1941 c 210 § 31; Rem. Supp. 1941 § 9425-40.]

56.20.070 Conclusiveness of roll when approved—Exceptions. Whenever any assessment roll for local

improvements shall have been confirmed by the sewer commission of such sewer district as herein provided, the regularity, validity and correctness of the proceedings relating to such improvement, and to the assessment therefor, including the action of the sewer commission upon such assessment roll and the confirmation thereof, shall be conclusive in all things upon all parties, and cannot in any manner be contested or questioned in any proceeding whatsoever by any person not filing written objections to such roll in the manner and within the time provided in this title, and not appealing from the action of the sewer commission in confirming such assessment roll in the manner and within the time in this title provided. No proceedings of any kind shall be commenced or prosecuted for the purpose of defeating or contesting any such assessment, or the sale of any property to pay such assessment, or any certificate of delinquency issued therefor, or the foreclosure of any lien issued therefor.

This section shall not be construed as prohibiting the bringing of injunction proceedings to prevent the sale of any real estate upon the grounds:

- (1) That the property about to be sold does not appear upon the assessment roll, or
- (2) That said assessment has been paid.

This section also shall not prohibit the correction of clerical errors and errors in the computation of assessments in assessment rolls by the following procedure:

(1) The board of sewer commissioners may file a petition with the superior court of the county wherein the real property is located, asking that the court enter an order correcting such errors and directing that the county treasurer pay a portion or all of the incorrect assessment by the transfer of funds from the district's maintenance fund, if such relief be necessary.

(2) Upon the filing of the petition, the court shall set a date for hearing and upon the hearing may enter an order as provided in subsection (1) of this paragraph: **PROVIDED**, That neither the correcting order or the corrected assessment roll shall result in an increased assessment to the property owner. [1971 ex.s. c 272 § 10; 1969 c 126 § 1; 1941 c 210 § 33; Rem. Supp. 1941 § 9425-42.]

56.20.080 Review. The decision of the sewer commission upon any objections made within the time and in the manner herein prescribed, may be reviewed by the superior court upon an appeal thereto taken in the following manner. Such appeal shall be made by filing written notice of appeal with the secretary of said sewer commission and with the clerk of the superior court in the county in which the real property is situated within ten days after publication of a notice that the resolution confirming such assessment roll has been adopted, and such notice of appeal shall describe the property and set forth the objections of such appellant to such assessment. Within ten days from the filing of such notice of appeal with the clerk of the superior court, the appellant shall file with the clerk of said court, a transcript consisting of the assessment roll and his or her objections thereto, together with the resolution confirming such assessment roll and the record of the sewer district commission with reference to said assessment, which transcript, upon payment of the necessary fees therefor, shall be furnished by

such secretary of said sewer commission and by him or her certified to contain full, true and correct copies of all matters and proceedings required to be included in such transcript. Such fees shall be the same as the fees payable to the county clerk for the preparation and certification of transcripts on appeal to the supreme court or the court of appeals in civil actions. At the time of the filing of the notice of appeal with the clerk of the superior court a sufficient bond in the penal sum of two hundred dollars, with sureties thereon as provided by law for appeals in civil cases, shall be filed conditioned to prosecute such appeal without delay, and if unsuccessful, to pay all costs to which the sewer district is put by reason of such appeal. The court may order the appellant upon application therefor, to execute and file such additional bond or bonds as the necessity of the case may require. Within three days after such transcript is filed in the superior court, as aforesaid, the appellant shall give written notice to the secretary of such sewer district, that such transcript is filed. Said notice shall state a time, not less than three days from the service thereof, when the appellant will call up the said cause for hearing. The superior court shall, at said time or at such further time as may be fixed by order of the court, hear and determine such appeal without a jury, and such cause shall have preference over all civil causes pending in said court, except proceedings under an act relating to eminent domain in such sewer district and actions of forcible entry and detainer. The judgment of the court shall confirm, unless the court shall find from the evidence that such assessment is either founded upon a fundamentally wrong basis or a decision of the council or other legislative body thereon was arbitrary or capricious, or both; in which event the judgment of the court shall correct, modify or annul the assessment insofar as the same affects the property of the appellant. A certified copy of the decision of the court shall be filed with the officer who shall have the custody of the assessment roll, and he or she shall modify and correct such assessment roll in accordance with such decision. An appeal shall lie to the supreme court or the court of appeals from the judgment of the superior court, as in other cases, however, such appeal must be taken within fifteen days after the date of the entry of the judgment of such superior court, and the record and opening brief of the appellant in said cause shall be filed in the supreme court or the court of appeals within sixty days after the appeal shall have been taken by notice as provided in this title. The time for filing such record and serving and filing of briefs in this section prescribed may be extended by order of the superior court, or by stipulation of the parties concerned. The supreme court or the court of appeals on such appeal may correct, change, modify, confirm or annul the assessment insofar as the same affects the property of the appellant. A certified copy of the order of the supreme court or the court of appeals upon such appeal shall be filed with the officer having custody of such assessment roll, who shall thereupon modify and correct such assessment roll in accordance with such decision. [1991 c 190 § 4; 1971 ex.s. c 272 § 11; 1971 c 81 § 125; 1965 ex.s. c 40 § 2; 1941 c 210 § 32; Rem. Supp. 1941 § 9425-41.]

Rules of court: Cf. RAP 2.2, 5.2, 8.1, 18.22.

56.20.090 Segregation of special assessment—Fee—Costs. Whenever any land against which there has been levied any special assessment by any sewer district shall have been sold in part or subdivided, the board of sewer commissioners of such district shall have the power to order a segregation of the assessment.

Any person desiring to have such a special assessment against a tract of land segregated to apply to smaller parts thereof shall apply to the board of commissioners of the sewer district which levied the assessment. If the sewer commissioners determine that a segregation should be made, they shall by resolution order the county treasurer to make segregation on the original assessment roll as directed in the resolution. The segregation shall be made as nearly as possible on the same basis as the original assessment was levied, and the total of the segregated parts of the assessment shall equal the assessment before segregation. The resolution shall describe the original tract, the amount and date of the original assessment, and shall define the boundaries of the divided parts and the amount of the assessment chargeable to each part. A certified copy of the resolution shall be delivered to the county treasurer who shall proceed to make the segregation ordered upon being tendered a fee of three dollars for each tract of land for which a segregation is to be made. In addition to such charge the board of sewer commissioners may require as a condition to the order of segregation that the person seeking it pay the district the reasonable engineering and clerical costs incident to making the segregation. [1953 c 250 § 20.]

Segregation

duties of county treasurer: RCW 36.29.160.

of taxes where part of parcel acquired by public body: RCW 84.60.070.

56.20.100 Acquisition of property subject to local improvement assessment—Payment. See RCW 79.44.190.

56.20.110 Service fees for sewers not constructed within ten years after voter approval—Credit against future assessments, service charges. See RCW 35.43.260.

56.20.120 Foreclosure of assessments—Attorneys' fees. Judgments foreclosing special assessments pursuant to RCW 35.50.260 may also allow to sewer districts, in addition to delinquent installments, interest, penalties, and costs, such attorneys' fees as the court may find reasonable. [1987 c 449 § 7.]

Chapter 56.22

CONTRACTS FOR SEWER EXTENSIONS

Sections

56.22.010	Contracts—Conditions.
56.22.020	Reimbursement to owner.
56.22.030	Scope of reimbursement.
56.22.040	Reimbursement—Procedures.
56.22.050	District participation in financing project.

56.22.010 Contracts—Conditions. If the sewer district approves an extension to the sewer system, the district shall contract with owners of real estate located within the district boundaries, at an owner's request, for the

purpose of permitting extensions to the district's sewer system to be constructed by such owner at such owner's sole cost where such extensions are required as a prerequisite to further property development. The contract shall contain such conditions as the district may require pursuant to the district's adopted policies and standards. The district shall request comprehensive plan approval for such extension, if required, and connection of the extension to the district system is conditioned upon:

- (1) Construction of such extension according to plans and specifications approved by the district;
- (2) Inspection and approval of such extension by the district;
- (3) Transfer to the district of such extension without cost to the district upon acceptance by the district of such extension;
- (4) Payment of all required connection charges to the district;
- (5) Full compliance with the owner's obligations under such contract and with the district's rules and regulations;
- (6) Provision of sufficient security to the district to ensure completion of the extension and other performance under the contract;
- (7) Payment by the owner to the district of all of the district's costs associated with such extension including, but not limited to, the district's engineering, legal, and administrative costs; and
- (8) Verification and approval of all contracts and costs related to such extension. [1989 c 389 § 4.]

56.22.020 Reimbursement to owner. The contract shall also provide, subject to the terms and conditions in this section, for the reimbursement to the owner or the owner's assigns for a period not to exceed fifteen years of a portion of the costs of the sewer facilities constructed pursuant to such contract from connection charges received by the district from other property owners who subsequently connect to or use the sewer facilities within the fifteen-year period and who did not contribute to the original cost of such sewer facilities. [1989 c 389 § 5.]

56.22.030 Scope of reimbursement. The reimbursement shall be a pro rata share of construction and contract administration costs of the sewer project. Reimbursement for sewer projects shall include, but not be limited to, design, engineering, installation, and restoration. [1989 c 389 § 6.]

56.22.040 Reimbursement—Procedures. The procedures for reimbursement contracts shall be governed by the following:

- (1) A reimbursement area shall be formulated by the board of commissioners within a reasonable time after the acceptance of the extension. The reimbursement shall be based upon a determination by the board of commissioners of which parcels would require similar sewer improvements upon development.
- (2) The contract must be recorded in the appropriate county auditor's office after the final execution of the agreement. [1989 c 389 § 7.]

56.22.050 District participation in financing project.

As an alternative to financing projects under this chapter solely by owners of real estate, sewer districts may join in the financing of improvement projects and may be reimbursed in the same manner as the owners of real estate who participate in the projects, if the board of commissioners has specified the conditions of its participation in a resolution. [1989 c 389 § 8.]

Chapter 56.24**ANNEXATION OF TERRITORY**

Sections

- 56.24.001 Actions subject to review by boundary review board.
 56.24.070 Annexation authorized—Petition—Filing—Certificate of sufficiency—Notice of hearing.
 56.24.080 Hearing—Boundaries—Election, notice, judges.
 56.24.090 Election—Qualification of voters.
 56.24.100 Conduct, expense of election.
 56.24.110 Petition method is alternative to election method.
 56.24.120 Petition method—Petition—Signers—Content—Certain public properties excluded from local improvement districts.
 56.24.130 Petition method—Hearing—Notice.
 56.24.140 Petition method—Resolution—Filing.
 56.24.150 Petition method—Effective date of annexation—Prior indebtedness.
 56.24.160 Sewer district activities to be approved—Criteria for approval by county legislative authority.
 56.24.180 Annexation of certain unincorporated territory—Authorized—Hearing.
 56.24.190 Annexation of certain unincorporated territory—Opportunity to be heard—Effective date of annexation resolution—Notice—Referendum.
 56.24.200 Annexation of certain unincorporated territory—Referendum authorized—Petition—Election—Effective date of annexation.
 56.24.205 Annexation of certain unincorporated territory with boundaries contiguous to two districts—Procedure.
 56.24.210 Expenditure of funds to provide certain information authorized—Limits.
 56.24.900 Severability—1967 ex.s. c 11.

Annexation of district territory to cities and towns: Chapter 35.13A RCW.

56.24.001 Actions subject to review by boundary review board. Actions taken under chapter 56.24 RCW may be subject to potential review by a boundary review board under chapter 36.93 RCW. [1989 c 84 § 52.]

56.24.070 Annexation authorized—Petition—Filing—Certificate of sufficiency—Notice of hearing. Territory within the county or counties in which a district is located, or territory adjoining or in close proximity to a district but which is located in another county, may be annexed to and become a part of the district. All annexations shall be accomplished in the following manner: Ten percent of the number of registered voters residing in the territory proposed to be annexed who voted in the last general municipal election may file a petition with the district commissioners and cause the question to be submitted to the voters of the territory whether the territory will be annexed and become a part of the district. If the commissioners concur in the petition, they shall file it with the county auditor, who shall, within ten days, examine the signatures thereon and certify to the sufficiency or insufficiency thereof; and for such purpose the county auditor shall

have access to all registration books in the possession of the officers of any city or town in the proposed district. If the petition contains a sufficient number of signatures, the county auditor shall transmit it, together with a certificate of sufficiency attached thereto to the sewer commissioners of the district. If there are no registered voters residing in the territory to be annexed, the petition may be signed by such a number as appear of record to own at least a majority of the acreage in the territory, and the petition shall disclose the total number of acres of land in the territory and the names of all record owners of land therein. If the commissioners are satisfied as to the sufficiency of the petition and concur therein, they shall send it, together with their certificate of concurrence attached thereto to the county legislative authority.

The county legislative authority, upon receipt of a petition certified to contain a sufficient number of signatures of registered voters, or upon receipt of a petition signed by such a number as own at least a majority of the acreage, together with a certificate of concurrence signed by the sewer commissioners, at a regular or special meeting shall cause to be published once a week for at least two weeks in a newspaper in general circulation throughout the territory proposed to be annexed a notice that the petition has been filed, stating the time of the meeting at which it shall be presented, and setting forth the boundaries of the territory proposed to be annexed. [1990 c 259 § 25; 1989 c 308 § 3; 1988 c 162 § 13; 1985 c 469 § 56; 1982 1st ex.s. c 17 § 3; 1967 ex.s. c 11 § 1.]

56.24.080 Hearing—Boundaries—Election, notice, judges. When the petition is presented for hearing, the county legislative authority shall hear the same or may adjourn the hearing from time to time not exceeding one month in all, and any person, firm or corporation may appear before the county legislative authority and make objections to the proposed boundary lines or to the annexation of the territory described in the petition; and upon a final hearing the county legislative authority shall make such changes in the proposed boundary lines as it deems to be proper and shall establish and define the boundaries and shall find whether the proposed annexation of the territory as established by the county legislative authority to the sewer district will be conducive to the public health, welfare and convenience and will be of special benefit to the land included within the boundaries of the territory proposed to be annexed to the sewer district and so established by the county legislative authority: PROVIDED. That no lands which will not, in the judgment of the county legislative authority, be benefited by inclusion therein, shall be included within the boundaries of the territory as so established and defined: PROVIDED FURTHER. That no change shall be made by the county legislative authority in the boundary lines, including any territory outside of the boundary lines described in the petition: AND PROVIDED FURTHER. That no person having signed the petition as herein provided for shall be allowed to withdraw his or her name therefrom after the filing of the same with the board of sewer commissioners of the sewer district.

