

# IX. Implementation Strategies, Schedule and Priorities

## A. Implementation Strategies

### 1. Interagency Coordination

The master plan was developed with help from a technical advisory committee with agency representatives from the IAC, Washington Department of Ecology, Washington Department of Fish and Wildlife, the Thurston Conservation District, Thurston County and numerous City of Olympia departments. These partnerships are important to maintain to help implement the master plan and protect the refuge in the future. Contact with them will be important for facilitating the permitting processes, establishing and maintaining the monitoring program, protecting the functions and values of the refuge and offering environmental education and interpretation opportunities.

### 2. Funding Sources

The city will actively seek grants and donations to help implement the master plan.

Funding for improvements at Grass Lake Refuge will be included in the Capital Facilities Plan developed annually by the Department.

#### **Potential Grant Sources**

- Interagency Committee for Outdoor Recreation, State of Washington
- Urban Wildlife Habitat Program, Washington Department of Fish and Wildlife
- Coastal Zone Management (CZM)/ Washington Department of Ecology
- U.S. Fish and Wildlife Service
- Private Foundations

#### **City Revenues**

- Capital Improvement Program (CIP Funds)
- Voter and Non-voter Approved Bonds

#### **Private Donations**

- Cash
- Donation of labor, equipment and materials
- Donation of land or easement
- Park Trust

### **3. Volunteer and Partnership Opportunities**

The list of volunteer and partnership opportunities needs to be updated and kept current. Groups and individuals are already asking what they can do to help. This list will offer a variety of projects from simple and of short duration to more sophisticated with longer time commitments required. Projects should be listed for K-12 and college students since they have shown strong interest.

Having the department make and keep a list of volunteer and partnership opportunities will help to direct these efforts to the highest priorities. The list should comply with the priorities and phases outlined in the master plan so that the common vision is achieved and maintained.

Most volunteers do not have funding for materials and supplies so the volunteer opportunities and priorities will have to be linked to available funding. The department should work at matching or assembling donations of labor, equipment and materials.

#### **Potential Volunteer and Partnership Projects for the Grass Lake Refuge**

**Trail Construction Projects** - Order reflects the implementation and priorities strategies. Trail crews require supervision by trail experts so that trails will comply with accessibility standards and other requirements related to drainage, safety and environmental protection.

- Marsh Trail
- Lake Louise Trail
- Wetland Connector Trail
- Forest Trail
- 65 Road Spur Trail
- Grass Lake Nature Trail
- South Side Spur Trails
- Cottonwood Swamp Trail

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**Environmental Learning Stations** - The piers and observation blinds require experts in design and construction to supervise all work.

**Seating Areas** - The plan calls for five contemplation sites to be located along the trails. These areas should include attractive and comfortable seating that displays high craftsmanship and design appropriate for a refuge for wildlife and people. Volunteers can submit design ideas to the Department for approval.

**Landscape Restoration** - Includes removing invasive non-native plant species, preparing planting areas, transplanting and seeding native plants, monitoring and maintaining efforts. These projects are scheduled to occur following earlier implementation phases.

Kaiser Road to Lake Louise  
Old Yogurt Farm

**Landscape Enhancement Projects** - Includes removing invasive non-native plant species, planting disturbed sites with appropriate native plants.

Main Entrance Area on 14th Avenue - swale, wetlands, grasslands/meadow  
Meadows near Lake Louise pier  
Meadow near new Kaiser Road entrance  
Swale and Wetlands in northeast corner of the refuge

**Monitoring** - Needs to be part of an on going monitoring program or the monitoring project needs to be approved by city

Water flow, elevations, quality

Biological

Birds

Amphibians

Mammals

Plants

Visitation

Patterns of Use - time, season, location

Visitor Satisfaction

Success of environmental education and interpretation

Trampling

Vandalism

**Trail Obliteration** - May include placing brush to block passage, scarifying compacted soils, transplanting trees and shrubs, making and placing temporary signs to explain closures and restoration efforts. Existing trails will not be closed until new trails are built.

**Research** - Understanding the Grass Lake ecosystem, the human impacts and values is important to successful management of the refuge. The city encourages college and university research within the refuge. All projects need to be approved in advance by the city. All findings and recommendations for improving management should be provided to the city.

