

# FOOD HABITS OF SEADUCKS IN THE ATLANTIC MARITIMES AND CHESAPEAKE BAY

## INTRODUCTION

Numbers of scoters (black, surf, and white-winged) and long-tailed ducks wintering in the Maritime provinces of Canada and the Chesapeake Bay (MD and VA, USA) have noticeably declined in recent years. Common goldeneye populations have also declined, but bufflehead populations have increased in numbers. Changes in the location of these seaduck populations have also been observed and have given managers new concerns. Many factors related to human population increases have been implicated in causing changes in the distribution and abundance of seaducks. Anthropogenic factors that could effect the distribution and food habits of seaduck populations include direct and indirect causes, such as excessive development of coastal areas, increased year-round boat traffic, and increased levels of contamination. In addition, the focus of guided hunts has changed due to declines in Canada goose populations, putting increased pressure on seaducks. The Atlantic Seaduck Project is a large study dealing with many aspects of seaduck populations and habitat ecology. One aspect of this large study dealing with seaducks determines the food habits of seaducks and the habitat being used by wintering ducks in the Maritimes and Chesapeake Bay areas of the Atlantic coast.

**MATTHEW C. PERRY, PETER C. OSENTON, EDWARD J.R. LOHNES, DAVID KIDWELL, NICOLE R. BARONDEAU, AND ALICIA M. WELLS**  
**USGS-Patuxent Wildlife Research Center**  
**12100 Beech Forest Road,**  
**Laurel, MD 20708, USA**



## RESULTS

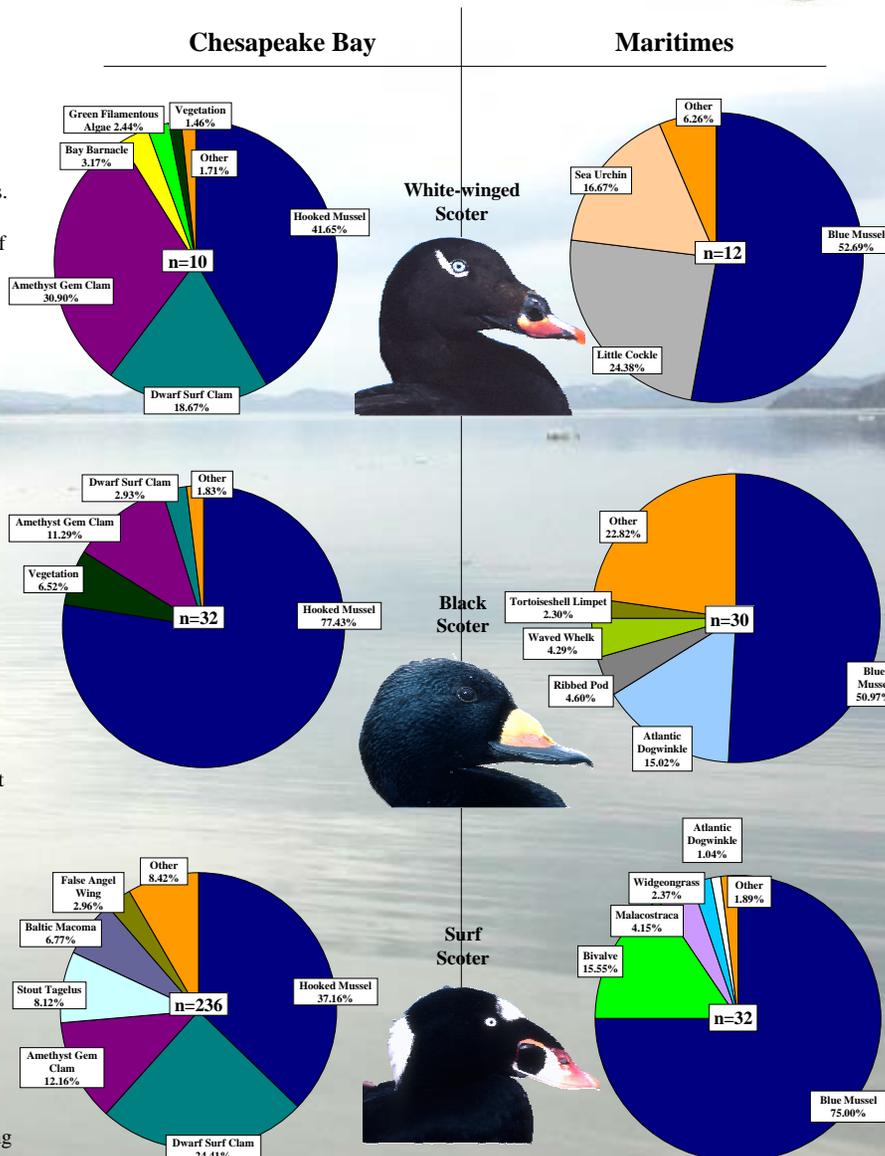
The hooked mussel (*Ischadium recurvum*) was the predominant food organism selected by scoters in the Chesapeake Bay and constituted 52% when averaged for the three scoter species. The surf scoters (*Melanitta perspicillata*) and white-winged scoters (*Melanitta fusca*) had over one third of their food as hooked mussels, whereas, the black scoter (*Melanitta nigra*) had over 75% of their food as hooked mussel. All three species had selected other species of food including dwarf surf clam (*Mulinia lateralis*) and amethyst gem clam (*Gemma gemma*). Seaduck food habits in the Maritimes are decidedly different than those in the Bay, where all three species of scoters feed extensively on the blue mussel (*Mytilus edulis*; 60%). Other species of mollusks that are important to scoters in the Maritimes include the Atlantic dogwinkle (*Nucella lapillus*) and the little cockle (*Cerastoderma pinnulatum*). The long-tailed duck appears to select the gem clam in greater amounts (53%) than other seaducks, but exhibits a diverse diet of other mollusks and crustaceans.