Upon the entry of the findings of the final hearing to the petition by the county legislative authority, if it finds the

proposed annexation of the territory to the sewer district to be conducive to the public health, welfare and convenience and to be of special benefit to the land proposed to be annexed and included within the boundaries of the district, it shall give notice of a special election to be held within the boundaries of the territory proposed to be annexed to the sewer district for the purpose of determining whether the same shall be annexed to the sewer district; and the notice shall particularly describe the boundaries established by the county legislative authority on its final hearing of the petition, and shall state the name of the sewer district to which the territory is proposed to be annexed, and the same shall be published once a week for at least two weeks prior to the election in a newspaper of general circulation within the county within which the district is located, and shall be posted for the same period in at least four public places within the boundaries of the district proposed to be annexed, which notice shall designate the places within the territory proposed to be annexed to the sewer district where the said election shall be held, and shall require the voters to cast ballots which shall contain the words:

For Annexation to Sewer District
or
Against Annexation to Sewer District

The county legislative authority shall name the persons to act as judges at such election. [1985 c 469 § 57; 1967 ex.s. c 11 § 2.]

56.24.090 Election—Qualification of voters. The said election shall be held on the date designated in such notice and shall be conducted in accordance with the general election laws of the state. In the event the original petition for annexation is signed by qualified electors then only qualified electors, at the date of election, residing in the territory proposed to be annexed, shall be permitted to vote at the said election. In the event the original petition for annexation is signed by property owners as provided for in this chapter then no person shall be entitled to vote at such election unless at the time of the filing of the original petition he owned the land in the district of record and in addition thereto at the date of election shall be a qualified elector of the county in which such district is located. It shall be the duty of the county auditor, upon request of the county commissioners, to certify to the election officers of any such election, the names of all persons owning land in the district at the date of the filing of the original petition as shown by the records of his office; and at any such election the election officers may require any such landowner offering to vote to take an oath that he is a qualified elector of the county before he shall be allowed to vote: PROVIDED, That at any election held under the provisions of this chapter an officer or agent of any corporation having its principal place of business in said county and owning land at the date of filing the original petition in the district duly authorized thereto in writing may cast a vote on behalf of such corporation. When so voting he shall file with the election officers such a written instrument of his authority. The judge or judges at such election shall make return thereof to the board of sewer commissioners, who shall canvass such return and cause a statement of the result of

such election to be entered on the record of such commissioners. If the majority of the votes cast upon the question of such election shall be for annexation, then such territory shall immediately be and become annexed to such sewer district and the same shall then forthwith be a part of the said sewer district, the same as though originally included in such district. [1967 ex.s. c 11 § 3.]

56.24.100 Conduct, expense of election. All elections held pursuant to this chapter, whether general or special, shall be conducted by the county election board of the county in which the district is located.

The expense of all such elections shall be paid for out of the funds of such sewer district. [1967 ex.s. c 11 § 4.]

56.24.110 Petition method is alternative to election method. The method of annexation provided for in RCW 56.24.120 through 56.24.150 shall be an alternative method to that specified in RCW 56.24.070 through 56.24.100. [1967 ex.s. c 11 § 5.]

56.24.120 Petition method—Petition—Signers—Content—Certain public properties excluded from local improvement districts. A petition for annexation of an area contiguous to a sewer district may be made in writing, addressed to and filed with the board of commissioners of the district to which annexation is desired. It must be signed by the owners, according to the records of the county auditor, of not less than sixty percent of the area of land for which annexation is petitioned, excluding county and state rights of way, parks, tidelands, lakes, retention ponds, and stream and water courses. Additionally, the petition shall set forth a description of the property according to government legal subdivisions or legal plats, and shall be accompanied by a plat which outlines the boundaries of the property sought to be annexed. Such county and state properties shall be excluded from local improvement districts or utility local improvement districts in the annexed area and from special assessments, rates, or charges of the district except where service has been regulated and provided to such properties. The owners of such property shall be invited to be included within local improvement districts or utility local improvement districts at the time they are proposed for formation. [1985 c 141 § 4; 1967 ex.s. c 11 § 6.]

56.24.130 Petition method—Hearing—Notice. If the petition for annexation filed with the board of commissioners complies with the requirements of law, as proved to the satisfaction of the board of commissioners, it may entertain the petition, fix the date for public hearing thereon, and cause notice of the hearing to be published in one issue of a newspaper of general circulation in the area proposed to be annexed and also posted in three public places within the area proposed for annexation. The notice shall specify the time and place of hearing and invite interested persons to appear and voice approval or disapproval of the annexation. The expense of publication and posting of the notice shall be borne by the signers of the petition. [1967 ex.s. c 11 § 7.]

56.24.140 Petition method—Resolution—Filing. Following the hearing the board of commissioners shall

determine by resolution whether annexation shall be made. It may annex all or any portion of the proposed area but may not include in the annexation any property not described in the petition. Upon passage of the resolution a certified copy shall be filed with the board of county commissioners of the county in which the annexed property is located. [1967 ex.s. c 11 § 8.]

56.24.150 Petition method—Effective date of annexation—Prior indebtedness. Upon the date fixed in the resolution the area annexed shall become a part of the district.

No property within the limits of the territory so annexed shall ever be taxed or assessed to pay any portion of the indebtedness of the district to which it is annexed contracted prior to or existing at the date of annexation; nor shall any such property be released from any taxes or assessments levied against it or from liability for payment of outstanding bonds or warrants issued prior to such annexation. [1967 ex.s. c 11 § 9.]

56.24.160 Sewer district activities to be approved—Criteria for approval by county legislative authority. See RCW 56.02.060 and 56.02.070.

56.24.180 Annexation of certain unincorporated territory—Authorized—Hearing. When there is, within a sewer district, unincorporated territory containing less than one hundred acres and having at least eighty percent of the boundaries of such area contiguous to the sewer district, the board of commissioners may resolve to annex such territory to the sewer district. The resolution shall describe the boundaries of the area to be annexed, state the number of voters residing therein as nearly as may be, and set a date for a public hearing on such resolution for annexation. Notice of the hearing shall be given by publication of the resolution at least once a week for two weeks prior to the date of the hearing, in one or more newspapers of general circulation within the sewer district and one or more newspapers of general circulation within the area to be annexed. [1982 c 146 § 1.]

56.24.190 Annexation of certain unincorporated territory—Opportunity to be heard—Effective date of annexation resolution—Notice—Referendum. On the date set for hearing under RCW 56.24.180, residents or property owners of the area included in the resolution for annexation shall be afforded an opportunity to be heard. The board of commissioners may provide by resolution for annexation of the territory described in the resolution, but the effective date of the resolution shall be not less than forty-five days after the passage thereof. The board of commissioners shall cause notice of the proposed effective date of the annexation, together with a description of the property to be annexed, to be published at least once each week for two weeks subsequent to passage of the resolution, in one or more newspapers of general circulation within the sewer district and in one or more newspapers of general circulation within the area to be annexed. Upon the filing of a timely and sufficient referendum petition under RCW 56.24.200, a referendum election shall be held under RCW 56.24.200, and the

annexation shall be deemed approved by the voters unless a majority of the votes cast on the proposition are in opposition thereto. After the expiration of the forty-fifth day from, but excluding the date of passage of the annexation resolution, if no timely and sufficient referendum petition has been filed, under RCW 56.24.200, the area annexed shall become a part of the sewer district upon the date fixed in the resolution of annexation. [1982 c 146 § 2.]

56.24.200 Annexation of certain unincorporated territory—Referendum authorized—Petition—Election—Effective date of annexation. Such annexation resolution under RCW 56.24.190 shall be subject to referendum for forty-five days after the passage thereof. Upon the filing of a timely and sufficient referendum petition with the board of commissioners, signed by registered voters in number equal to not less than ten percent of the registered voters in the area to be annexed who voted in the last general municipal election, the question of annexation shall be submitted to the voters of such area in a general election if one is to be held within ninety days or at a special election called for that purpose by the board of commissioners in accordance with RCW 29.13.010 and 29.13.020. Notice of such election shall be given under RCW 56.24.080 and the election shall be conducted under RCW 56.24.090. The annexation shall be deemed approved by the voters unless a majority of the votes cast on the proposition are in opposition thereto.

After the expiration of the forty-fifth day from but excluding the date of passage of the annexation resolution, if no timely and sufficient referendum petition has been filed, the area annexed shall become a part of the sewer district upon the date fixed in the resolution of annexation upon transmitting the resolution to the county legislative authority. [1990 c 259 § 26; 1982 c 146 § 3.]

56.24.205 Annexation of certain unincorporated territory with boundaries contiguous to two districts—Procedure. When there is unincorporated territory containing less than one hundred acres and having at least eighty percent of the boundaries of such area contiguous to two sewer districts or contiguous to a sewer district and a water district, the board of commissioners of one of the districts may resolve to annex such territory to that district, provided a majority of the board of commissioners of the other sewer or water district concurs. The district resolving to annex such territory may proceed to effect the annexation by complying with RCW 56.24.180 through 56.24.200. [1987 c 449 § 8.]

56.24.210 Expenditure of funds to provide certain information authorized—Limits. Sewer districts may expend funds to inform residents in areas proposed for annexation into the district of the following:

- (1) Technical information and data;
- (2) The fiscal impact of the proposed improvement;
- (3) The types of improvements planned.

Expenditures under this section shall be limited to research, preparation, printing, and mailing of the information. [1986 c 258 § 1.]

56.24.900 Severability—1967 ex.s. c 11. If any provision of this act, or its application to any person or circumstance is held invalid, the remainder of the act, or the application of the provision to other persons or circumstances is not affected. [1967 ex.s. c 11 § 11.]

Chapter 56.28

WITHDRAWAL OF TERRITORY

Sections

- 56.28.001 Actions subject to review by boundary review board.
 56.28.010 Withdrawal authorized—Methods—Laws applicable.
 56.28.020 Alternative procedure—Resolution.
 56.28.100 Sewer district activities to be approved—Criteria for approval by county legislative authority.

56.28.001 Actions subject to review by boundary review board. Actions taken under chapter 56.28 RCW may be subject to potential review by a boundary review board under chapter 36.93 RCW. [1989 c 84 § 53.]

56.28.010 Withdrawal authorized—Methods—Laws applicable. Territory within a sewer district may be withdrawn therefrom in the same manner provided by law for withdrawal of territory from water districts, and in addition thereto, territory may be withdrawn from a sewer district upon a written petition designating the territory proposed to be withdrawn signed by all of the owners of land within said territory, concurred in by unanimous vote of the sewer commissioners and approved by resolution of the board of county commissioners. The provisions of RCW 57.28.110 shall apply to territory withdrawn from a sewer district. [1953 c 250 § 27.]

56.28.020 Alternative procedure—Resolution. As an alternative procedure to that set forth in RCW 56.28.010, the withdrawal of territory within a sewer district may be commenced by a resolution of the board of commissioners that sets forth boundaries of the territory to be withdrawn and sets a date for the public hearing required under RCW 57.28.050. Upon the final hearing, the commissioners shall make such changes in the proposed boundaries as they deem proper, except that no changes in the boundary lines may be made by the commissioners to include lands not within the boundaries of the territory as described in such resolution.

Whenever the board of commissioners proposes to commence the withdrawal of any portion of their territory located within a city or town using the alternative procedures herein authorized, they shall first notify such city or town of their intent to withdraw said territory. If the legislative authority of the city or town takes no action within sixty days of receipt of notification, the district may proceed with the resolution method.

If the city of [or] town legislative authority disapproves of use of the alternative procedures, the board of commissioners may proceed using the process established pursuant to RCW 56.28.010.

A withdrawal procedure commenced under this section shall be subject to the procedures and requirements set forth in RCW 57.28.040 through 57.28.110. [1985 c 153 § 2.]

56.28.100 Sewer district activities to be approved—Criteria for approval by county legislative authority. See RCW 56.02.060 and 56.02.070.

Chapter 56.32

CONSOLIDATION OR MERGER OF DISTRICTS— TRANSFER OF PART OF DISTRICT

(Formerly: Consolidation of districts—Merger)

Sections

- 56.32.001 Actions subject to review by boundary review board.
 56.32.010 Consolidation authorized—Methods.
 56.32.020 Petition method—Signers—Filing—Certificate of sufficiency.
 56.32.030 Agreements by consolidating districts—Contents—Comprehensive plan.
 56.32.040 Election—Proposition—Notice.
 56.32.050 Consolidation effected—Rights and powers of new district.
 56.32.060 Vesting of funds and property in consolidated district—Outstanding indebtedness.
 56.32.070 Sewer commissioners—Number.
 56.32.080 Merger of districts authorized.
 56.32.090 Initiation of merger—Methods.
 56.32.100 Election on merging of districts.
 56.32.110 Return of election—When merger effective—Cessation of merging district.
 56.32.115 County auditor defined.
 56.32.120 Vesting of funds and property in merged district—Outstanding indebtedness.
 56.32.150 Sewer district activities to be approved—Criteria for approval by county legislative authority.
 56.32.160 Transfer of part of district—Procedure.

56.32.001 Actions subject to review by boundary review board. Actions taken under chapter 56.32 RCW may be subject to potential review by a boundary review board under chapter 36.93 RCW. [1989 c 84 § 54.]

56.32.010 Consolidation authorized—Methods. Two or more sewer districts may be joined into one consolidated sewer district. The consolidation may be initiated in either of the following ways: Ten percent of the legal electors residing within each of the sewer districts proposed to be consolidated may petition the board of sewer commissioners of each of their respective sewer districts to cause the question to be submitted to the legal electors of the sewer districts proposed to be consolidated; or, the boards of sewer commissioners of each of the sewer districts proposed to be consolidated may by resolution determine that the consolidation of such districts shall be conducive to the public health, welfare, and convenience and to be of special benefit to the lands of such districts. [1989 c 308 § 9; 1975 1st ex.s. c 86 § 1; 1967 c 197 § 2.]