**Trail and Facility Maintenance** - Because of the wet climate and the desire to maintain accessibility for people with disabilities and safety for all, a high level of trail maintenance will be needed. Activities may include removing debris such as twigs, cones and limbs, leveling and compacting surfaces and brushing out any side trails that get started. As facilities age, there will be opportunities to help with painting or staining, sanding and other general wear and tear maintenance. These activities need to be approved and supervised by park services personnel.

#### **4. Phases/Schedule**

Although implementing the proposed developments in a single construction effort might be advantageous it is unlikely that such funding will be available. The development cost estimates are broken out by the proposed implementation phases.

Interior trails and environmental learning stations will be built first so the sensitive wetland areas have adequate facilities before visitation increases due to visually attractive new trailheads and facilities. Interior facilities also need to be built first so that construction access is available without damaging other new facilities on the refuge boundaries. Construction access for the Lake Louise facilities can be through the existing Kaiser Road entrance. The proposed Kaiser Road to Lake Louise landscape restoration should not be done until the Lake Louise facilities are built, otherwise construction access would be blocked or construction activities would negatively impact the restoration efforts. Grass Lake West facilities should be built prior to the landscape restoration of the Old Yogurt Farm site and the obliteration of the old primitive roads in this area which can provide construction access.

Main entrance facilities need to be built soon after the new interior trails and environmental learning stations. The environmental learning shelter is to serve as a staging area so that large groups do not travel through the wetlands together. Program leaders can break their groups into smaller units and review refuge protection objectives. The orientation kiosk is also important because it will communicate how to enjoy the refuge while limiting disturbance. This visitor orientation is important to successful management of the refuge. The restroom is also important because new facilities will attract more visitors. If visitation increases prior to construction of the restroom, portable toilets may need to be provided.

Landscape restoration of the Old Yogurt Farm and the wetland and stormwater enhancements to the swale in the northeast corner of the refuge should follow the abandonment and restoration of the sewer line and access road by LOTT.

The new Kaiser Road entrance needs to be built prior to closing the existing one and prior to implementing the Kaiser Road to Lake Louise landscape restoration. This restoration will close off the existing trails.

Facilities should be constructed in late summer and fall after breeding seasons are complete and soils are drier for less compaction.

## **B. Cost Estimates**

### **1. Wetland Survey and Mapping**

Prior to designing, constructing and permitting trails and other facilities, the wetlands will be delineated and surveyed. Their precise location and class have to be determined. The costs will vary depending on area to be surveyed.

### **2. Soil and Pre-Design Investigations**

For the design of the piers, observation blinds, restroom and shelter, soil and subsurface investigations will have to be done. The cost estimate is \$5,000.

### **3. Development (Design and Construction)**

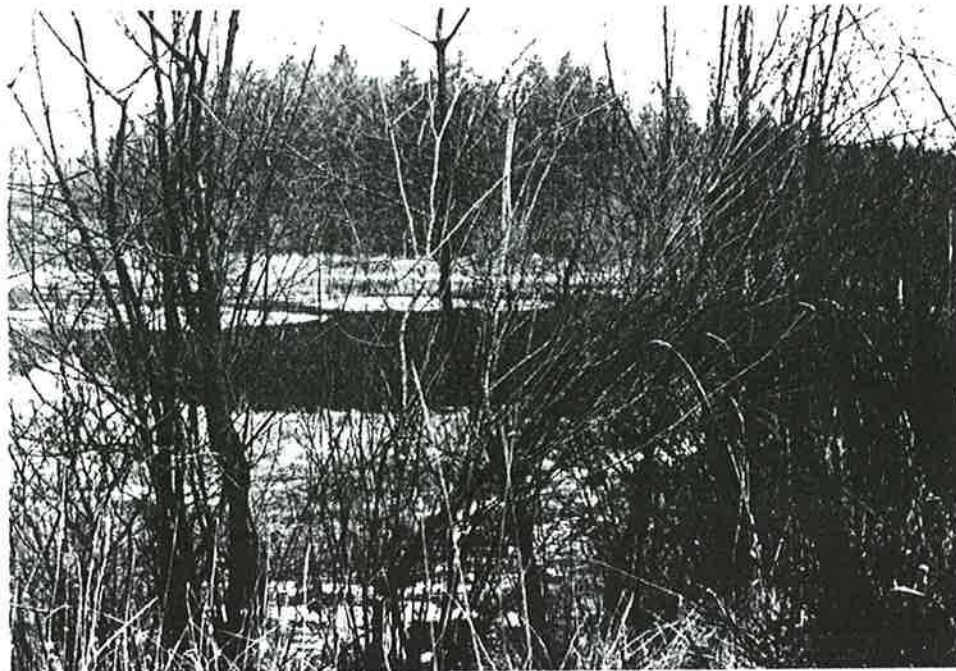
There are numerous options on how to implement facility construction in the refuge. Most system trails and boardwalks in Olympia's parks have been built by a cooperative working relationship with Community Youth Services and park services. This reduces the costs of construction primarily by reducing labor costs.

