314 CLEAN LAKES GRANT PROJECT
QUARTERLY PROGRESS REPORT NO.9
TO OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY

PROJECT: Phase I Feasibility Study - Smith and Bybee Lakes Sediment Assessment

EPA GRANT NO. CL-000863-01-2

PROJECT AND BUDGET PERIOD: May 1, 1994 - December 31, 1995

REPORT NO. #9, FY96 Fourth Quarter, July - September, 1995

REPORT DATE: September 30,1995

DEQ CONTACT PERSON: Avis Newell (503) 229-6018

FUNDING:
TOTAL BUDGET.....$ 40,740
TOTAL 314 GRANT AWARD.....$ 25,000
TOTAL 314 EXPENDITURE TO DATE.....Estimated $ 22,000

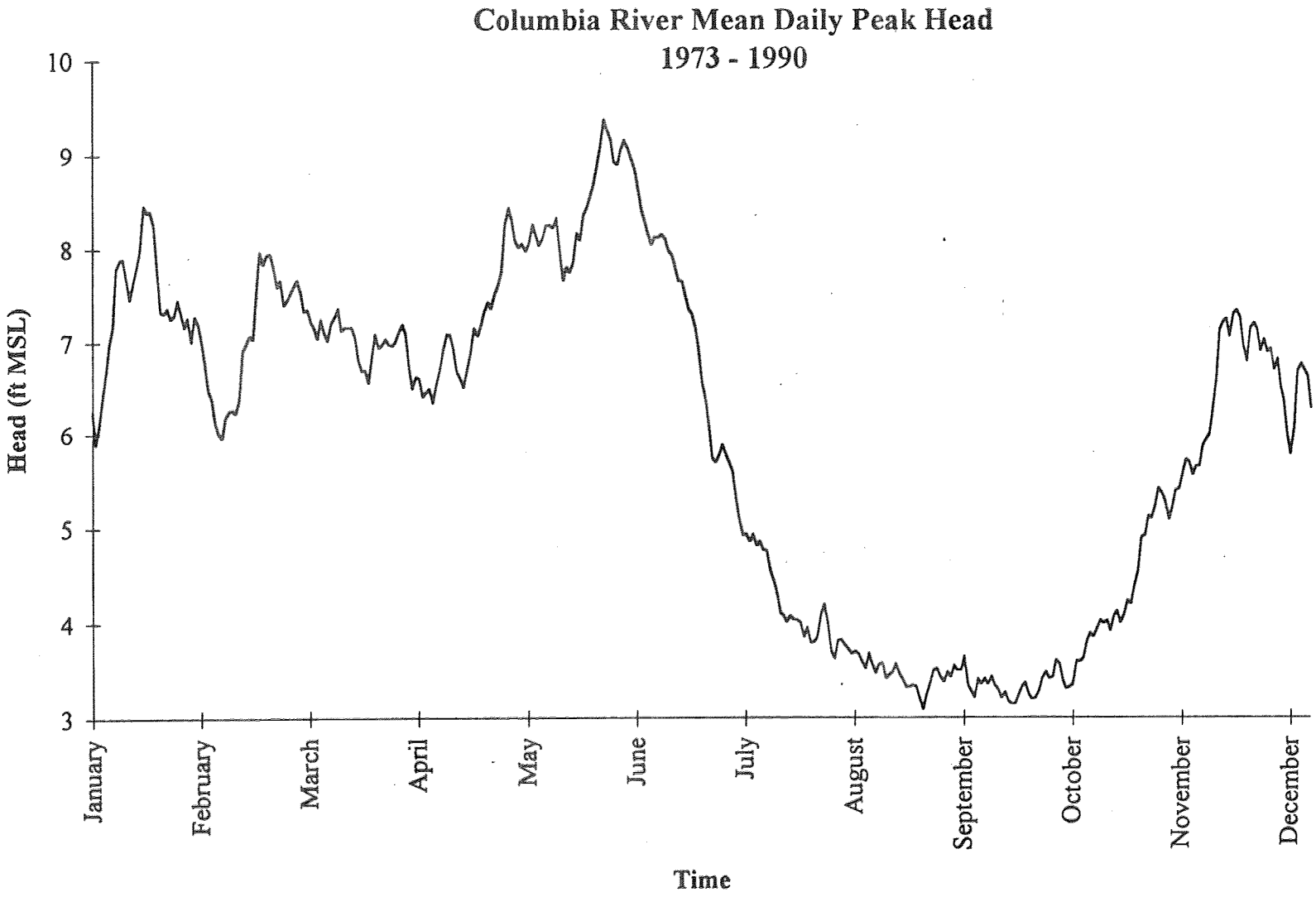
QUARTERLY STATUS OF PLANNED OUTPUTS/MILESTONES

Water Management Objectives Established

Objectives and strategies for managing the hydrology of Smith and Bybee Lakes were developed by the Smith and Bybee Lakes Technical Advisory Committee during a June 28, 1995 meeting. These recommendations were forwarded to the Smith and Bybee Lakes Management Committee for their consideration. The Management Committee adopted these recommendations as policy on August 15, 1995. Listed below are the objective in managing the lakes' hydrology, strategies to meet that objective, a proposed implementation schedule, and issues affected by changes in hydrology.

Objective

Manage the hydrology of Smith and Bybee Lakes in a manner that allows the water surface elevations in the lakes to mimic those of the Columbia River, both daily and seasonally (see attached figure).


Columbia River Mean Daily Peak Head
1973 - 1990
Head (ft MSL)
10
9
8
7
6
5
4
3
January
February
March
April
May
June
July
August
September
October
November
December
Time

Strategies

1. Replace the existing water control structure with one that will allow unobstructed flow both in and out of the lakes on a daily and seasonal basis.
2. Develop a water source and distribution system to augment flow into the lakes from an outside source as needed to control avian botulism, mimic river hydrology, and other management needs.
3. Remove the sunken barge obstructing flow in the North Slough while replacing equivalent habitat values the barge has afforded the North Slough.
4. Develop a water management plan that includes monitoring and assessment to ensure that management goals are being met.

Proposed Schedule

1. Complete construction and have operational the replacement water control structure no later than December, 1997.
2. Develop a water source and have operational a distribution system by the summer, 1998.
3. Remove barge before the replacement water control structure becomes operational.
4. Have fish habitat enhancements mitigating barge removal in place when the replacement water control structure becomes functional.
5. Develop water management plan prior to the construction of the replacement water control structure.

Specific Management Issues

Fish

- Enhance juvenile salmon movement both in and out of the lakes system (i.e. lakes open to river system via North Slough).