56.32.020 Petition method—Signers—Filing—Certificate of sufficiency. If consolidation proceedings are initiated by petition, upon the filing of such petitions with the boards of sewer commissioners of the sewer districts, the boards of sewer commissioners of all of the districts shall file such petitions with the county auditor of each county in which any of the affected districts is located, who shall within ten days examine the signatures thereon and certify to the sufficiency or insufficiency thereof. If all of the petitions shall be found to contain a sufficient number of

signatures, the respective county auditor shall transmit them, together with his certificate of sufficiency attached thereto, to the boards of sewer commissioners of each of the districts proposed for consolidation. In the event that there are no legal electors residing in one or more of the sewer districts proposed to be consolidated, the petitions may be signed by such a number as appear of record to own at least a majority of the acreage in the pertinent sewer district, and the petitions shall disclose the total number of acres of land in the sewer district and shall also contain the names of all record owners of land therein. [1975 1st ex.s. c 86 § 2; 1967 c 197 § 3.]

56.32.030 Agreements by consolidating districts—Contents—Comprehensive plan. Upon the receipt of each county auditor's certificate of sufficiency of the petitions by the boards of sewer commissioners of the districts proposed for consolidation, hereinafter referred to as the "consolidating districts", or upon adoption by the boards of sewer commissioners of the consolidating districts of their resolutions for consolidation, the boards of the consolidating districts shall, within ninety days, enter into an agreement providing for consolidation.

The agreement shall set forth the method and manner of consolidation, a comprehensive plan or scheme of sewer supply for the consolidated district and, if such comprehensive plan or scheme of sewer supply provides that one or more of the consolidating districts or the proposed consolidated district issue revenue bonds for the construction and/or other costs of any part or all of the comprehensive plan, then the details thereof shall be set forth.

The requirement that a comprehensive plan or scheme of sewer supply for the consolidated district be set forth in the agreement for consolidation shall be satisfied if the existing comprehensive plans or schemes of the consolidating districts are incorporated therein by reference and any changes or additions thereto are set forth in detail. [1975 1st ex.s. c 86 § 3; 1967 c 197 § 4.]

56.32.040 Election—Proposition—Notice. The respective boards of sewer commissioners of the consolidating districts shall certify such agreement to the county auditors of the counties in which the districts are located. Thereupon, the county auditor of the county in which the largest amount of territory of the proposed consolidated sewer is located shall call a special election for the purpose of submitting to the voters of each of the consolidating districts the proposition of whether or not the several districts shall be consolidated into one sewer district. The proposition shall give the title of the proposed consolidated district. Notice of the election shall be given and the election conducted in accordance with the general election laws. [1975 1st ex.s. c 86 § 4; 1967 c 197 § 5.]

56.32.050 Consolidation effected—Rights and powers of new district. If at the election a majority of the voters in each of the consolidating districts shall vote in favor of the consolidation, the county canvassing board of the county the auditor of which conducted the election shall so declare in its canvass and the return of the election shall be made within ten days after the date thereof. Upon the

return the consolidation shall be effective and the consolidating districts shall cease to exist and shall then be and become a new sewer district and municipal corporation of the state of Washington.

The name of such new sewer district shall be ". . . (name) . . . Sewer District of . . . County", which shall be the name appearing on the ballot.

The district shall have all and every power, right and privilege possessed by other sewer districts of the state of Washington. The district may issue revenue bonds to pay for the construction of any additions and betterments set forth in the comprehensive scheme and plan of sewer supply contained in the agreement for consolidation and any future additions and betterments to the comprehensive scheme and plan of sewer supply, as its board of sewer commissioners shall by resolution adopt, without submitting a proposition therefor to the voters of the district. [1975 1st ex.s. c 86 § 5; 1967 c 197 § 6.]

56.32.060 Vesting of funds and property in consolidated district—Outstanding indebtedness. Upon the formation of any consolidated sewer district, all funds, rights and property, real and personal, of the former districts, shall vest in and become the property of the consolidated district. Unless the agreement for consolidation provides to the contrary, any outstanding indebtedness of any form, owed by the districts, shall remain the obligation of the area of the original debtor district and the sewer commissioners of the consolidated sewer district shall make such levies, assessments, or charges for service upon that area or the sewer users therein as shall pay off the indebtedness at maturity. [1967 c 197 § 7.]

56.32.070 Sewer commissioners—Number. The sewer commissioners of all sewer districts consolidated into any new consolidated sewer district shall become sewer commissioners thereof until their respective terms of office expire. At each election of sewer commissioners following the consolidation, only one position shall be filled, so that as the terms of office expire the total number of sewer commissioners in the consolidated sewer district shall be reduced to three. [1985 c 141 § 5; 1967 c 197 § 8.]

56.32.080 Merger of districts authorized. Whenever two sewer districts desire to merge, either district hereinafter referred to as the "merging district", may merge into the other districts, hereinafter referred to as the "merger district", and the merger district will survive under its original name or number. [1989 c 308 § 10; 1975 1st ex.s. c 86 § 6; 1967 c 197 § 9.]

56.32.090 Initiation of merger—Methods. A merger of two sewer districts may be initiated in any of the following ways:

(1) Whenever the boards of sewer commissioners of both such districts determine by resolution that the merger of such districts shall be conducive to the public health, welfare and convenience and to be of special benefit to the lands of such districts.

(2) Whenever ten percent of the legal electors residing within the merging district petition the board of sewer

commissioners of the merging sewer district for a merger, and the board of sewer commissioners of the merger district determines by resolution that the merger of the districts shall be conducive to the public health, welfare and convenience of the two districts.

(3) Whenever the boards determine that the merger of the districts shall be conducive to the public health, welfare and convenience and to be of special benefit to the lands of the districts, they shall enter into an agreement providing for the merger. [1967 c 197 § 10.]

56.32.100 Election on merging of districts. The respective boards of sewer commissioners of the districts shall certify the agreement to the county auditor of the county in which the largest amount of territory of the merging district is located. Thereupon, the county auditor shall call a special election for the purpose of submitting to the voters of the merging district the proposition of whether the merging district shall be merged into the merger district. Notice of the election shall be given and the election conducted in accordance with the general election laws. [1975 1st ex.s. c 86 § 7; 1967 c 197 § 11.]

56.32.110 Return of election—When merger effective—Cessation of merging district. If at the election a majority of the voters of the merging sewer district shall vote in favor of the merger, the county canvassing board of the county the auditor of which conducted the election shall so declare in its canvass and the return of the election shall be made within ten days after the date thereof. Upon the return the merger shall be effective and the merging sewer district shall cease to exist and shall become a part of the merger sewer district. The sewer commissioners of the merging district shall hold office as commissioners of the new consolidated sewer district until their respective terms of office expire or until they resign from office or these positions otherwise become vacant. If such a resignation or vacancy occurs, a person shall not be appointed to fill the vacancy. [1994 c 289 § 1; 1975 1st ex.s. c 86 § 8; 1967 c 197 § 12.]

56.32.115 County auditor defined. For the purposes of this chapter, county auditor of a county shall mean the election officer of that county. [1975 1st ex.s. c 86 § 9.]

56.32.120 Vesting of funds and property in merged district—Outstanding indebtedness. All funds, rights and property, real and personal, of the merging district, shall vest in and become the property of the merger district. Unless the agreement of merger provides to the contrary, any outstanding indebtedness of any form, owed by the district shall remain the obligation of the area of the original debtor district and the sewer commissioners of the merger sewer district shall make such levies, assessments, or charges for service upon that area or the sewer users therein as shall pay off the indebtedness at maturity. [1967 c 197 § 13.]

56.32.150 Sewer district activities to be approved—Criteria for approval by county legislative authority. See RCW 56.02.060 and 56.02.070.

56.32.160 Transfer of part of district—Procedure.

A part of one sewer or water district may be transferred into an adjacent sewer district if the area can be better served thereby. Such transfer can be accomplished by a petition, directed to both districts, signed by the owners according to the records of the county auditor of not less than sixty percent of the area of land to be transferred. If a majority of the commissioners of each district approves the petition, copies of the approving resolutions shall be filed with the county legislative authority which shall act upon the petition as a proposed action in accordance with RCW 56.02.060. [1987 c 449 § 9.]

Chapter 56.36

MERGER OF WATER DISTRICTS INTO SEWER DISTRICT—MERGER OF SEWER DISTRICTS INTO WATER DISTRICT

Sections

- 56.36.001 Actions subject to review by boundary review board.
- 56.36.010 Merger authorized.
- 56.36.020 Initiation of merger—Resolution—Petition.
- 56.36.030 Agreement of merger—Board review of proposed merger—Special election.
- 56.36.040 Election—Results—Effect—Commissioners—Terms.
- 56.36.045 Persons serving on both boards to hold only one position after merger.
- 56.36.050 Disposition of funds, rights and property—Indebtedness of merged water districts.
- 56.36.060 Powers of sewer district.
- 56.36.070 Validation of prior mergers.
- 56.36.090 Merger of sewer districts into water district.
- 56.36.100 Sewer district activities to be approved—Criteria for approval by county legislative authority.

56.36.001 Actions subject to review by boundary review board. Actions taken under chapter 56.36 RCW may be subject to potential review by a boundary review board under chapter 36.93 RCW. [1989 c 84 § 55.]

56.36.010 Merger authorized. Any water district, acting alone or in conjunction with any other water district or districts similarly situated as hereafter described, the territory of which lies wholly or partly within, or which is adjoining or in proximity to a sewer district, may merge into the sewer district, and the sewer district will survive under its original name. The term "in proximity to" as used herein shall mean within one mile of each other, measured in a straight line between the closest points of approach of the territorial boundaries of the respective districts. [1982 1st ex.s. c 17 § 4; 1969 ex.s. c 148 § 1.]

Severability—1969 ex.s. c 148: "If any provision of this act, or its application to any person or circumstance is held invalid, the remainder of the act, or the application of the provision to other persons or circumstances is not affected." [1969 ex.s. c 148 § 9.]

56.36.020 Initiation of merger—Resolution—Petition. A merger of one or more water districts into a sewer district may be initiated in any one of the following ways:

(1) Whenever the board of commissioners of the sewer district, on the one hand, and the board of commissioners of the water district or of the respective water districts seeking

to merge into the sewer district, on the other hand, each determine by resolution that the merger of such water district or water districts into the sewer district shall be conducive to the public health, welfare and convenience and to be of special benefit to the lands of such district so desiring to merge.

(2) Whenever ten percent of the qualified electors residing within each of the sewer districts and the water district or districts involved petition the board of commissioners of their respective districts for a merger of such district into the sewer district.

(3) Whenever ten percent of the qualified electors residing within the sewer district petition the board of sewer commissioners for such a merger, and the board of water commissioners of the district or each water district to be merged determines by resolution that the merger of such district into the sewer district will be conducive to the public health, welfare and convenience of the two districts. [1969 ex.s. c 148 § 2.]

Severability—1969 ex.s. c 148: See note following RCW 56.36.010.

56.36.030 Agreement of merger—Board review of proposed merger—Special election. Whenever a merger is initiated in any of the three ways provided in RCW 56.36.020, the boards of the sewer and water commissioners of the respective districts involved shall enter into an agreement providing for the merger. The agreement must be entered into within ninety days following completion of the last act required for initiation of the merger by any one of the means above specified, as provided in RCW 56.36.020. Where two or more water districts seek to merge into a sewer district at or about the same time, there need be but one agreement of merger signed by the sewer district and such two or more water districts if the parties so agree.

Upon entry of such agreement, the boards of the water and sewer commissioners shall file a notice of intention to merge together with a copy of said agreement with the boundary review board, if any, of the county and the board shall review the proposed merger under the provisions of RCW 36.93.150 through 36.93.180.

The respective boards of sewer and water commissioners of such districts shall certify such agreement to the county auditor of the county in which the districts are located within twenty days from date of execution of such agreement, with a certified copy thereof filed with the clerk of the board of county commissioners of such county. Thereupon, unless the boundary review board has disapproved the proposed merger, the county auditor shall call a special election for the purpose of submitting to the voters of the water district or of each of the two or more water districts involved the proposition of whether the water district shall be merged into the sewer district. Notice of the election shall be given, and the election conducted, in accordance with the general election laws. [1971 ex.s. c 146 § 7; 1969 ex.s. c 148 § 3.]

Severability—1969 ex.s. c 148: See note following RCW 56.36.010.

56.36.040 Election—Results—Effect—Commissioners—Terms. If at such election a majority of the voters in the water district or all or either of the water districts involved, shall vote in favor of the merger, the

county election canvassing board shall so declare in its canvass, and the return of the election shall be made within ten days after the date of such election. Upon completion of the return the merger shall be effective as to the sewer district and each water district in which the majority of voters voted in favor of the merger, and each such water district shall cease to exist as a separate entity and the area within such water district shall become a part of the sewer district. The water commissioners of any water district so merged shall hold office as commissioners of the sewer district into which the water district was merged until their respective terms of office expire or until they resign from office if the resignation is before the expiration of their terms of office. At the district election immediately preceding the time when the total number of remaining sewer commissioners is reduced to two through expiration of terms of office or resignations, one sewer commissioner shall be elected for a four year term of office. At the next district election, one sewer commissioner shall be elected for a four year term of office, and one shall be elected for a six year term of office. Thereafter, each sewer commissioner shall be elected for a six-year term of office in the manner provided in RCW 56.12.020 and 56.12.030 for elections in an existing district. [1982 c 104 § 1; 1981 c 45 § 6; 1969 ex.s. c 148 § 4.]

Legislative declaration—"District" defined—Severability—1981 c 45: See notes following RCW 56.36.060.

Severability—1969 ex.s. c 148: See note following RCW 56.36.010.

56.36.045 Persons serving on both boards to hold only one position after merger. A person who serves on the board of commissioners of a water district that merges under this chapter into a sewer district, for which the person also serves on the board of commissioners, shall only hold one position on the board of commissioners of the district that results from the merger and shall only receive compensation, expenses, and benefits that are available to a single commissioner. [1988 c 162 § 3.]

