

# Marine Industry Trends

By Tom Murray

Perhaps no fishery in Virginia better illustrates the evolution from wild harvest to aquaculture than the hard clam (*Mercenaria mercenaria*). As the graph below illustrates, the harvest of "public" hard clams has continued to decline over the past decade. The overall level of effort by watermen to harvest clams on the public bottom has also declined. For example, in 1980 the state issued 475 permits to harvest clams by hand. The current figure is 191. Over the same period, the number of licenses held to harvest clams by patent tong has increased slightly from 133 in 1980 to 160 in 2000.

At the same time, there has been a growing clam aquaculture industry in Virginia and the country. During 1998 (the most recent year for which aggregate data are available), a reported production of 177,575,000 clams from 360 farms generated farm gate sales of \$50,076,000. Of that total, Virginia and Florida were by far the largest suppliers, respectively producing 40% and 43% of the total farm supply. Virginia's growth in clam culture has shown an increase in supply from an estimated 30 million littlenecks in 1991 to 43.7 million in 1995 and 70.5 million during 1998. While the state of statistics gathering for farm-raised products is not keeping pace with industry expansion (in fact it's getting worse) industry estimates indicate that at the end of the year 2000 the state's farms will provide nearly 100 million Virginia littleneck clams to its diverse markets.

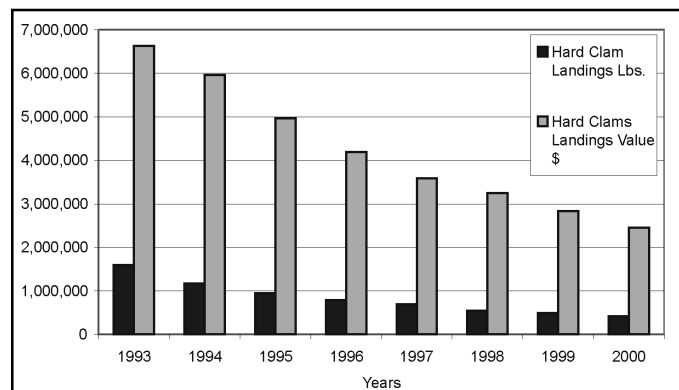


Figure 1. Hard Clam Wild Harvest and Values 1993-2000

The value of those harvests rose also, from an estimated \$4.1 million in 1991 to \$6.9 million in 1995 and \$11.0 million in 1998. Florida's farm gate sales have grown from an estimated \$5.4 million in 1995 to \$12.7 million in 1997; \$9.5 million in 1998 and, most recently, \$15.9 million in 1999. Estimates of Florida's production point to an increase to 200 million clams in the year 2000, compared to the reported 76.3 million sold by Florida clam farms in 1998. Further, the USDA reports Florida's clam planting intentions for the year 2000 at 421,925,000 clams. This, in view of the average reported survival rates of 67% for 1998 and 53% for 1999, suggests continued pressure on clam market channels.<sup>1</sup>

Other factors are emerging which would serve to support an expanded farming sector for hard clams. As of February 1999, the U.S. Department of Agriculture (U.S.D.A.) initiated a pilot hard clam crop insurance program through the "Federal Crop Insurance Corporation" issued as Aquaculture (Shellfish-Clam) Crop Provisions. The three states selected for the pilot program are Massachusetts, Virginia, and Florida, who currently account for almost 90% of the farm-raised clam harvest. While only in its first year, the program reportedly has written crop insurance on the majority of the hard clam aquaculture farms in these select

industry locations. With crop peril insurance, the availability of production loans and facility expansion loans is greatly enhanced, and one of the longstanding constraints to developing aquaculture, (i.e., limited access to private sector financing) has been, at least temporarily, mitigated.

In certain states, policies and programs have significantly accelerated the growth in the supply of hard clams.

Most notably perhaps, the State of Florida has expanded employment opportunities in the clam aquaculture industry by funding a "Job Training Partnership Act" aimed at providing the infrastructure to introduce clam aquaculture as an economic stimulant. During the past eight years, these programs have provided the necessary support to introduce shellfish aquaculture as a means of economic growth in rural coastal communities. In that sense, the programs may be impacting the overall market by adding more products without offsetting growth in market size.

While no detailed price analysis has been completed in recent years, preliminary analysis (confirmed by industry anecdotes) suggests that there has been some softening or flexibility in average prices received in the major growing states. It is believed by most in the supply network that this is associated with the dramatic increase in hard clam products available (as reflected in Figure 2).

