

RESEDA PARK: LAKE REHABILITATION PROJECT

"CREATING A HEALTHY LAKE FOR THE BENEFIT OF PEOPLE, WILDLIFE AND THE ENVIRONMENT"

THE LAKE

Reseda Lake is a shallow, asphalt-lined urban lake with a surface area of approximately 2.5 acres located in the northern portion of Reseda Park, 18411 Victory Boulevard, in the community of Reseda and is managed by the Department of Recreation and Parks. The lake has hard edges and no aquatic plants, and its average depth is 4 feet with its deepest point at 6 feet. There are no inlets or outlets, so the water level is maintained through the addition of potable water. Any discharges from the lake are associated with permitted maintenance activities or overflows during major storm events that are conveyed to the adjacent Los Angeles River through an existing drain pipe. A pump house is located on the north side of the lake which contains the mechanical equipment for the aeration and filtration systems. A man-made island is situated at approximately the midpoint of the lake which contains rock piles, logs and branches, a couple of trees, and two nozzle-type spray fountains that currently are not working. Domestic ducks and geese and other waterfowl swim in the lake or congregate along the shoreline or in the surrounding parkland. The California Department of Fish and Game stocks the lake with channel catfish during the spring and summer and rainbow trout during the winter, but these activities have been suspended for some time due to the poor water quality.

THE PROBLEMS

Reseda Lake has very limited water circulation and no flushing action which creates significant water quality problems due to the continual buildup of inorganic and organic matter, a process commonly referred to as siltation. Over time, this process reduces the depth and volume of the lake. The sources of inorganic matter are eroded soils carried into the lake by wind or rain, while the sources of organic matter are the feces from the excessive bird populations, food fed to the ducks by park visitors, pine needles and other fallen or wind-blown landscape debris, and algae die-offs. These materials settle to the bottom and accumulate only to be resuspended by the wind and the turbulent action of the aerators causing high turbidity, or "muddy water" conditions. The decay of the organic matter can result in the rapid reduction of the dissolved oxygen levels in the water column leading to fish kills, and, if conditions in the bottom sediment becomes anaerobic (presence of little or no oxygen), then odor problems resulting from the release of hydrogen sulfide can become a major public nuisance. Furthermore, these conditions have contributed to duck deaths from avian botulism. Bird feces are a major source of bacterial contamination as well as nutrient loading, primarily phosphorus and nitrogen, which makes the lake prone to blue-green algae blooms during hot weather. In an attempt to control these blooms park maintenance staff apply copper-based algacides to the lake. These applications have had limited effect and contribute to the buildup of copper in the bottom sediments.

THE OPPORTUNITY

The City of Los Angeles, Department of Recreation and Parks (RAP) was awarded a \$1.169 million State grant from Proposition 40 Specified funds (AB 716) for urban lakes and environmental enhancement projects. These funds were committed to Reseda Park Lake for water quality and habitat improvements which must be completed for public use by September 2010. The office of Councilman Zine (3rd Council District), RAP, and the Bureau of Sanitation of the Department of Public Works are working jointly to make the project a success. The URS Corporation, an environmental consulting firm, has been retained to provide project design, construction management and biological resource planning services. Reseda Park Lake has not been drained and cleaned in over 20 years and this grant will provide a critical opportunity to take this and other actions to create a healthy lake for the public's use and enjoyment for many years.

THE PROJECT

The project will include both engineering and biological strategies and features that will help to improve the water quality, habitat and aesthetic conditions of the lake, the primary ones being:

- Draining of the lake and removal of the bottom sediment and refilling of the lake. This effort will include patching of the lake's asphalt liner to the extent feasible.
- Installation of new air diffusers that will emit microbubbles to provide more dissolved oxygen into the water column.
- Installation of a skimming weir system that will help to promote water circulation and the removal of trash, algae scum, pine needles and other surface debris.
- Restoration of the island's spray fountains.
- Installation of a lake wastewater discharge pipeline to the sewer system at Reseda Boulevard.
- Placement of seven vegetated floating islands across the lake, totaling approximately 5,000 square feet of surface area. These islands will be anchored in place and positioned to work with the air diffusers to aid in reducing the levels of nutrients in the lake.
- Restocking of the lake with new fish populations by the California Department of Fish and Game.

If the project budget allows, additional improvements that will be undertaken include repair of the side walls of the lake, and the planting of rain gardens or other landscape improvements. The project is expected to start by the end of April or in early May and be completed by September of this year. During the construction activities, the public and wildlife will be prevented from accessing the lake area through the use of fencing and other physical barriers. Fish, turtles and other aquatic species will be humanely removed from the lake both before and during the draining process. Biological resource professionals will be used to accomplish this and will be on hand on an as-needed basis to monitor wildlife activity in the project vicinity during construction, supported by trained park and construction personnel.

THE BENEFITS

Implementation of the project will result in many environmental and recreational benefits that will make Reseda Park Lake a source of community pride and involvement.

These include:

- Improved water clarity and visual aesthetics.
- Reduced nutrient levels and associated algae blooms in the lake.
- Increased biological diversity at the lake as a result of the floating islands, which will provide nesting habitat for songbirds such as the tri-colored blackbird as well as insects such as dragonflies, as well as shade and foraging areas for fish and other aquatic species.
- Maintenance of more stable oxygen levels in the lake thereby reducing the occurrence of fish kills.
- Revival of the recreational fishing activities and programs for youth and their families as well as increased opportunities to participate in other outdoor recreational experiences such as bird-watching, picnicking and photography.
- Less reliance on the use of algaecides and other related chemicals in the lake, and the need to discharge to the Los Angeles River during major lake maintenance activities.
- Increased opportunities to develop environmental education programs that focus on the lake ecosystem as well as touches on larger natural resource management issues.
- Successful features of the project can potentially be applied to other City lakes and waterbodies to bring about water quality and other environmental improvements.