56.36.050 Disposition of funds, rights and property—Indebtedness of merged water districts. All funds, rights and property, real and personal, of any water district merging into a sewer district shall vest in and become the property of the sewer district. Unless the agreement of merger provides to the contrary, any outstanding indebtedness of any form, owed by the water district, shall remain the obligation of and, as applicable, a lien upon the land, assets and/or revenue of the original district. The board of commissioners of the sewer district shall make such levies, assessments or charges upon said land or the water or sewer users therein as are necessary to pay any indebtednesses of the merged water districts as and when the same mature. [1969 ex.s. c 148 § 5.]

Severability—1969 ex.s. c 148: See note following RCW 56.36.010.

56.36.060 Powers of sewer district. Following merger, the sewer district and the board of commissioners thereof shall have all powers granted sewer districts by RCW 56.08.060 and 56.20.015 and shall have all other powers granted sewer districts by Title 56 RCW in any area within its boundaries which is not part of another existing district

duly authorized to exercise sewer district powers in such area and shall have all powers granted water districts by RCW 57.08.045 and 57.08.065 and shall have all other powers granted water districts by Title 57 RCW in any area within its boundaries which is not part of another existing district duly authorized to exercise water district powers in such area. The sewer district shall have the power to issue revenue bonds to which are pledged water revenue, sewer revenue, or both water and sewer revenue, as well as the power to levy assessments against property specially benefited in local improvement districts or utility local improvement districts, for improvements to the water system or the sewer system or both. [1981 c 45 § 7; 1969 ex.s. c 148 § 6.]

Legislative declaration—"District" defined—1981 c 45: "It is declared to be the public policy of the state of Washington to provide for the orderly growth and development of those areas of the state requiring public water service or sewer service and to secure the health and welfare of the people residing therein. The growth of urban population and the movement of people into suburban areas has required the performance of such services by water districts and sewer districts and the development of such districts has created problems of conflicting jurisdiction and potential double taxation.

It is the purpose of this act to reduce the duplication of service and the conflict among jurisdictions by establishing the principle that the first in time is the first in right where districts overlap and by encouraging the consolidation of districts. It is also the purpose of this act to prevent the imposition of double taxation upon the same property by establishing a general classification of property which will be exempt from property taxation by a district when such property is within the jurisdiction of an established district duly authorized to provide service of like character.

Unless the context clearly requires otherwise, as used in this act, the term "district" means either a water district organized under Title 57 RCW or a sewer district organized under Title 56 RCW or a merged water and sewer district organized pursuant to chapter 57.40 or 56.36 RCW." [1981 c 45 § 1.]

Severability—1981 c 45: "If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected." [1981 c 45 § 14.]

Severability—1969 ex.s. c 148: See note following RCW 56.36.010.

56.36.070 Validation of prior mergers. Each and all of the respective areas of land organized as a water district and heretofore attempted to be merged into a sewer district under *chapter 148 of the Laws of 1969 [ex. sess.], and amendments thereto, and which have maintained their organization as part of a sewer district since the date of such attempted merger, are hereby validated and declared to be a proper merger of a water district into a sewer district. Such district shall have the respective boundaries set forth in their merger proceedings as shown by the official files of the legislative authority of the county in which such merged district is located. All debts, contracts, bonds, and other obligations heretofore executed in connection with or in pursuance of such attempted organization, and any and all assessments or levies and all other actions taken by such districts or by their respective officers acting under such attempted organization, are hereby declared legal and valid and of full force and effect. Such districts may hereafter exercise their powers only to the extent permitted by and in accordance with the provisions of RCW 56.36.060, as now or hereafter amended. [1981 c 45 § 8.]

***Reviser's note:** Chapter 148, Laws of 1969 ex. sess. consists of the enactment of RCW 56.36.010 through 56.36.060 and the amendment of RCW 56.12.010 and 57.12.010.

Legislative declaration—"District" defined—Severability—1981 c 45: See notes following RCW 56.36.060.

56.36.090 Merger of sewer districts into water district. See RCW 57.40.100 through 57.40.150.

56.36.100 Sewer district activities to be approved—Criteria for approval by county legislative authority. See RCW 56.02.060 and 56.02.070.

Chapter 56.40

VOLUNTARY CONTRIBUTIONS TO ASSIST LOW-INCOME CUSTOMERS

Sections

- 56.40.010 Voluntary contributions to assist low-income residential customers—Administration.
- 56.40.020 Disbursement of contributions—Quarterly report.
- 56.40.030 Contributions not considered commingling of funds.

56.40.010 Voluntary contributions to assist low-income residential customers—Administration. A sewer district may include along with, or as part of its regular customer billings, a request for voluntary contributions to assist qualified low-income residential customers of the district in paying their sewer district bills. All funds received by the district in response to such requests shall be transmitted to the grantee of the *department of community development which administers federally funded energy assistance programs for the state in the district's service area or to a charitable organization within the district's service area. All such funds shall be used solely to supplement assistance to low-income residential customers of the district in paying their sewer district bills. The grantee or charitable organization shall be responsible to determine which of the district's customers are qualified for low-income assistance and the amount of assistance to be provided to those who are qualified. [1993 c 45 § 1.]

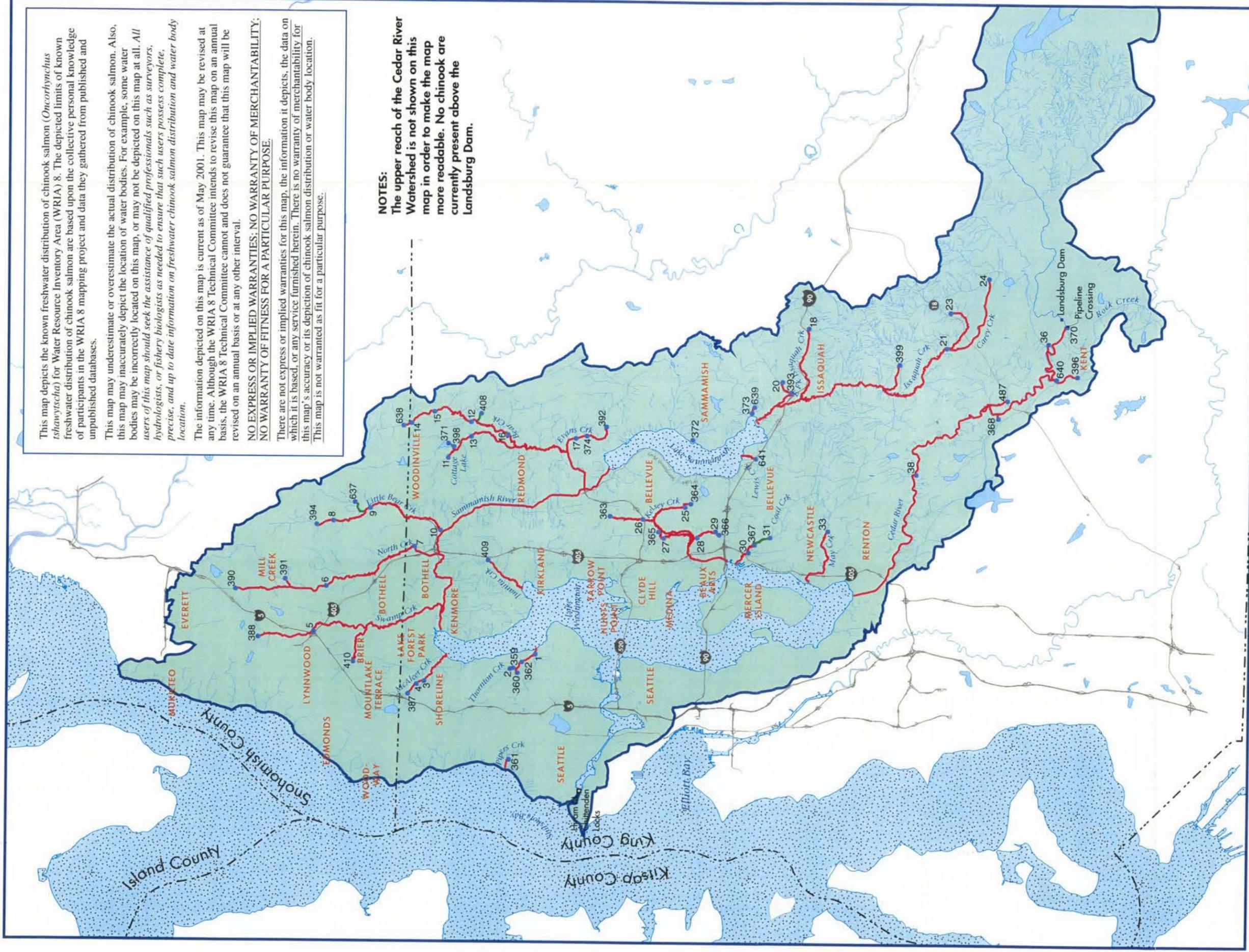
***Reviser's note:** Powers, duties, and functions of the department of community development and the department of trade and economic development were transferred to the department of community, trade, and economic development by 1993 c 280, effective July 1, 1994.

56.40.020 Disbursement of contributions—Quarterly report. All assistance provided under this chapter shall be disbursed by the grantee or charitable organization. Where possible the sewer district will be paid on behalf of the customer by the grantee or the charitable organization. When direct vendor payment is not feasible, a check will be issued jointly payable to the customer and the sewer district. The availability of funds for assistance to a district's low-income customers as a result of voluntary contributions shall not reduce the amount of assistance for which the district's customers are eligible under the federally funded energy assistance programs administered by the grantee of the *department of community development within the district's service area. The grantee or charitable organization shall provide the district with a quarterly report on January 15th, April 15th, July 15th, and October 15th which includes information concerning the total amount of funds received from the district, the names of all recipients of assistance from these funds, the amount received by each

recipient, and the amount of funds received from the district currently on hand and available for future low-income assistance. [1993 c 45 § 2.]

*Reviser's note: Powers, duties, and functions of the department of community development and the department of trade and economic development were transferred to the department of community, trade, and economic development by 1993 c 280, effective July 1, 1994.

56.40.030 Contributions not considered commingling of funds. Contributions received under a program implemented by a sewer district in compliance with this chapter shall not be considered a commingling of funds. [1993 c 45 § 3.]



This map depicts the known freshwater distribution of chinook salmon (*Oncorhynchus tshawytscha*) for Water Resource Inventory Area (WRIA) 8. The depicted limits of known freshwater distribution of chinook salmon are based upon the collective personal knowledge of participants in the WRIA 8 mapping project and data they gathered from published and unpublished databases.

This map may underestimate or overestimate the actual distribution of chinook salmon. Also, this map may inaccurately depict the location of water bodies. For example, some water bodies may be incorrectly located on this map, or may not be depicted on this map at all. *All users of this map should seek the assistance of qualified professionals such as surveyors, hydrologists, or fishery biologists as needed to ensure that such users possess complete, precise, and up to date information on freshwater chinook salmon distribution and water body location.*

The information depicted on this map is current as of May 2001. This map may be revised at any time. Although the WRIA 8 Technical Committee intends to revise this map on an annual basis, the WRIA 8 Technical Committee cannot and does not guarantee that this map will be revised on an annual basis or at any other interval.

NO EXPRESS OR IMPLIED WARRANTIES; NO WARRANTY OF MERCHANTABILITY; NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

There are not express or implied warranties for this map, the information it depicts, the data on which it is based, or any service furnished herein. There is no warranty of merchantability for this map's accuracy or its depiction of chinook salmon distribution or water body location. This map is not warranted as fit for a particular purpose.

NOTES:
 The upper reach of the Cedar River Watershed is not shown on this map in order to make the map more readable. No chinook are currently present above the Landsburg Dam.

Known Freshwater Distribution of Chinook Salmon for Water Resource Inventory Area (WRIA) 8

Chinook Distribution - Streams

- Present - First Hand Information
- Present - Second Hand Information

Chinook Distribution - Lakes

- Present

• Data Point and Number
 (CLICK HERE to see data table for a description of each point.)

