



# COMMONWEALTH of VIRGINIA

*Department of Health*

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March 18, 2002

Dr. Lynton S. Land  
Post Office Box 539  
Ophelia, Virginia 22530

Dear Dr. Land:

Thank you for your recent letter regarding the potential impacts that birds foraging on biosolids may have on shellfish growing waters. I appreciate your concern for the quality and safety of the Commonwealth's shellfish resources, and can assure you that the Virginia Department of Health is committed to the preservation of a safe, high quality shellfish resource.

As you stated in your letter, birds, like virtually all warm-blooded animals, have the potential to contribute to coliform contamination of waterways. This potential is certainly documented in the literature regardless of the nature of their feeding habits. The relative importance of birds as a source of contamination compared to other animals however is a matter of debate. In spite of the fact that birds may often defecate directly in the water, our staff as well as staff from the Maryland shellfish sanitation program have looked at water samples that were taken in the presence of large flocks of geese and not found elevated levels of fecal coliform in the water. Further, the article you refer to entitled "Coliform Contamination of a Coastal Embayment: Sources and Transport Pathways" (*Environmental Science and Technology*, 1996, V30, p. 1872-1881), also found that "While direct waterfowl inputs constitute a large potential source of FC to Buttermilk Bay waters, sampling did not support a direct relationship between this input and bay water column densities." Additionally, due to the relatively small total volumes of fecal material contributed by each bird, and the extensive dilution and dispersion of the material once in a waterway, the cumulative affect on the bacteriological quality of the water body is minimal except in shallow headwaters with low tidal flushing with extensive bird fecal deposition.

In spite of the degree to which any particular animal may contribute to the contamination of a shellfish growing area, the National Shellfish Sanitation Program (NSSP) acknowledges that contamination of a shellfish growing area from these sources has the potential to affect the safety of shellfish harvested from the area. As a result, the NSSP has established strict water quality standards for shellfish growing areas to which all of the shellfish producing states in the United States as well as a number of foreign countries adhere. The Division of Shellfish Sanitation examines samples of water from our shellfish growing areas monthly to determine if any of a multitude of these potential sources of fecal contamination exists in an area; and, as required by the NSSP, will impose harvest restrictions on any area that fails to meet these standards. Currently, there are over 200 shellfish area closures in Virginia. Although your letter stated that "there are very few counties in Virginia where the Division of Shellfish Sanitation imposes harvesting restrictions and where permits for the land application of sewage sludge are granted", the fact is that these closures are distributed across virtually every county that has a watershed draining directly to a shellfish growing area, including those where permits for the land application of sewage sludge have been granted.

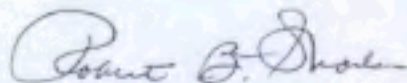
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The U.S. Environmental Protection Agency (EPA) has defined waters that are closed to the harvest of shellfish as impaired. This designation is independent of the specific source or sources of the contamination that is the cause for the closure, which is rarely known. The Virginia Department of Health is, however, currently working with the EPA and a number of Virginia state agencies and academic institutions to determine the sources of contamination to these areas and to establish a Total Maximum Daily Load (TMDL) for each of these areas as required by the EPA. This work will be difficult and time consuming, but we hope to learn a great deal from this process and certainly hope to reclaim some shellfish area acreage that is currently closed as a result.

Birds are a natural part of the landscape around Virginia's waterways, and some species certainly are known to naturally feed in pastures, feedlots, and other areas where coliform concentrations are high. Although birds do have the potential to contribute to the bacterial contamination of a water body, there is no evidence to support that foraging in a field where biosolids have been applied increases the role that they may play in water body contamination over other foraging sites. Regardless of the source, if a shellfish growing area is found to be receiving coliform contamination that causes it to exceed the NSSP water quality standards, these waters are closed to the harvest of shellfish thus providing public health protection to the citizens of the Commonwealth and to shellfish consumers.

Should you desire further information, please contact Robert E. Croonenberghs, Director, Division of Shellfish Sanitation or C. M. Sawyer, Director, Division of Wastewater Engineering, Virginia Department of Health, 1500 East Main Street, Room 109, Richmond, Virginia 23219 by telephone at (804) 786-5567, or by email: [rcroonenberghs@vdh.state.va.us](mailto:rcroonenberghs@vdh.state.va.us) or [csawyer@vdh.state.va.us](mailto:csawyer@vdh.state.va.us).

Sincerely,



Robert B. Stroube, M.D., M.P.H.  
Acting State Health Commissioner

c: Governor Mark R. Warner  
Secretary Jane H. Woods