Abstract

Using a Portable Water Filtration System to Remove Fish Oils from Rehabilitation Pools

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During the pre-release conditioning phase of the rehabilitation process, previously oiled seabirds are housed in pools to prevent husbandry-related secondary injuries. Birds are fed an ad libitum diet of previously frozen whole fish. Digested fish oils excreted by the birds rise to the water's surface and, if not properly removed, contaminate feathers and impair waterproofing. Traditionally these oils are removed by continually overflowing the pool's surface water at an estimated rate of 10 gallons per minute. This project tested a commercially available filter (X100 filter bag housing and polypropylene microfiber filter bag; Filter Specialists, Inc., Alameda, CA, USA) to determine its effectiveness at removing fish oil from a closed water system. We conducted laboratory trials to test the filter's ability to remove concentrated herring oil from fresh water in three closed, recirculating systems. To determine the filter's efficacy, the California Petroleum Chemistry Laboratory measured total extractable hydrocarbon levels in water samples collected over a 24-hour period in each of the trials. A field test was conducted at the Oiled Wildlife Care Network's San Francisco Bay Oiled Wildlife Care and Education Center in cooperation with the International Bird Rescue Research Center. During this trial, waterproof Common murres (Uria aalge) were housed in a pool using the filter and a recirculating water system for three days. Significant results from the four experimental trials will be presented.