— WRIA 8 Boundary
 — River
 — Stream
 — Major Road



0 2 4 6 Miles

Revised May 2001



Lake Washington

Yarrow Point

Cozy Cove

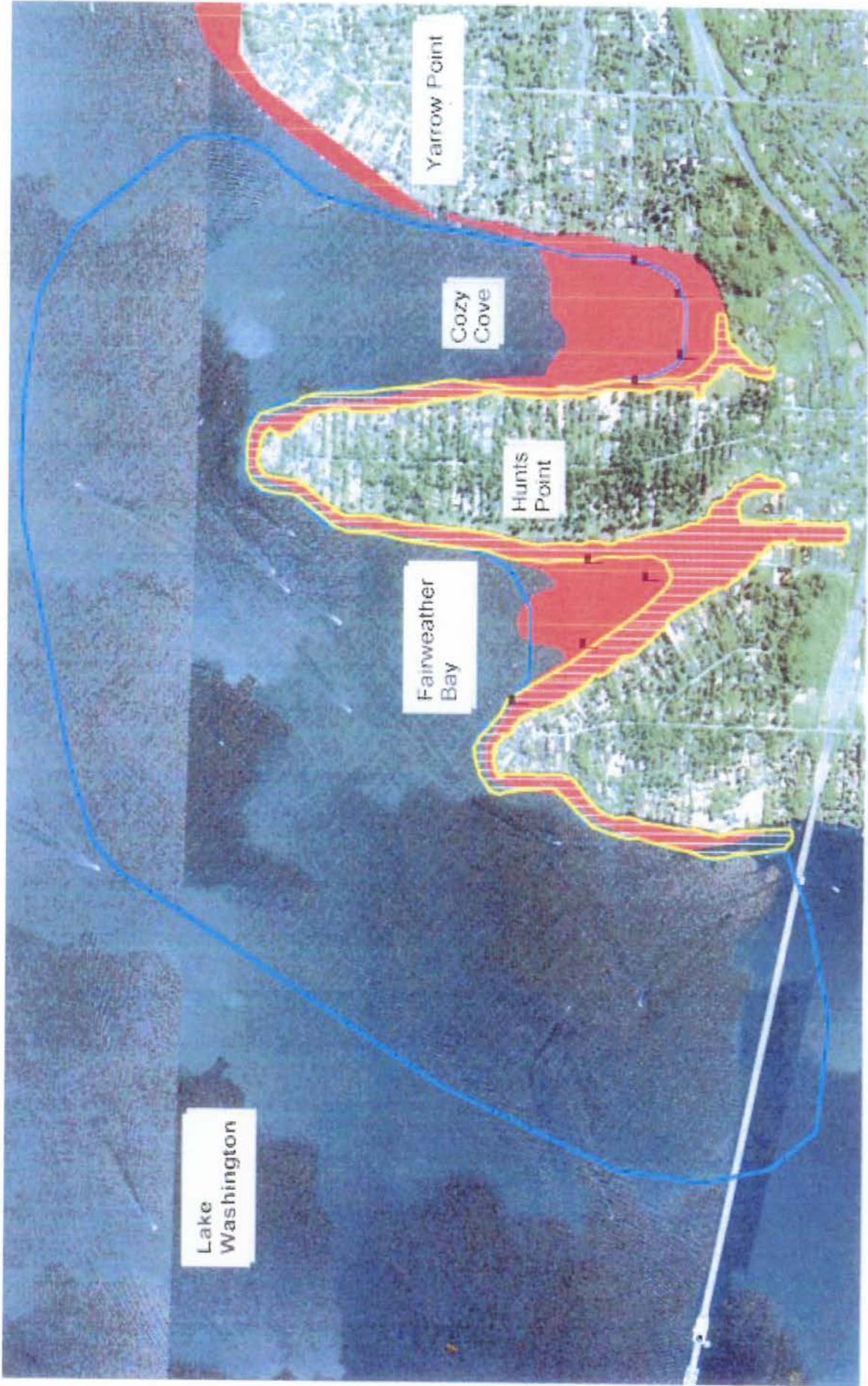
Hunts Point

Fairweather Bay

Dense Areas:

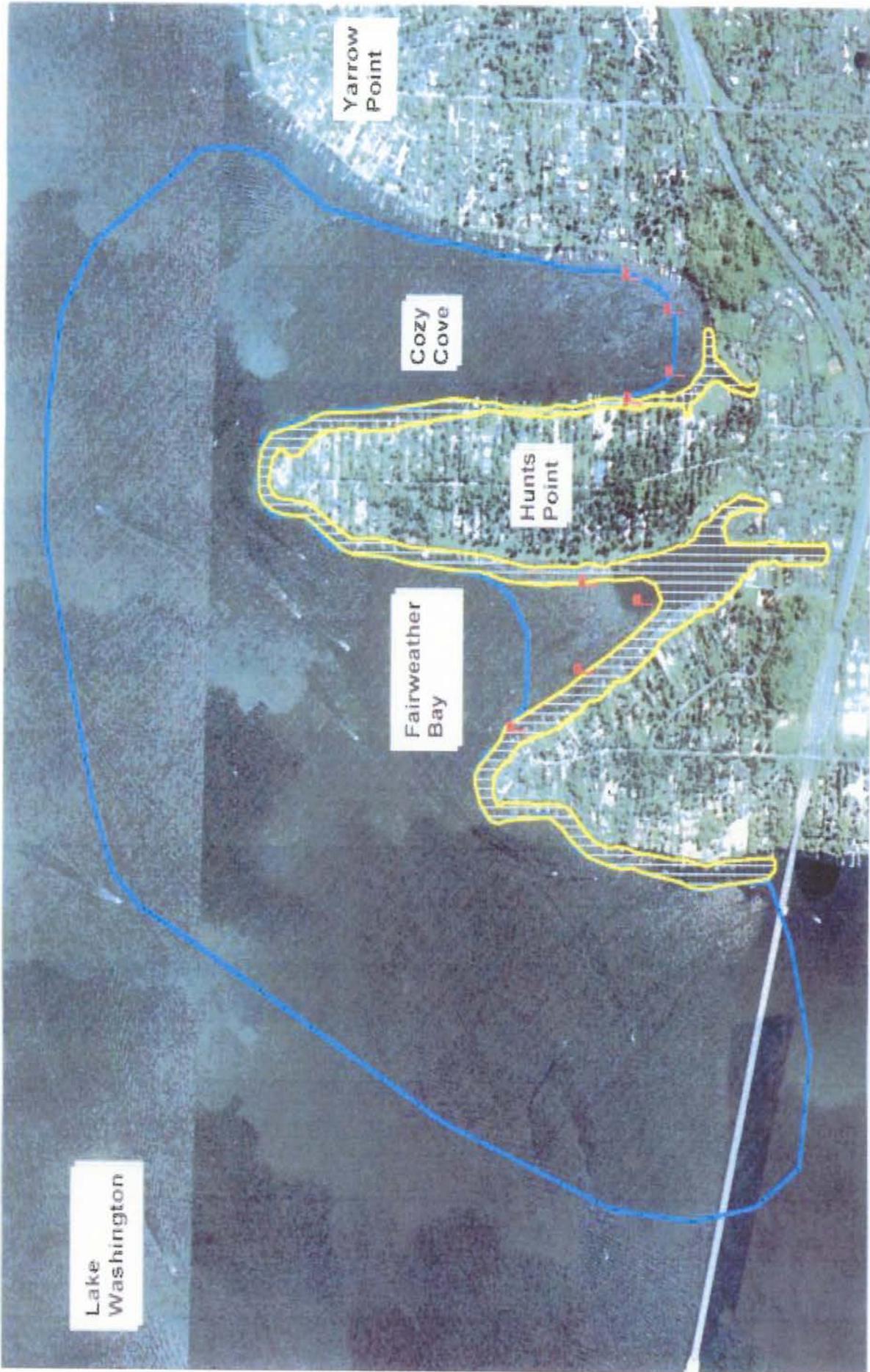


Dense Milfoil



Hunts Point Features:

- No Wake Zone
- Swimming Area
- Water Ski Area
- Dense Milfoil



Lake Washington

Yarrow Point

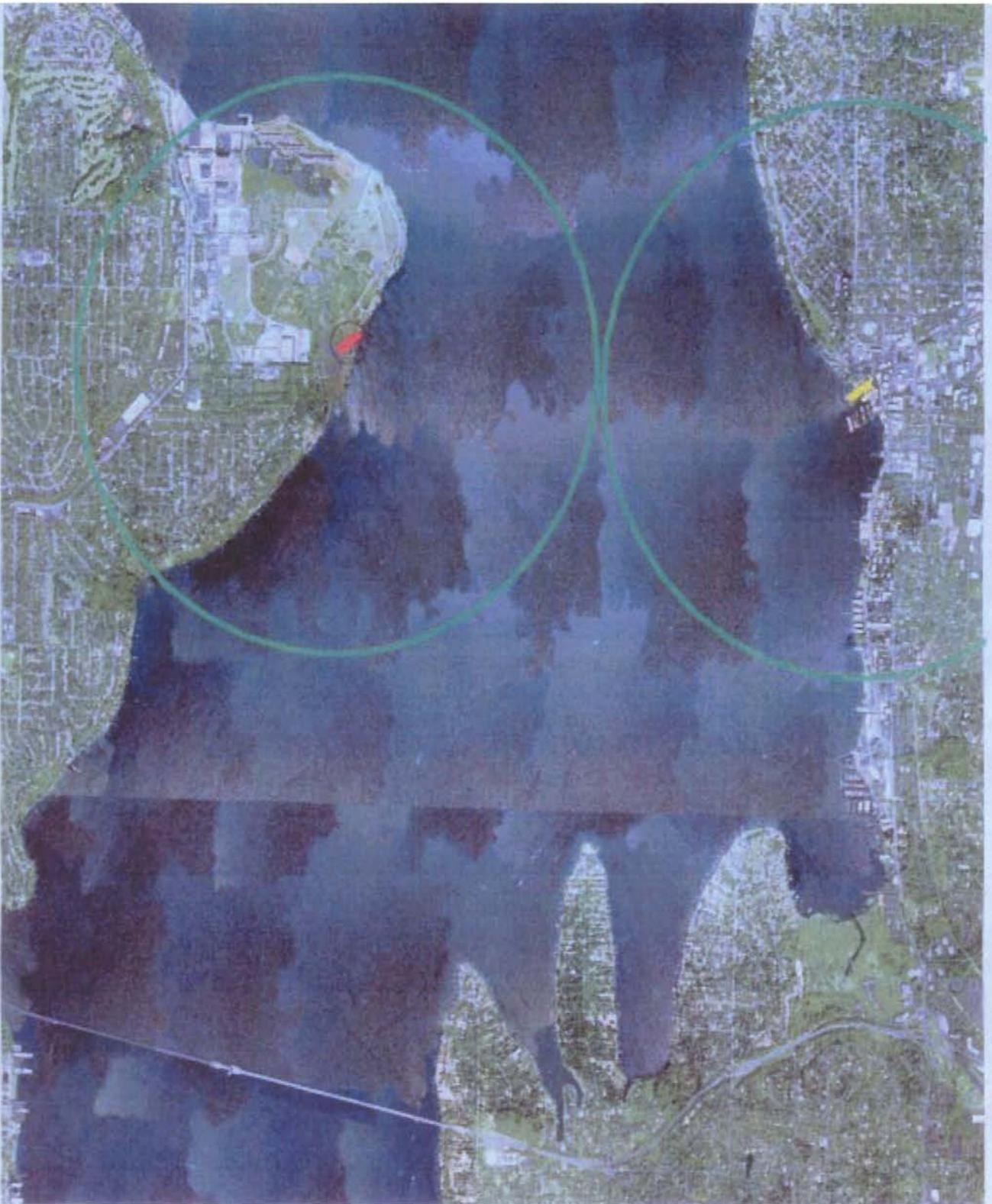
Cozy Cove

Hunts Point

Fairweather Bay

Recreational Areas:

- No Wake Zone
- Swimming Area
- Water Ski Area



1 Mile Harvesting Zones



Kirkland Boat Launch



Magnuson Boat Launch

AQUATHOL[®] SUPERK

GRANULAR AQUATIC HERBICIDE

ACTIVE INGREDIENT:

Dipotassium salt of endothall*	63.0%
OTHER INGREDIENTS:	37.0%
TOTAL	100.0%

*7-oxabicyclo [2.2.1]heptane-2,3-dicarboxylic acid equivalent 44.7%

KEEP OUT OF REACH OF CHILDREN DANGER

FIRST AID:

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

IF SWALLOWED: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth or do not induce vomiting.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

See back panel for additional Precautionary Statements.

EPA Registration No. 4581-388

EPA Establishment No. 62171-MS-001

Net Weight _____

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**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)**

DANGER

CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE. MAY BE FATAL IF SWALLOWED OR INHALED. HARMFUL IF ABSORBED THROUGH SKIN. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. DO NOT BREATHE SPRAY VAPORS.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

USER SAFETY RECOMMENDATIONS:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove protective clothing and equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

Avoid contact with or drift to other crops or plants as injury may result. Wash out spray equipment with water after each operation.

Do not use fish from treated areas for food or feed within 3 days of treatment. Do not use water from treated areas for watering livestock, for preparing agricultural sprays for food crops, for irrigation or for domestic purposes within the following periods:

Up to 0.5 ppm dipotassium salt — 7 days after application

Up to 4.25 ppm dipotassium salt — 14 days after application

Up to 5.0 ppm dipotassium salt — 25 days after application

Treated water can be used for sprinkling bent grass immediately.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

Storage Instructions: Store in the original container. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. Storage at temperatures below 32°F may result in the product freezing or crystallizing. Should this occur the product must be warmed to 50°F or higher and thoroughly agitated. In the event of a spillage during handling or storage, absorb with sand or other inert material and dispose of absorbent in accordance with the Pesticide Disposal Instructions listed below.

Pesticide Disposal Instructions: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinseate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal Instructions: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

EMERGENCY TELEPHONE NUMBERS:

CHEMTREC: (800) 424-9300

MEDICAL: (303) 623-5716 Rocky Mountain Poison Control Center

WARRANTY AND DISCLAIMER

Cerexagri, Inc. warrants that this material conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use, subject to the risks referred to therein. CEREXAGRI MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL CEREXAGRI OR SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, BUSINESS REPUTATION, OR CUSTOMERS; LABOR COST; OR OTHER EXPENSES INCURRED IN PLANTING OR HARVESTING.

Cerexagri and seller offer this product and the buyer and user accept it subject to the foregoing conditions of sale and warranty which may be varied only by agreement in writing signed by a duly authorized representative of Cerexagri.

Cerexagri, Inc. is a wholly-owned subsidiary of ATOFINA Chemicals, Inc.

5-C102S-04 H0 (10/00)

Made and Printed in U.S.A.

AQUATHOL® K

AQUATIC HERBICIDE

ACTIVE INGREDIENT:

Dipotassium salt of endothall* 40.3%

OTHER INGREDIENTS: 59.7%

TOTAL 100.0%

*7-oxabicyclo [2.2.1]heptane-2,3-dicarboxylic acid equivalent 28.6%
Contains per gallon 4.23 lb. dipotassium endothall

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID:

IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.

IF SWALLOWED: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth and do not induce vomiting.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

NOTE TO PHYSICIAN: Measures against circulatory shock, respiratory depression and convulsion may be needed.

EPA Registration No. 4581-204

EPA Establishment No. 4581-MI-1

Net Contents _____



cerexagri

Cerexagri, Inc.

2000 Market Street, Philadelphia, PA 19103

1 800-438-6071 • www.cerexagri.com

GENERAL INFORMATION

AQUATHOL K is a liquid concentrate soluble in water which is effective against a broad range of aquatic plants with a margin of safety to fish.

Dosage rates indicated for the application of AQUATHOL K are measured in "Parts Per Million" (ppm) of dipotassium endothall. Only 0.5 to 5.0 ppm are generally required for aquatic weed control, whereas some fish species are tolerant to approximately 100 ppm or over.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

HOW TO APPLY:

AQUATHOL K is a contact herbicide; consequently, do not apply before weeds are present. Application as early as possible after weeds appear and are actively growing is recommended for best results.