- Maintain, to the extent possible, warm-water fishery: provide stable water levels April-June; monitor fishery in lakes since it may either improve or degrade warm water fishery)

Shorebirds

- Return to variation mimicking river water levels.

Waterfowl

- Return to variation mimicking river water levels

Avian Botulism

- Have ability to control water level during the critical period (August - September) through water augmentation (i.e. pumping) or vigilant removal of infected birds

Herptefauna

- Return to variation mimicking river water levels

Macroinvertebrates

- Returning to river water level variation will enhance some species while reducing productivity in others.

Mammals

- Beaver control will be enhanced by return to river water level variation.
- Nutria may be favored under river hydrology.

Vegetation

- Willow community will be enhanced by return to river hydrology; control may be exercised with prolonged inundation for at least 2 years.
- Sagittaria has potential for increase in areal growth by returning to river hydrology.
- Emergent plants communities growing along lake perimeter will be enhanced by returning to river hydrology.
- Reed canarygrass encroachment is favored by returning to river hydrology; however, it can be controlled by prolonged flooding during the growing season for at least one year.
- Purple loosestrife spread will be enhanced by returning to river hydrology; it can be controlled through timely hand removal, release of predatory insects, and prolonged inundation for one year.
- Smartweed growth is disfavored by the return to river hydrology.

Mosquito Control

- Minimize reed canarygrass encroachment: it may be controlled by prolonged inundation at least once in every five years.

A detailed plan for controlling the lakes' hydrology in a manner that will address the specific manage issues will be developed. This will be developed prior to design and construction of the replacement w control structure so that the structure can be designed to achieve the hydrological objective. This plan wil included in the final feasibility report due in December, 1995.

IMPROVEMENTS/ACTIONS NEEDED

The final feasibility report with management recommendations for Smith and Bybee Lakes will be submitte the end of 1995. A conceptual design for the replacement water control structure may be included in the f report. However, additional design work will continue beyond the scope the work and schedule of this Ph feasibility study. Metro assumes full responsibility for completing design, construction, and operation of replacement water control structure. Port of Portland, to fulfill mitigation responsibilities, will collaborate assist in the design and construction of the structure. In addition, Metro and the Port will determine co constructing a pipeline and pumping Columbia River water to the lakes for augmentation purposes.