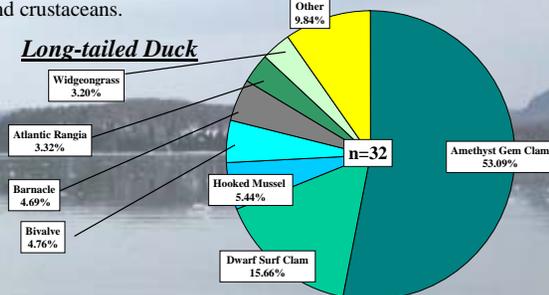
Peter Osenton and David Kidwell in food habits laboratory

## METHODS

The ducks used in this study were shot by hunters throughout the Atlantic Flyway during the 1999-2000 and 2000-01 hunting seasons were donated for research purposes. The collection of dead ducks was part of a much larger study dealing with several other aspects of seaduck biology. Analyses of the gullet (esophagus and proventriculus) and gizzard of these ducks was conducted at USGS-Patuxent Wildlife Research Center to determine food organisms eaten by the ducks at different sites of their wintering area and at different months of the winter. These data are being compared to historical food habits information to determine if changes have occurred over time. If changes in foods have occurred, it could reflect a change in their wintering habitat that could have important implication in regard to the distribution and abundance of seaducks. The results might be related to degradation of habitat conditions due to increasing use of wintering areas, such as Chesapeake Bay, by an increasing human population.

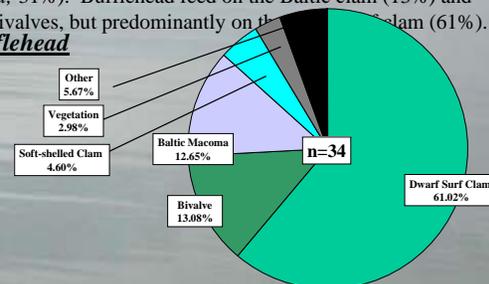


## Long-tailed Duck



Although the sample size was small, the predominant foods of common goldeneye (*Bucephala clangula*) are the hooked mussel (*Ischadium recurvum*; 33%) and the Atlantic rangia (*Rangia cuneata*; 31%). Bufflehead feed on the Baltic clam (13%) and other bivalves, but predominantly on the gem clam (61%).

## Bufflehead



## CONCLUSIONS

Understanding the feeding ecology of seaducks in wintering areas such as the Maritimes and Chesapeake Bay will provide managers with a better understanding of the changes in the distribution and abundance of these ducks, which will help in the conservation of these species.

It is very important to know more about the water conditions in the deeper parts of the Bay where seaducks typically feed. These areas may be more vulnerable to anoxic conditions during drought or high temperature conditions that could have serious impacts on