Water Management Objectives for Smith ands Bybee Lakes as recommended by Smith and Bybee Lakes Technical Advisory Committee 6/28/95 and adopted by Smith and Bybee Lakes Management Committee 8/15/95

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).

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.

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)

Mosquito Control

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

Shorebirds

• Return to variation mimicking river water levels.

Waterfowl

• Return to variation mimicking river water levels

<u>Avian Botulism</u>

• 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.
- <u>Sagittaria has potential for increase in areal growth by returning to river hydrology.</u>
- 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.

Submitted by Jim Morgan 9/8/95