If an entire pond is treated at one time, or if the dissolved oxygen level is low at time of application, decay of weeds may remove enough oxygen from the water, causing fish to suffocate. Water containing very heavy vegetation should be treated in sections to prevent suffocation of fish. Sections should be treated 5-7 days apart. Carefully measure size and depth of area to be treated and determine amount of AQUATHOL K to apply from chart.

AQUATHOL K should be sprayed on the water or injected below the water surface and should be distributed as evenly as possible. It may be applied as a concentrate or diluted with water depending on the equipment. Some dilution will give better distribution. For best results apply when water is quiescent and/or flows are minimal.

In instances where the weed(s) to be controlled is an exposed surface problem (i.e., some of the broad-leaved pond weeds) coverage is important. For best results apply the concentrate or with the least amount of water compatible with the application equipment.

Necessary approval and/or permits should be obtained in states where required.

AQUATIC WEEDS CONTROLLED AND DOSAGE RATE CHARTS

AQUATHOL K is recommended for the control of the following aquatic weeds in irrigation and drainage canals, ponds and lakes at the rates indicated. Since the active ingredient is water soluble and tends to diffuse from the treated area, select the dosage rate applicable to the area to be treated. Use the lower rate in each range of rates where the growth is young and growing and/or where the weed stand is not heavy. Marginal treatments of large bodies of water require higher rates as indicated.

Aquatic Weed	RATES			
	Entire Pond/Lake or Large Area Treatment	Gallons per Acre Ft.	Spot or Lake Margin Treatment	Gallons per Acre Ft.
Bur Reed, <i>Sparqanium</i> spp.	3.0-4.0 ppm	1.9-2.6 gal.	4.0-5.0 ppm	2.6-3.2 gal.
Coontail, <i>Ceratophyllum</i> spp.	1.0-2.0 ppm	0.6-1.3 gal.	2.0-3.0 ppm	1.3-1.9 gal.
Horned Pondweed, <i>Zannichellia palustris</i>	1.0-2.0 ppm	0.6-1.3 gal.	2.0-3.0 ppm	1.3-1.9 gal.
Hydrilla, <i>Hydrilla verticillata</i>	2.0-3.0 ppm	1.3-1.9 gal.	3.0-4.0 ppm	1.9-2.6 gal.
Hygrophila, <i>Hygrophila polysperma</i>	4.0-5.0 ppm	2.6-3.2 gal.	5.0 ppm	3.2 gal.
Milfoil, <i>Myriophyllum</i> spp.	2.0-3.0 ppm	1.3-1.9 gal.	3.0-4.0 ppm	1.9-2.6 gal.
Naiad, <i>Najas</i> spp.	1.0-3.0 ppm	0.6-1.9 gal.	2.0-4.0 ppm	1.3-2.6 gal.
Pondweed, <i>Potamogeton</i> spp.	0.5-3.0 ppm	0.3-1.9 gal.	1.5-4.0 ppm	1.0-2.6 gal.
Including:				
American, <i>P. nodosus</i>	2.0-3.0 ppm	1.3-1.9 gal.	3.0-4.0 ppm	1.9-2.6 gal.
Largeleaf (Bass Weed), <i>P. amplifolius</i>	2.0-3.0 ppm	1.3-1.9 gal.	3.0-4.0 ppm	1.9-2.6 gal.
Curlyleaf, <i>P. crispus</i>	0.5-1.5 ppm	0.3-1.0 gal.	1.5-3.0 ppm	1.0-1.9 gal.
Flatstem, <i>P. zosterformis</i>	2.0-3.0 ppm	1.3-1.9 gal.	3.0-4.0 ppm	1.9-2.6 gal.
Floating-leaf, <i>P. natans</i>	1.0-2.0 ppm	0.6-1.3 gal.	2.0-3.0 ppm	1.3-1.9 gal.
Illinois, <i>P. illinoensis</i>	1.5-2.5 ppm	1.0-1.6 gal.	2.5-3.5 ppm	1.6-2.3 gal.
Narrowleaf, <i>P. pusillus</i>	1.0-2.0 ppm	0.6-1.3 gal.	2.0-3.0 ppm	1.3-1.9 gal.
Threadleaf, <i>P. filiformis</i>	2.0-3.0 ppm	1.3-1.9 gal.	3.0-4.0 ppm	1.9-2.6 gal.
Sago, <i>P. pectinatus</i>	1.0-2.0 ppm	0.6-1.3 gal.	2.0-3.0 ppm	1.3-1.9 gal.
Variable Leaf, <i>P. diversifolius</i>	1.0-2.0 ppm	0.6-1.3 gal.	2.0-3.0 ppm	1.3-1.9 gal.
Parrot Feather, <i>Myriophyllum aquaticum</i>	2.0-3.0 ppm	1.3-1.9 gal.	3.0-4.0 ppm	1.9-2.6 gal.
Water Stargrass, <i>Heteranthera</i> spp.	2.0-3.0 ppm	1.3-1.9 gal.	3.0-4.0 ppm	1.9-2.6 gal.

RATE OF APPLICATION — LAKES AND PONDS

The following chart indicates the total quantity of material to be applied.

APPROXIMATE GALLONS OF AQUATHOL K FOR ONE ACRE (208' x 208') TREATMENT

DEPTH	DOSAGE IN GALLONS FOR VARIOUS CONCENTRATIONS IN PPM						
	0.5 ppm	1.0 ppm	1.5 ppm	2.0 ppm	3.0 ppm	4.0 ppm	5.0 ppm
1 ft.	0.3	0.6	1.0	1.3	1.9	2.6	3.2
2 ft.	0.6	1.3	1.9	2.6	3.8	5.1	6.4
4 ft.	1.3	2.6	3.8	5.1	7.7	10.2	12.8
6 ft.	1.9	3.8	5.8	7.6	11.5	15.3	19.2

RATE OF APPLICATION — IRRIGATION AND DRAINAGE CANALS**

The following indicates the total quantity of material to be applied.

GALLONS OF AQUATHOL K REQUIRED TO TREAT 1 MILE OF CANAL 1 FOOT DEEP*

PPM	WIDTH OF CANAL IN FEET			
	5	10	15	20
1.0 ppm	0.4	0.75	1.2	1.5
2.0 ppm	0.75	1.5	2.3	3.0
3.0 ppm	1.2	2.3	3.5	4.5
4.0 ppm	1.5	3.0	4.5	6.0
5.0 ppm	2.0	3.8	5.7	7.5

The minimum contact time with weeds for optimum results should be 2 hours.

* For deeper water, adjust rate accordingly.

** Not for this use in California.

Specimen Label



DMA* 4 VM

Herbicide

*Trademark of Dow AgroSciences LLC

Contains Dimethylamine Salt of 2,4-D†

For selective control of many broadleaf weeds in, forests, non-cropland, non-crop turf, and aquatic areas. Also for control of trees by injection.

Active Ingredient:

2,4-Dichlorophenoxyacetic acid, dimethylamine salt †..... 46.3%

Inert Ingredients 53.7%

Total Ingredients 100.0%

2,4-dichlorophenoxyacetic acid †† - 38.4% - 3.8 lb/gal

†† Isomer Specific by AOAC Method No. 978.05 (15th Edition)

† Salts are the least volatile forms of 2,4-D and do not release enough vapors from treated areas to reduce yield of adjacent susceptible crops.

EPA Reg. No. 62719-3

Keep Out of Reach of Children

DANGER PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Corrosive • Causes Irreversible Eye Damage • Harmful If Swallowed, Inhaled or Absorbed Through The Skin.

Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks
- Protective eyewear
- **Note: For containers of over 1 gallon, but less than 5 gallons:** Mixer and loaders who do not use a mechanical system (such as probe and pump or spigot) to transfer the contents of this container must wear coveralls or chemical-resistant apron in addition to other required PPE.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

Engineering Controls Statements

For containers of 5 gallons or more: A mechanical system (such as probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4)], the handler PPE requirements may be reduced or modified as specified in the WPS.

When handlers use enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor.

Do not give anything by mouth to an unconscious person. **If inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

Environmental Hazards

This product is toxic to aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and non-target plants. For terrestrial uses, do not apply directly to water, to areas where surface water is present, or to intertidal area below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Mixing and Loading: Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing and transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

Notice: Read the entire label. Use only according to label directions. **Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" elsewhere on this label.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for Agricultural Pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Entry Restrictions for Non-WPS Uses: When this product is applied to non-cropland areas, non-crop turf, by tree injection method only in forest sites, and when applied in aquatic areas, do not allow people (other than applicator) or pets on treatment area during application. Do not enter into treated areas until sprays have dried.

Storage and Disposal

Do not contaminate water, food, or feed by storage or disposal.

Storage: Keep container tightly closed when not in use. If exposed to subfreezing temperatures, the product should be warmed to at least 40°F and mixed thoroughly before using.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Container Disposal (Metal): Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Container Disposal (Plastic containers 5-gals or less): Triple rinse (or equivalent). Then dispose of in a sanitary landfill, or by incineration, or, if allowed by local authorities, by burning. If burned stay out of smoke.

General: Consult federal, state, or local disposal authorities for approved alternative procedures.

General Information

DMA* 4 IVM herbicide is intended for selective control of many broadleaf weeds in forests, non-cropland, non-crop turf areas, and aquatic areas.

Apply DMA 4 IVM as a water or oil-water spray during warm weather when target weeds or woody plants are actively growing. Application under drought conditions will often give poor results. Use low spray pressure to minimize drift. Generally, the lower dosages recommended on this label will be satisfactory for young, succulent growth of susceptible weed species. For less susceptible species and under conditions where control is more difficult, use higher recommended rates. Deep-rooted perennial weeds such as Canada thistle and field bindweed and many woody plants usually require repeated applications for satisfactory control. Consult your State Agricultural Experiment stations or Extension Service Weed Specialists for recommendations from this label that best fit local conditions.

General Use Precautions and Restrictions

Be sure that use of DMA 4 IVM conforms to all application regulations.

Chemigation: Do not apply this product through any type of irrigation system.

Excessive amounts of 2,4-D in the soil may temporarily inhibit seed germination and plant growth.

Avoiding Injury to Non-target Plants

Spray drift produced during application is the responsibility of the applicator and care should be taken to minimize off-target movement of spray during application. A drift control agent suitable for agricultural use may be used with this product to aid in reducing spray drift. If used, follow all use recommendations and precautions on the product label.

Do not apply where drift may be a problem due to proximity to susceptible crops or other desirable broadleaf plants. Do not apply DMA 4 IVM directly to, or otherwise permit contact with cotton, flowers, fruit trees, grapes, ornamentals, vegetables, or other desirable plants which are susceptible to 2,4-D herbicides. Do not permit spray mist containing 2,4-D to contact susceptible plants since even very small quantities of the spray, which may not be visible, can cause severe injury during both active growth or dormant periods. Do not use in greenhouses.

Avoid Movement of Treated Soil: Avoid conditions under which soil from treated areas may be moved or blown to areas containing susceptible plants. Wind-blown dust containing 2,4-D may produce visible symptoms when deposited on susceptible plants, however, serious plant injury is unlikely. To minimize potential movement of 2,4-D on wind-blown dust, avoid treatment of powdery dry or light sandy soils until soil is settled by rainfall or irrigation or irrigate soon after application.

Do not store or handle other agricultural chemicals with the same containers used for DMA 4 IVM. Do not apply other agricultural chemicals or pesticides with equipment used to apply DMA 4 IVM unless equipment has been thoroughly cleaned to remove all traces of 2,4-D.

Spray Drift Management (Aerial Application)

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

In certain states, additional regulations may be applicable to aerial application of this product.

The applicator should be familiar with and take into account the information covered in the following Aerial Drift Reduction Advisory Information section.

Aerial Spray Drift Advisory Information

Importance of Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversion section of this label).

Controlling Droplet Size:

- **Volume**-Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure**-Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles**-Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation**-Orienting nozzles so that the spray is released backwards, parallel to the airstream will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type**-Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length**-For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application**-Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a cross-wind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a low level temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Mixing

Mix DMA 4 IVM only with water, unless otherwise directed on this label. Add about half the water to the mixing tank, then add the DMA 4 IVM with agitation, and finally the rest of the water with continuing agitation.

Note: Adding oil, wetting agent, or other surfactant to the spray mixture may increase effectiveness on weeds, but also may reduce selectivity to crops resulting in crop damage.

Tank Mixing: When tank mixing, read and follow the label of each tank mix product used for precautionary statements, directions for use, weeds controlled, and geographic and other restrictions. Use in accordance with the most restrictive of label limitations and precautions. No label dosages should be exceeded. Do not tank mix this product with any product containing a label prohibition against tank mixing with 2,4-D.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility of this product and other pesticides. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

Sprayer Clean-Out

To avoid injury to desirable plants, equipment used to apply this product should be thoroughly cleaned before re-use or applying other chemicals.

1. Rinse and flush application equipment thoroughly after use at least three times with water. Dispose of all rinse water by application to treatment area or apply to non-cropland area away from water supplies.
2. During the second rinse, add 1 qt of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15-20 min). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Remove nozzles and screens and clean separately.
6. If equipment is to be used to apply another pesticide or agricultural chemical to a 2,4-D susceptible crop, additional steps may be required to remove all traces of 2,4-D, including cleaning of disassembled parts and replacement of hoses or other fittings that may contain absorbed 2,4-D.

Application

Apply with calibrated air or ground equipment using sufficient spray volume to provide adequate coverage of target weeds or as otherwise directed in specific use directions. For broadcast application, use a spray volume of 3 or more gallons per acre by air and 10 or more gallons per acre for ground equipment. Where states have regulations which specify minimum spray volumes, they should be observed. In general, spray volume should be increased as crop canopy, height and weed density increase in order to obtain adequate spray coverage. **Do not apply less than 3 gallons total spray volume per acre.**

Rate Ranges and Application Timing

Generally, the lower dosages given will be satisfactory for young, succulent growth of sensitive weed species. For less sensitive species and under conditions where control is more difficult, the higher dosages will be needed. Apply DMA 4 IVM during warm weather when weeds are young and actively growing.

Spot Treatments

To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers using a fixed spray volume per 1,000 sq ft as indicated below.