Figure 3 illustrates, in a simple way, the leveling in the per-unit value of the hard clam product at the "farm gate," which has apparently accompanied increasing supply.

As noted above, the state of Florida reportedly produced and marketed an estimated 134,000,000 hard clams worth \$15.9 million during 1999. The farm sales were made at an overall average price of \$.118 per clam. Although no more recently published data are available nationwide or for Virginia's clam aquaculture industry, it is generally reported that the leveling of prices for Virginia's product as of 1998 has continued and producer prices remain at about the same level; i.e. about \$.15-\$.16 per clam for Virginia product. The production of Virginia's farmed hard clams has continued to expand and through successful industry marketing has increased revenues to producers overall.

<sup>1</sup> Florida reportedly produced 134 million hard clams in 1999. Florida Agricultural Statistics Service. June 2000.

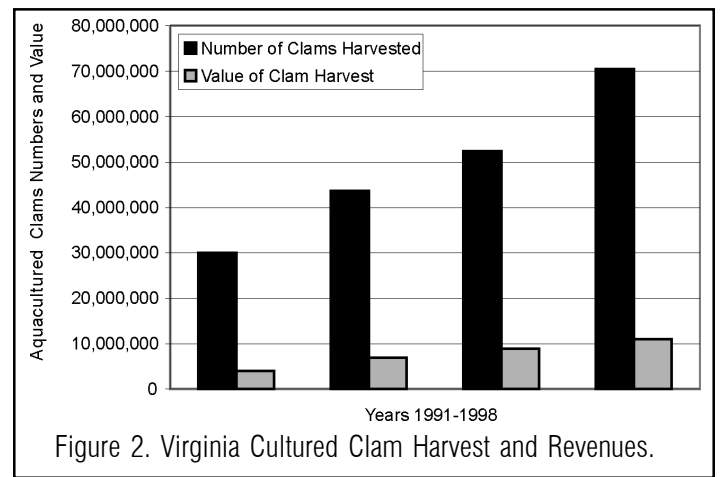


Figure 2. Virginia Cultured Clam Harvest and Revenues.

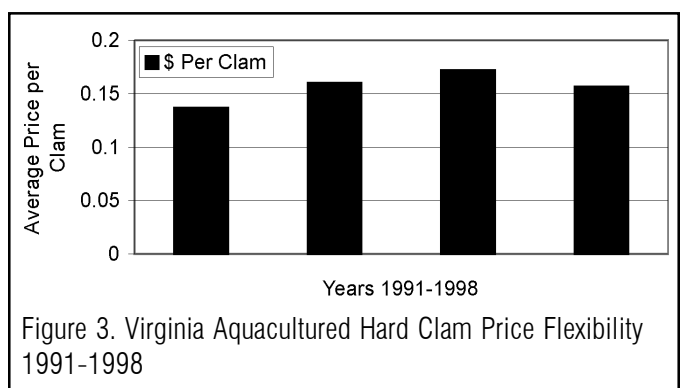


Figure 3. Virginia Aquacultured Hard Clam Price Flexibility 1991-1998

## New Faculty continued from page 13

Dr. Seitz's research interests center around benthic community ecology, particularly changes in benthic invertebrate diversity with environmental stress, predator-prey dynamics, top-down versus bottom-up control of benthic systems, and conservation biology.

**Dr. Courtney K. Harris,** Assistant Professor, Physical Sciences. B.S. University of Virginia; M.S. University of California at Berkeley; Ph.D. University of Virginia.

Dr. Harris' research interests include 3-D modeling of river plume, wave resuspension, and wind-driven circulation effects on flood deposits; as well as quantification and prediction of

shelf and estuarine sediment transport over contrasting temporal and spatial scales. She comes to VIMS from the US Geological Survey in Woods Hole.

**Dr. Deborah Steinberg,** Associate Professor, Biological Sciences. B.A., University of California, Santa Barbara; Ph.D., University of California, Santa Cruz.

Dr. Steinberg is interested in zooplankton ecology and physiology, coastal and deep-sea food webs, nutrient cycling, and marine detritus ("marine snow"). She comes to VIMS from the Bermuda Biological Station for Research (BBSR) where she coordinated the Bermuda Atlantic Time-series Study, as part of the Joint Global Ocean Flux Study (JGOFS).