

VII. Monitoring Plan

A. Monitoring Needs

Grass Lake Refuge is a special component of the park system. It was acquired to protect urban wildlife habitat and to provide wildlife observation and education. Some people including biologists, land use planners and engineers think it is going to be very challenging for the city to successfully protect the refuge's wetlands and wildlife. To do this, the refuge will have to be monitored to see if negative impacts are occurring. If they occur, new protection strategies will have to be implemented by the city. The city will have to remain an active champion for refuge protection.

Water Flows and Biological Impacts - As described in the wetland management sections of the plan, water flows need to be carefully monitored. This monitoring program will be the responsibility of Olympia's Water Resources Program. Faculty and students from The Evergreen State College and other volunteers will help with this long term monitoring. The water monitoring needs to be integrated with monitoring amphibians and aquatic and wetland vegetation. Additional baseline information is needed to help measure changes.

Birds and Mammals - Birds including neotropical songbirds, waterfowl and birds of prey all frequent the refuge. The diversity of birds is outstanding. As facilities are built and visitation changes, monitoring needs to identify changes in numbers, species and locations of birds. No known monitoring of mammals in the refuge is occurring.

Visitation - The Department should develop a program for monitoring visitation. The master plan recommends installing trail counters at the trailheads so that use can be measured. A photo monitoring program should be implemented to document early changes in vegetation and post-construction use of facilities. These photographs can provide feedback on needed management and facility changes. The environmental learning shelter is to be reserved in advance so that frequency of use can be monitored. Visitor satisfaction should be monitored by formal surveys as well as informal communications. The success of the environmental education and interpretation programs and materials should be monitored so that they can be revised to remain useful and effective. All or most of this monitoring can probably be done by students and other volunteers under the supervision of the refuge steward or other city staff.

B. Monitoring System

The Department needs to coordinate all monitoring and research within the refuge. Although research and monitoring are needed, some research and monitoring

activities can result in significant wildlife and other disturbance if not properly designed and managed. Monitoring proposals should be submitted to the department for approval. The proposals should include what is being monitored where, when, for how long, by whom and how the data will be recorded, analyzed and provided to the department. To help maintain the desired natural or wild landscape appearance, monitoring equipment or site markings placed in the field should not be visible from trails and viewpoints. Exceptions may be granted but temporary signs should be placed to explain to the public the study and purpose. Monitoring activities should not result in new paths that will attract public use or interrupt trail restoration efforts. Photo monitoring stations should be established in locations that are easily found, field marked with metal caps and mapped for easy reference.

Monitoring information should be used to help develop environmental education and interpretation exhibits, materials and programs. Monitoring results should be given to other city departments and other agencies who share responsibility for protecting the refuge. Results of the Grass Lake monitoring programs will provide useful information for developing management strategies and plans for other urban wildlife habitats and open spaces that the city acquires. Partnerships with The Evergreen State College faculty and student interns should be used for archiving monitoring reports and data.