Hand-Held Sprayers: Hand-held sprayers may be used for spot applications of DMA 4 IVM. Care should be taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on the application rate for an area of 1,000 sq ft. Mix the amount of DMA 4 IVM (fl oz or ml) corresponding to the desired broadcast rate in 1 to 3 gallons of spray. To calculate the amount of DMA 4 IVM required for larger areas, multiply the table value (fl oz or ml) by the thousands of sq ft to be treated. An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size.

Rate Conversion Table for Spot Treatment:

Label Broadcast Rate (pt/acre)							
1/2	2/3	3/4	1	2	3	4	8
Equivalent Amount of DMA 4 IVM per 1000 sq ft							
1/5 fl oz †	1/4 fl oz	1/3 fl oz	3/8 fl oz	3/4 fl oz	1 fl oz	1 1/2 fl oz	3 fl oz
(5.5 ml)	(7.3 ml)	(8.3 ml)	(11 ml)	(22 ml)	(33 ml)	(44 ml)	(88 ml)

† Conversion factors: 1fl oz = 29.6 (30) ml

Weeds Controlled

Annual or Biennial Weeds

Beggarticks †	morningglory, woolly
Bittercress, smallflowered	mousetail
bitterweed	mustards (except blue mustard)
broomweed, common †	parsnip, wild
burdock, common	Pennycress, field
buttercup, smallflowered †	Pepperweed †
carpetweed	pigweeds (Amaranthus spp.) †
cinquefoil, common	poorjoe
cinquefoil, rough	primrose, common
cocklebur, common	purslane, common
coffeeweed	pusley, Florida
copperleaf, Virginia	radish, wild
croton, Texas	ragweed, common
croton, woolly	ragweed, giant
flixweed	rape, wild
galinsoga	rocket, yellow
geranium, Carolina	salsify, common †
hemp, wild	salsify, western †
horseweed (marestail)	shepherdspurse
jewelweed	sicklepod
jimsonweed	smartweed (annual species) †
knotweed †	sneezeweed, bitter
kochia	sowthistle, annual
lambsquarters, common	sowthistle, spiny
lettuce, prickly †	spanishneedles
lettuce, wild	sunflower
lupines	sweetclover
mallow, little †	tansymustard
mallow, Venice †	thistle, bull
marshelder	thistle, musk †
morningglory, annual	thistle, Russian (tumbleweed) †
morningglory, ivy	velvetleaf
	vetches

Perennial Weeds

Alfalfa †	goldenrod
artichoke, Jerusalem †	eveningprimrose, cutleaf
aster, many-flower †	garlic, wild †
Austrian fieldcress †	hawkweed, orange †
bindweed (hedge, field and European) †	healal
blue lettuce	ironweed, western
blueweed, Texas	ivy, ground †
broomweed	Jerusalem-artichoke
bullnettle †	loco, bigbend
carrot, wild †	nettles (including stinging) †
catnip	onion, wild †
chicory	pennywort
clover, red †	plantains
coffeeweed	ragwort, tansy †
cress, hoary †	sowthistle, perennial
dandelion †	thistle, Canada †
docks †	vervains †
dogbanes †	waterplantain
	wormwood

† These weeds are only partially controlled and may require repeat applications and/or use of higher recommended rates of this product even under ideal conditions of application.

Specific Use Directions

Forestry, and Non-cropland, Uses

Agricultural Use Requirements for Forest Use (Except Tree Injection Use): For use in forests, follow PPE and Reentry instructions in the "Agricultural Use Requirements" section under the "Directions for Use" heading of this label.

Agricultural Use Requirements for Forestry (Tree Injection Only) and Non-cropland Areas: When this product is applied to non-cropland areas, non-crop turf, and by tree injection in forest sites, follow reentry requirements given in the "Non-Agricultural Use Requirements" section under the "Directions for Use" heading of this label.

Forestry Uses

Forest site preparation, forest roadsides, brush control, established conifer release (including Christmas trees and reforestation areas)

Treatment Site Method of Application	DMA 4 IVM	Specific Use Directions
Annual Weeds	2 to 4 pt/acre	Apply when weeds are small and growing actively before the bud stage. Apply when biennial and perennial species are in the seedling to rosette stage and before flower stalks appear. For difficult to control perennial broadleaf weeds and woody species, use up to 1 gallon DMA 4 IVM and 1 to 4 qt. Garlon® 3A herbicide per acre. For conifer release, make application in early spring before budbreak of conifers when weeds are small and actively growing.
Biennial and perennial broadleaf weeds and susceptible woody plants	4 to 8 pt/acre	
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment"	Note: To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the recommended broadcast rate and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayers under "Application".
Conifer Release: Species such as white pine, ponderosa pine, jack pine, red pine, black spruce, white spruce, red spruce, and balsam fir	1 1/2 to 3 qt/acre	To control competing hardwood species such as alder, aspen, birch, hazel, and willow, apply from mid to late summer when growth of conifer trees has hardened off and woody plants are still actively growing. Apply with ground or air equipment, using sufficient spray volume to ensure complete coverage. Because this treatment may cause occasional conifer injury, do not apply if such injury cannot be tolerated.
Directed Spray: Conifer plantations including pine	4 qt/100 gal	Apply when brush or weeds are actively growing by directing the spray so as to avoid contact with conifer foliage and injurious amounts of spray. Apply in oil, oil-water, or water carrier in a spray volume of 10 to 100 gallons per acre.
Basal Spray (May also be used in noncropland)	8 qt/100 gal or	Thoroughly wet the base and root collar of all stems until the spray begins to accumulate around the root collar at the ground line. Wetting stems with the mixture may also aid in control.
Surface of Cut Stumps (May also be used in noncropland)	2.6 fl oz/gal of water	Apply as soon as possible after cutting trees. Thoroughly soak the entire stump with the 2,4-D mixture including cut surface, bark and exposed roots.
Frill and Girdle (May also be used in noncropland)		Cut frills (overlapping V-shaped notches cut downward through the bark in a continuous ring around the base of the tree) using an axe or other suitable tool. Treat freshly cut frills with as much of the 2,4-D mixture as they will hold.
Tree Injection Application (May also be used noncropland)	(1 to 2 ml per injection site)	To control unwanted hardwood trees such as elm, hickory, oak, and sweetgum in forests and other non-crop areas, apply by injecting at a rate of 1 ml of undiluted DMA 4 IVM per inch of trunk diameter at breast height (DBH) as measured approximately 4 1/2 ft above the ground. Make injections as close to the root collar as possible and the injection bit must penetrate the inner bark. Applications may be made throughout the year, but for best results apply between May 15 and October 15. Maples should not be treated during the spring sap flow. For hard to control species such as ash, maple, and dogwood use 2 ml of undiluted DMA 4 IVM per injection site or double the number of 1 ml injections. Note: No Worker Protection Standard worker entry restrictions or worker notification requirements apply when this product is directly injected into agricultural plants.

Precautions and Restrictions:

- Do not allow sprays to contact conifer shoot growth (current year's new growth) or injury may occur.
- Do not apply to nursery seed beds.
- For conifer release, do not use on plantations where pine or larch are among the desired species.
- For broadcast applications, do not apply more than 8.42 pt/acre of DMA 4 IVM (4.0 lb of acid equivalent) per 12 month period.

Non-cropland Areas

Such as fencerows, hedgerows, roadsides, drainage ditches, rights-of way, utility power lines, railroads, airports, and other non-crop areas

Treatment Site Method of Application	DMA 4 IVM (pt/acre)	Specific Use Directions
Annual broadleaf weeds	2 to 4	Apply when annual weeds are small and growing actively before the bud stage. Biennial and perennial weeds should be rosette to bud stage, but not flowering at the time of application. For difficult to control perennial broadleaf weeds and woody species, tank mix up to 1 gallon DMA 4 IVM plus 1 to 4 qt. Garlon® 3A herbicide per acre. For ground application: (High volume) apply a total of 100 to 400 gal per acre; (low volume) apply a total of 10 to 100 gal per acre. For helicopter: Apply a total of 5 to 30 gal per acre spray volume.
Biennial and perennial broadleaf weeds and susceptible woody plants	4 to 8	
Spot Treatment to control broadleaf weeds	See Instructions for "Spot Treatment"	Note: To control broadleaf weeds in small areas with a hand sprayer, use an application rate equivalent to the broadcast rate recommended for this treatment site and spray to thoroughly wet all foliage. See rate conversion table and instructions for "Spot Treatment" and use of hand-held sprayers under "Application".
Tree Injection Application		See instructions for tree injection application in "Forestry Uses" section.
Southern wild rose Broadcast application	up to 4	Broadcast: Apply in a spray volume of 5 or more gallons per acre by aircraft or 10 or more gallons per acre by ground equipment.
Spot treatment	1 gal/100 gal of spray	Apply when foliage is well developed. Thorough coverage is required. Use 1 gallon of DMA 4 IVM plus 4 to 8 fluid ounces of an agricultural surfactant per 100 gallons of water. Two or more treatments may be required.

Precautions and Restrictions:

- Do not apply to newly seeded areas until grass is well established.
- Bentgrass, St. Augustine, clover, legumes and dichondra may be severely injured or killed by this treatment.
- Do not apply more than 8.42 pt/acre of DMA 4 IVM (4.0 lb of acid equivalent) per use season.
- Do not reapply to a treated area within 30 days of a previous application.
- If grazing of meat or dairy animals or hay harvest is desired in non-crop areas, do not apply more than 4.21 pt/acre of DMA 4 IVM (2.0 lb of acid equivalent) and do not harvest forage for hay within 7 days of application.

Non-crop Turf Areas

Includes cemeteries and parks, airfields, roadsides, vacant lots, and drainage ditch banks

Use Requirements for Ornamental Turf Areas: When this product is applied to ornamental turf areas, follow PPE and reentry instructions in the "Non-agricultural Use Requirements" section of this label.

Treatment Site (Application Timing)	DMA 4 IVM (pt/acre)	Specific Use Directions
Ornamental Turf (Postemergence)		Apply when weeds are small and actively growing. For best results, apply when soil moisture is adequate for active weed growth.
Seedling grass (five-leaf stage or later)	3/4 to 1	Deep-rooted perennial weeds such as bindweed and Canada thistle may require repeat applications.
Well-established grasses	2 to 4	Do not apply to newly seeded grasses until well established (five-leaf stage or later) and then use a maximum of 1 pt/acre. Cool season grasses are tolerant of higher rates.
Biennial and perennial broadleaf weeds	4	

Precautions, Restrictions:

- Do not use on creeping grasses such as bent except as a spot treatment.
- Do not use on injury-sensitive southern grasses such as St. Augustinegrass.
- Do not use on dichondra or other herbaceous ground covers. Legumes may be damaged or killed.
- Do not reapply within 21 days of a previous application.
- Reseeding:** Delay reseeding at least 30 days following application. Preferably, with spring application, reseed in the fall and with fall application, reseed in the spring.
- Do not apply more than 2 broadcast applications per year per treatment site (does not include spot treatments).

Aquatic Uses

Use Requirements for Aquatic Areas: When this product is applied to aquatic areas, follow PPE and reentry instructions in the "Non-agricultural Use Requirements" section of this label.

Control of Weeds and Brush on Banks of Irrigation Canals and Ditches

Target Plants	DMA 4 IVM (pt/acre)	Specific Use Directions
Annual Weeds	2 to 4	Apply using low pressure spray (10 to 40 psi) in a spray volume of 20 to 100 gallons per acre using power operated spray equipment. Apply when wind speed is low, 5 mph or less. Apply working upstream to avoid accidental concentration of spray into water. Cross-stream spraying to opposite banks is not permitted and avoid boom spraying over water surface. When spraying shoreline weeds, allow no more than 2 foot overspray onto water surface with an average of less than 1 foot of overspray to prevent significant water contamination.
Biennial and perennial broadleaf weeds and susceptible wood plants	4	Apply when weeds are small and growing actively before the bud stage. Apply when biennial and perennial species are in the seedling to rosette stage and before flower stalks appear. For hard-to-control weeds, a repeat application after 30 days at the same rate may be needed. For woody species and patches of perennial weeds, mix 1 gallon of DMA 4 IVM per 64 to 150 gallons of total spray. Wet foliage by applying about 3 to 4 gallons of spray per 1000 sq ft (10.5 X 10.5 steps).

Restrictions and Limitations:

- Do not apply more than 2 treatments per season or reapply within 30 days.
- Do not use on small canals (less than 10 cfs) where water will be used for drinking purposes.
- Do not apply more than 8.42 pt/acre (4.0 lb of acid equivalent) per use season.

Aquatic Weed Control in Ponds, Lakes, Reservoirs, Marshes, Bayous, Drainage Ditches, Canals, Rivers and Streams that are Quiescent or Slow Moving, Including Programs of the Tennessee Valley Authority

Notice to Applicators: Before application, coordination and approval of local and state authorities may be required, either by letter or agreement or issuance of special permits for such use.

Emergent and Floating Aquatic Weeds: Including Water hyacinth (*Eichornia crassipe*)

Application Rate: 2 to 4 qt/acre.

Specific Use Directions

Application Timing: Spray weed mass only. Apply when water hyacinth plants are actively growing. Repeat application as necessary to kill regrowth and plants missed in previous operation. Use 4 qt/acre rate when plants are mature or when weed mass is dense.

Surface Application: Use power operated sprayers with boom or spray gun mounted on boat, tractor or truck. Thorough wetting of foliage is essential for maximum control. Use 100 to 400 gallons of spray mixture per acre. Special precautions such as use of low pressure, large nozzles and spray thickening agents should be taken to avoid spray drift to susceptible crops. Follow label directions for use of any drift control agent.

Aerial Application: Use drift control spray equipment or thickening agent mixed in the spray mixture. Apply 1 gallon of DMA 4 IVM per acre using standard boom systems using a minimum spray volume of 5 gallons per acre. For Microfoi® drift control spray systems, apply DMA 4 IVM in a total spray volume of 12 to 15 gallons per acre.