With design and construction experts, numerous refuge facility components could be built by city park crews, Community Youth Services or volunteers. These projects include the trails, boardwalks, piers, kiosks, seating areas, landscaping and landscape restoration. Volunteers who have expressed interest in Grass Lake projects include Capital High School, Community Youth Services, YMCA Earth Service Corps, the Black Lake Chapter of Audubon Society, the Friends of Grass Lake, the Aspinwall Estates Homeowners Association and the Eld Inlet Watershed Council.

Some of the proposed facilities may attract individuals or groups who would like to donate the funding for the facility. The facilities that are likely to attract sponsors are the environmental learning station piers and observation blinds, environmental learning shelter and seating areas.

The following cost estimates are based on all projects being designed and built under contract.

**Photo: A raised observation blind is proposed to help visitors view birds and other wildlife.**



# Design and Construction Cost Estimates

## Phase I - Interior Refuge Improvements

### Grass Lake West Environmental Learning Station

Observation Blind	14,000.00
Interpretive Exhibits	<u>6,000.00</u>
	\$20,000.00

### Grass Lake West Environmental Learning Station

Pier	14,000.00
Interpretive Exhibits	<u>6,000.00</u>
	\$20,000.00

### Lake Louise Environmental Learning Station

Observation Blind	14,000.00
Interpretive Exhibits	<u>6,000.00</u>
	\$20,000.00

### Lake Louise Environmental Learning Station

Pier	14,000.00
Interpretive Exhibits	<u>6,000.00</u>
	\$20,000.00

**Marsh Trail** (2520' including 420' boardwalk) 53,800.00

**Lake Louise Trail** (2500' including 1000' boardwalk) 86,000.00

**Wetland Connector Trail** 18,700.00

**Forest Trail** 10,500.00

**Seating Areas** 3,600.00

Earthwork - clearing, erosion control, surface grading 14,400.00

General Construction Requirements 22,600.00  
mobilization, bonds, surveying, permits \$289,600.00

Taxes @ 8% 23,168.00  
\$312,768.00

Contingency @ 10% 31,277.00

Phase I Construction Subtotal 344,045.00

Planning, Design, Administration, Inspection @ 20% 68,809.00

**Estimated Total Phase I Construction Costs \$412,854.00**

**Phase II - Main Entrance**

Entrance Sign	2,500.00
Driveway and Parking Lot (Pervious turf block)	23,300.00
Restroom	35,000.00
Orientation Kiosk	25,000.00
Orientation/Interpretive Signs	7,200.00
Bicycle Rack	1,000.00
Aggregate Surfacing	5,000.00
Trailhead and Directional Signs	8,400.00
Landscaping	30,000.00
Environmental Learning Shelter	120,000.00
Utility Connections - electrical, sewer, water	15,000.00
65 Road Connector Trail (300' including pedestrian bridge)	18,000.00
Swales and Retention Basin Improvements	30,000.00
Earthwork - clearing, erosion control, grading	12,000.00
General Construction Requirements	<u>20,000.00</u>
mobilization, bonds, surveying, permits	\$352,400.00
Taxes @ 8%	<u>28,192.00</u>
	\$380,592.00
Contingency @ 10%	38,059.00
Phase II Construction Subtotal	418,651.00
Planning, Design, Administration, Inspection @ 20%	83,730.00
<b>Estimated Total Phase II Construction Costs</b>	<b>\$502,881.00</b>



