



Creating the Nation's first BioPark

National Zoological Park · Smithsonian Institution · Washington, D.C. 20008

Letter from the Desk of David Challinor
June 1, 1990

Those of you who own a swimming pool know the high cost of maintaining them. Zoos have pools of varying sizes for their aquatic animals and for elephants and tigers, who just enjoy bathing. The operation of pools is therefore a "big ticket" item.

At the National Zoo, we have had to invoke many innovative techniques to conserve water, which is becoming increasingly expensive. For example, the duck ponds, which we formally opened at last year's National Advisory Council meeting, are now crowded with waterfowl from our own collection as well as by feral mallards and wood ducks that fly into the exhibit from Rock Creek to enjoy a free meal. These visitors plus the nesting Black-crowned night Herons in the oak and beech trees overhead strain the capacity of the artificial ponds to be kept clean. With all the nitrogenous matter daily added by these birds, an uncontrolled growth of blue-green algae could occur. To control such an algal bloom without harming the birds, many zoos add an innocuous black dye to their duck ponds. The dye does not discolor waterfowl plumage, but does block sunlight below the water surface, depriving the algae of the light necessary for growth. Having solved this problem, the next task is to educate the visitors not to throw coins into the duck ponds, because diving ducks swallow them while searching the bottom for food. Sadly, several birds have died this spring from metal poisoning traced to ingested coins.

If the relatively shallow duck ponds have operational problems, the huge seal and sea lion tanks present even greater challenges to maintain. Except for the diminutive seal inhabiting Lake Baikal in Siberia, all pinnipeds (seals, walruses, sea lions, etc.) live in salt water. When our seal exhibits were built in the late 1970's, the pumping machinery needed to handle the corrosive effects of salt water were considerably more expensive to buy and operate than those designed for only fresh water. Today virtually all pump valves and filter tanks are made of plastic and are therefore remarkably immune to salt corrosion. The Zoo then decided to attempt to adapt our salt water seals to fresh water. After a few years of very careful husbandry by controlling water temperature, chlorine content, diet, etc., both the sea lions and the grey seals have successfully adjusted to their fresh water pools.

(over)



1889-1989

"...for the advancement of science and
the education and recreation of the people."

Elephant baths and hippo tanks have their own unique cleaning requirements, which I will not treat here, but the day is fast approaching when we can no longer afford merely to "pull the plug" and refill these huge receptacles with potable water. Mandatory recycling is probably inevitable as the era of cheap water ends. The National Zoo will continue its long tradition of seeking imaginative and pioneering ways to conserve its use of water while still maintaining the health and well being of those animals dependent on aquatic environments.

I so much enjoyed seeing those of you who attended the Council's second meeting, and I look forward to keeping in touch with you through these letters. Extra copies of this letter are enclosed for those who asked for them. Let me know (202-673-4705) if any of you receiving only one copy would like more.