Submerged Aquatic Weeds: Including Eurasian Water Milfoil (*Myriophyllum spicatum*)

Treatment Site	Maximum Application Rate ¹	Specific Use Directions
Aquatic Weed Control in Ponds, Lakes, Reservoirs, Marshes, Bayous, Drainage Ditches, Canals, Rivers and Streams that are Quiescent or Slow Moving, Including Programs of the Tennessee Valley Authority	2.84 gallons (10.8 lb of acid equivalent) per acre foot	<p>Application Timing: For best results, apply in spring or early summer when aquatic weeds appear. Check for weed growth in areas heavily infested the previous year. A second application may be needed when weeds show signs of recovery, but no later than mid-August in most areas.</p> <p>Subsurface Application: Apply DMA 4 IVM undiluted directly to the water through a boat mounted distribution system. Shoreline areas should be treated by subsurface injection application by boat to avoid aerial drift.</p> <p>Surface Application: Use power operated boat mounted boom sprayer. If rate is less than 5 gallons per acre, dilute to a minimum spray volume of 5 gallons per surface acre.</p> <p>Aerial Application: Use drift control spray equipment or thickening agents mixed with sprays to reduce drift. Apply through standard boom systems in a minimum spray volume of 5 gallons per surface acre. For Microfoi® drift control spray systems, apply DMA 4 IVM in a total spray volume of 12 to 15 gallons per acre.</p> <p>Apply to attain a concentration of 2 to 4 ppm (see table below).</p>

¹ DMA 4 IVM contains 3.8 lb of acid equivalent per gallon of product.

Amount to Apply to Attain a Concentration of 2 to 4 ppm			
Surface Area	Average Depth (ft)	2,4-D Acid Equivalent to Apply (lb/acre)	Amount of DMA 4 IVM to Apply (gal/acre)
1 acre	1	5.4 to 10.8	1.42 to 2.84
	2	10.8 to 21.6	2.84 to 5.68
	3	16.2 to 32.4	4.26 to 8.53
	4	21.6 to 43.2	5.68 to 11.37
	5	27.0 to 54.0	7.10 to 14.21

Precautions and Restrictions for Aquatic Use:

- Do not treat areas that are not infested with aquatic weeds.
- Do not exceed 10.8 lb of acid equivalent (2.84 gallons) per acre foot of treated water.
- Do not apply within 1500 ft of an active potable or irrigation water intake.
- **Wind Speed:** Do not apply when wind speed is at or above 10 mph when making ground or surface applications. Do not aerially apply when wind speed is greater than 5 mph. Wind speed restrictions do not apply for subsurface applications used in submerged aquatic weed control programs.
- **Dissolved Oxygen Ratio:** Fish require oxygen dissolved in water for life processes and a favorable water-oxygen ratio must be maintained. Decaying weeds use up dissolved oxygen in water. Fish kill resulting from decaying plant material can be prevented by: (1) treating the entire area when the weed mass is sparse and the rate of decomposition will not be sufficient to disturb the water-oxygen ratio; or (2) If application is delayed until there is a dense weed mass, treat no more than one-half of a lake or pond at one time. For large bodies of weed-infested water, apply product in lanes, leaving buffers strips at least 100 feet wide which can be treated in 4 to 5 weeks or when vegetation in treated lanes has decomposed. During the growing season, decomposition of treated strips will usually occur in 2 to 3 weeks.
- **Irrigation:** Unless an approved assay indicates that the 2,4-D concentration is 100 ppb (0.1 ppm) acid or less, do not use water from treated areas for; (1) irrigation other than non-crop areas or those crops or plants labeled for direct application of 2,4-D; or (2) mixing sprays for agricultural or ornamental plants.
- **Potable Water:** Unless an approved assay indicates that the 2,4-D concentration is 70 ppb (0.07 ppm) acid or less, do not use water from treated areas for potable water (drinking water).
- **Other Uses of Treated Water:** Except as stated above, there are no restrictions on use of water from treated areas for fishing, watering of livestock, or other domestic purposes.

Warranty Disclaimer

Dow AgroSciences warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Dow AgroSciences MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Dow AgroSciences or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Dow AgroSciences' election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

Dow AgroSciences shall not be liable for losses or damages resulting from handling or use of this product unless Dow AgroSciences is promptly notified of such loss or damage in writing. In no case shall Dow AgroSciences be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Dow AgroSciences or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

Amount to Apply (gallons)	2.5-A-G Aerial Equivalent to Apply (gallons)	2.5-A-G Aerial Equivalent to Apply (gallons)	Amount to Apply (gallons)
1.43 to 2.86	2.86 to 5.72	2.86 to 5.72	1.43 to 2.86
2.86 to 5.72	5.72 to 11.44	5.72 to 11.44	2.86 to 5.72
5.72 to 11.44	11.44 to 22.88	11.44 to 22.88	5.72 to 11.44
11.44 to 22.88	22.88 to 45.76	22.88 to 45.76	11.44 to 22.88
22.88 to 45.76	45.76 to 91.52	45.76 to 91.52	22.88 to 45.76

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Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

EPA-accepted 10/13/2000

Label Code: D02-141-001

Initial Printing

Directions and Restrictions for Aerial Use

- Do not treat areas that are not treated with aquatic weeds.
- Do not exceed 10.5 lb of acid equivalent (2.84 gallons) per acre foot of treated water.
- Do not apply within 1500 ft of an active potato or tomato water course.
- Wind Speed: Do not apply when wind speed is 15 mph or above. Do not apply when wind speed is 15 mph or above. Do not apply when wind speed is 15 mph or above.
- Wind Speed: Do not apply when wind speed is 15 mph or above. Do not apply when wind speed is 15 mph or above. Do not apply when wind speed is 15 mph or above.
- Dissolved Oxygen Ratio: For reduced oxygen dissolved in water for the process and a favorable water-oxygen ratio must be maintained.
- Decaying weeds use up dissolved oxygen in water. For the reason, decaying plant material can be prevented by (1) treating the same area when the weed mass is sparse and the rate of decomposition will not be sufficient to deplete the water-oxygen ratio, or (2) if application is delayed until there is a dense weed mass, treat no more than one-half of a lake or pond at one time. For large bodies of weed-infested water, apply product in zones, leaving buffer zones at least 100 feet wide which can be treated after 2 weeks or when vegetation in treated zones has decomposed. During the growing season, decomposition of treated areas will usually occur in 2 to 3 weeks.
- Irrigation: Unless an approved agency indicates that the 2.5-A-G concentration is 100 gpd (1.0 ppm) acid or base, do not use water from treated areas for (1) irrigation other than non-crop areas or those crops or plants labeled for direct application of 2.5-A-G, or (2) mixing solutions for agricultural or environmental purposes.
- Potable Water: Unless an approved agency indicates that the 2.5-A-G concentration is 10 gpd (0.1 ppm) acid or base, do not use water from treated areas for potable water (drinking water).
- Other Uses of Treated Water: Do not use treated water for (1) irrigation of lawns, (2) watering of livestock, or other domestic purposes.



cerexagri

Aqua-Kleen®

A SELECTIVE HERBICIDE

For Controlling Certain Unwanted Aquatic Plants

ACTIVE INGREDIENT:

Butoxyethyl Ester of 2,4-Dichlorophenoxyacetic Acid* 27.6%

OTHER INGREDIENTS: 72.4%

TOTAL 100.0%

*Isomer Specific AOAC Method,

Equivalent to 2,4-Dichlorophenoxyacetic Acid 19.0%

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID:

IF SWALLOWED: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth and do not induce vomiting.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF IN EYES: Flush eyes with plenty of water. Call a physician if irritation persists.

EPA Registration No. 228-378-4581

EPA Establishment No. 228-IL-1

Net Contents _____

Distributed By:

Cerexagri, Inc.

2000 Market Street, Philadelphia, PA 19103

1 800-438-6071 • www.cerexagri.com

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. READ ENTIRE LABEL BEFORE USING THIS PRODUCT. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.

GENERAL PRECAUTIONS AND RESTRICTIONS

Do not use in or near a greenhouse.

OXYGEN RATIO

Fish breathe oxygen in the water and a water-oxygen ratio must be maintained. Decaying weeds use up oxygen, but during the period when this product should be used, the weed mass is fairly sparse and the weed decomposition rate is slow enough so that the water oxygen ratio is not disturbed by treating the entire area at one time.

If treatments must be applied later in the season when the weed mass is dense and repeat treatments are needed, spread granules in lanes, leaving buffer strips which can then be treated when vegetation in treated lanes has disintegrated. During the growing season, weeds decompose in a 2 to 3 week period following treatment.

Buffer lanes should be 50 to 100 feet wide. Treated lanes should be as wide as the buffer strips (See illustration below).



WATER pH

Best results are generally obtained if the water to be treated has a pH less than 8. A pH of 8 or higher may reduce weed control. If regrowth occurs within a period of 6 to 8 weeks, a second application may be needed.

PERMIT TO USE CHEMICALS IN WATER

In many states, permits are required to control weeds by chemical means in public water. If permits are required, they may be obtained from the Chief, Fish Division, State Department of Conservation or the State Department of Public Health.

GENERAL INFORMATION

This product is formulated on special heat treated attaclay granules that resist rapid decomposition in water, sink quickly to lake or pond bottoms and release the weed killing chemical into the critical root zone area.

This product is designed to selectively control the weeds listed on the label. While certain other weeds may be suppressed, control may be incomplete. Reduced control may occur in lakes where water replacement comes from bottom springs.

WHEN TO APPLY

For best results, spread this product in the Spring and early Summer, during the time weeds start to grow. If desired, this timing can be checked by sampling the lake bottom in areas heavily infested with weeds the year before.

If treatments are delayed until weeds form a dense mat or reach the surface, two treatments may be necessary. Make the second treatment when weeds show signs of recovery. Treatments made after September may be less effective depending upon water temperatures and weed growth.

Occasionally, a second application will be necessary if heavy regrowth occurs or weeds reinfest from untreated areas.

HOW TO APPLY

FOR LARGE AREAS: Use a fertilizer spreader or mechanical seeder such as the Gerber or Gandy or other equipment capable of uniformly applying this product. Before spreading any chemical, calibrate your method of application to be sure of spreading the proper amount. When using boats and power equipment, you must determine the proper combination of (1) boat speed (2) rate of delivery from the spreader, and (3) width of swath covered by the granules.

FOR SMALL AREAS (Around Docks or Isolated Patches of Weeds):

Use a portable spreader such as the Cyclone seeder or other equipment capable of uniformly applying this product. Estimate or measure out the area you want to treat. Weigh out the amount of material needed and spread this uniformly over the area. More uniform coverage is obtained by dividing the required amount in two and covering the area twice, applying the second half at right angles to the first.

Use the following formula to calibrate your spreader's delivery in pounds of this product per minute.

$$\frac{\text{Miles per hour} \times \text{spreader width} \times \text{pounds per acre}}{495}$$

Example: To apply 100 pounds of this product per acre using a spreader that covers a 20 foot swath from a boat traveling at 4 miles per hour, set the spreader to deliver 16 pounds of this product per minute.

$$\frac{4 \text{ mph} \times 20 \text{ feet} \times 100 \text{ lbs./A}}{495}$$

AMOUNTS TO USE

Rates of application vary with resistance of weed species to the chemical, density of weed mass at time of treatment, stage of growth, water depth, and rate of water flow through the treated area. Use the higher rate for dense weeds, when water is more than 8 feet deep and where there is a large volume turnover.

	POUNDS PER ACRE	POUNDS PER 2000 SQ. FT.
SUSCEPTIBLE WEEDS Water milfoil (<i>Myriophyllum</i> spp.) Water stargrass (<i>Heteranthera dubia</i>)	100 to 200	5
SLIGHTLY TO MODERATELY RESISTANT WEEDS Bladderwort (<i>Utricularia</i> spp.) White water lily (<i>Nymphaea</i> spp.) Yellow water lily or (<i>Nuphar</i> spp.) spatterdock* Water shield (<i>Brasenia</i> spp.) Water chestnut (<i>Trapa natans</i>) Coontail* (<i>Ceratophyllum demersum</i>)	150 to 200	7½ to 10

*Repeat treatments may be needed.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)
CAUTION

Harmful if swallowed, absorbed through skin, or inhaled. Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust. When handling this product, wear chemical resistant gloves. Wash thoroughly with soap and water after handling. When mixing, loading, or applying this product or repairing or cleaning equipment used with this product, wear eye protection (face shield or safety glasses), chemical-resistant gloves, long-sleeved shirt, long pants, socks and shoes. It is recommended that safety glasses include front, brow and temple protection. Wash hands, face and arms with soap and water as soon as possible after mixing, loading, or applying this product. Wash hands, face and arms with soap and water before eating, smoking or drinking. Wash hands and arms before using toilet. After work, remove all clothing and shower using soap and water. Do not reuse clothing worn during the previous day's mixing and loading or application of this product without cleaning first. Clothing must be kept and washed separately from other household laundry. Remove saturated clothing as soon as possible and shower.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Drift or runoff may adversely affect fish and nontarget plants. Do not apply to water except as specified on this label. Do not contaminate water when disposing of equipment washwaters. Unless an approved assay indicates the 2,4-D concentration is 100 ppb (0.1 ppm) or less, or, only growing crops and noncrop areas labeled for direct treatment with 2,4-D will be affected, do not use water from treated areas for irrigating plants or mixing sprays for agricultural or ornamental plants.

Unless an approved assay indicates the 2,4-D concentration is 70 ppb (0.07 ppm) or less, do not use water from treated areas for potable water (drinking water).

Clean spreader equipment thoroughly before using it for any other purposes. Vapors from this product may injure susceptible plants.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

STORAGE AND DISPOSAL

STORAGE: Always use original container to store pesticides in a secured warehouse or storage building. Do not store near seeds, fertilizers, insecticides or fungicides. Do not stack more than two pallets high. Do not contaminate water, food or feed by storage or disposal. It is recommended that a SARA Title III emergency response plan be created for storage facilities. Do not transport in the passenger compartment of any vehicle.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, clean up all spilled material. Improper disposal or excess pesticide, spray mixtures or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay away from smoke.

EMERGENCY TELEPHONE NUMBERS:

CHEMTREC: (800) 424-9300

MEDICAL: (303) 623-5716

Rocky Mountain Poison Control Center

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