### **Phase III - Grass Lake Nature Trail, Kaiser and Cooper Point Trailheads**

**Grass Lake Nature Trail** (5280' including 560' boardwalk) 83,600.00

Seating Areas 2,400.00

#### **Kaiser Road Trailhead**

Earthwork - clearing, erosion control, grading 1,200.00

Parking Lot (Pervious turf block) 4,800.00

Entrance Sign 1,500.00

Orientation Kiosk 5,000.00

Orientation Signs 3,600.00

Bike Rack 1,000.00

Trail Counter 3,000.00

Landscaping 11,200.00  
\$31,300.00

#### **Cooper Point Road Trailhead**

Pedestrian Ramp - road to trail 26,000.00

Entrance Sign 1,500.00

Orientation Kiosk 5,000.00

Orientation Signs 3,600.00

Bike Rack 1,000.00

Trail Counter 3,000.00

Landscaping 6,800.00  
\$46,900.00

### South Side Spur Trails

3 Trail Connections (300' each)	9,000.00
Trailhead Orientation and Directional Signs	<u>5,100.00</u>
	\$14,000.00

### Landscape Restoration

Kaiser Road to Lake Louise	35,000.00
Motorcycle Loop	12,000.00
Yogurt Farm	<u>18,000.00</u>
	\$65,000.00

### Northeast Swale and Wetlands Enhancement

48,000.00  
\$291,300.00

Taxes @ 8% 23,304.00  
\$314,604.00

Contingency @ 10% 31,460.00

Phase III Construction Subtotal 346,064.00

Planning, Design, Administration @ 20% 69,213.00

Estimated Total Phase III Construction Costs 415,277.00

**Phase I 412,854.00**

**Phase II 502,881.00**

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**Phase III 415,277.00**

**Total \$1,331,012.00**

#### **4. Operations and Maintenance Costs**

Maintenance activities required in the refuge are described above in the Operations and Maintenance Plan.

##### **Estimated Average Annual Operations and Maintenance Costs**

[Security Contract if gates/restroom are locked	\$ 4,200]
Labor	\$14,000
Materials and Supplies	\$ 1,500
Vehicles and Equipment	<u>\$21,060</u>
	\$36,560 - \$40,760

The cost estimate is in 1997 dollars. The costs will increase with the annual increase in the cost of living.

Initial management activities in the refuge may also result in higher operations and maintenance costs. Site cleanup activities still needed include removal and closure of manholes on the southwest side of Lake Louise, removal of the pump, electrical panel and poles and water storage tank and abandonment of the well according to state and federal regulations. The manholes should probably be removed as part of the landscape restoration activities recommended for this area.

As described above in the Management Plan, existing trails that are not developed as part of the trails system will be closed. Required closure activities depend on trail visibility, width and compaction. Ripping, raking, seeding, planting, placing brush and installing temporary signs may be required.

The Management Plan recommends intensive landscape restoration from Kaiser Road to Lake Louise, at the old yogurt homesite and the LOTT sewer easement. The restoration activities may include heavy equipment for removing large stands of Himalayan blackberries and Scot's broom and minor grading. Planting, mowing and weeding will be required. Swale and wetland enhancements are also proposed. Park services may do all of the trail closures and restoration activities, they may supervise volunteer crews or trail closures and restoration activities could be contracted out. Depending on the responsibilities of park services in these management activities, operations and maintenance costs could be doubled for two or more years.

## 5. Monitoring Costs

The monitoring plan proposes that most monitoring be done by volunteers. The costs to the department will be primarily for coordination. As foreseen, managing the monitoring program may require 5%-10% of one park employee's time. The water monitoring in the refuge is to be done in partnership with the Water Resources Program. They currently have three flow stage markers in place and intend to install three more at approximately \$500.00 each. Volunteers will be used for field work.

## C. Public Information Plan

A public information plan for the Grass Lake Refuge should be developed. It should be consistent with management objectives for the refuge. The amount and type of public information on the Grass Lake Refuge will influence the amount and character of public use. Maps should include messages about staying on the developed trails, boardwalks and piers to limit disturbance to wildlife and about limiting group size to 8-10 people maximum except at the environmental learning shelter. Pamphlets and brochures should help people understand the concept that the refuge is a sanctuary for wildlife and for people and what that means in terms of activities and opportunities. Such information should help to protect the refuge and reduce user conflicts.

Because of concerns about overuse reducing wildlife habitat values and wildlife observation opportunities, the city should not seek to market the refuge in a Website on the Internet or in commercial publications or programs. However, the Internet may become a useful environmental education teaching tool.

The city should distribute information on volunteer opportunities and needed donations to help build and maintain the refuge's facilities and habitats.

The Environmental Education and Interpretation Plan discusses partnerships and other strategies to develop environmental education and interpretation materials for teachers, naturalists and other program providers. Facilitating such education and activities are appropriate for the refuge's mission.