Cultivated Clam Pilot Evaluation

Final report

Contract No. D10PX18496

A report prepared for

Risk Management Agency

June 10, 2011

Promar International
333 N. Fairfax St., Suite 202
Alexandria, VA 22314 USA
Tel: (703) 739-9090
Fax: (703) 739-9098
E-mail: promar@promarinternational.com

Cultivated clam pilot evaluation
Final report

A report prepared for
Risk Management Agency

CONTENTS

LIST OF TABLES

LIST OF FIGURES

SECTION 1: EXECUTIVE SUMMARY

1.1 Objective of the project

The objectives outlined in the contract for this project specified that we were to provide the Risk Management Agency (RMA) with the information necessary to determine whether the Cultivated Clam Pilot Crop Insurance Program should be modified and extended, terminated, or converted to a permanent program.

1.2 Methodology

The evaluation was conducted by staff of Promar International and Milliman Inc. We were assisted by the staff of the Virginia Institute of Marine Science and by the University of Florida's Multi-County Extension Agent for aquaculture. The methodology for this evaluation had five components:

- Desk research on the industry
- Review and analysis of the insurance experience records
- Review of the policy documents
- Listening sessions in pilot areas, supplemented by phone interviews
- Completion of Program Evaluation Diagnostic Instruments for each region.

1.3 Background

The Cultivated Clam Pilot Crop Insurance Program was announced in 1999 for the 2000-2003 crop years as RMA's first insurance policy for aquaculture producers. Insuring aquaculture producers is challenging. The only other RMA products serving their risk management needs to some degree are the AGR and AGR-Lite plans, and a new group risk plan for Louisiana oysters introduced in 2010. (In response to a Congressional mandate, RMA has commissioned additional studies of the feasibility of insuring aquacultural production of freshwater and saltwater fish and bivalves, including clams.)

The Cultivated Clam Pilot was subsequently extended through 2005 and then through 2007 pending the results of an outside evaluation. In 2007 the FCIC's Board of Directors approved a continuation of the pilot program through crop year 2011 after some additional modifications to program provisions. In 2010, 6 of the 13 eligible counties in the four East Coast pilot states (Florida, Massachusetts, South Carolina and Virginia) had producers participating in the plan.

The pilot program covers hard clams of the species *Mercenaria mercenaria* (often referred to as quahogs) that are produced using aquaculture techniques. These clams account for about 6% of total US clam production by volume, but 21% by value. As indicated when the program was first announced, the two main reasons that clams were selected for the first aquatic crop insurance program were their resistance to disease and because they can be secured within specific boundaries.

The program had a troubled few years at the beginning with very high loss ratios. RMA implemented various changes on its own in 2004 and after a 2007 outside evaluation of the program. Those changes brought loss ratios down to more acceptable levels but they also significantly reduced producer interest in the program. Buy-up policies earning premium dropped from the 300-500 range in the early years to fewer than 100 in the most recent three years. CAT policies earning premium averaged about 25 per year over most of the period. For 2010, the Summary of Business shows the number of policies earning premium dropping to 74 as of June 6, 2011 – 71 buyup and 3 CAT. Participation in Florida dropped sharply in 2010 due to the requirement that all policies undergo a pre-acceptance inspection, including sampling three percent of the insured bags.

1.4 Summary of analysis

There is less risk involved in producing clams than for many other crops. This is reflected in the base premium rate of about 3% in all states but Florida. The perils are mostly weather related, e.g. storm surge, freeze, ice flow, hurricane, or a change in salinity due to influx of fresh water from heavy onshore rains. Disease only accounted for three percent of indemnities over the life of the pilot.

The Program Evaluation Diagnostic instruments show that yield is the major risk. When clams are planted they are smaller than half an inch. As they grow to maturity there is normal mortality of 30-40%. The insurance plan provides coverage for losses above that normal mortality. There is little quality risk, as clams are generally marketable if alive. The pilot does not cover price risk, but clam prices seem to vary less than prices of many other products, probably because growers have some flexibility in deciding whether or not to harvest from the existing inventory.

We reviewed the experience data provided by RMA, which is summarized in the following table. After changes were made in 2004, the loss ratio for the subsequent years fell to 108% from 179% during the first four years of the pilot. The more favorable results have been due to the fact that the pilot insurance is mostly purchased at lower coverage levels, with 50% the most popular.

Cultivated Clam Pilot Experience - All Pilot Counties					
Crop Year	Liability in $000s	Total Premium in $000s	Policies Earning Premium	Indemnity in $000s	Loss Ratio
2000	36,121	1,126	335	2,070	184%
2001	41,215	1,401	377	2,881	206%
2002	59,953	2,181	472	4,019	184%
2003	51,177	1,860	417	2,775	149%
2004	27,701	969	293	2,182	225%
2005	18,160	626	202	624	100%
2006	26,119	932	164	677	73%
2007	26,780	973	144	502	52%
2008	30,843	1,051	111	407	39%
2009	27,880	674	107	1,557	231%
2010	23,499	520	74	241	46%
2000-2003	188,466	6,567.5	1,601	11,744	179%
2004-2010	180,982	5,745	1,095	6,191	108%
Grand Total	369,448	12,312	2,696	17,935	146%

The participation rate for the quahog industry is difficult to calculate due to lack of comparable data and the fact that clams are grown for longer than one year. For 2005 we estimate that 60% of the sales value and 73% of the clam farms in the pilot states were participating in the pilot. Assuming that the number of farms has not changed much, participation in 2010 was about 25% of eligible growers.

We held listening sessions in Florida, Virginia and Massachusetts, and received input from South Carolina growers by phone and email. Other information by phone or email from growers, agents, appraisers and insurance company representatives supplemented the listening sessions. In the Florida listening sessions the main concern was the pre-acceptance inspections. Outside of the sessions there were repeated allegations of fraud in the Gulf coast counties. Growers in counties other than the pilot counties wanted to either have the insurance available statewide or have the pilot terminated because it has left them at a competitive disadvantage.

In Virginia, the listening session attendees mostly want to see the program continued, viewing it as important for the growth of the industry in the state. However, we note that growers have been rapidly diversifying into oysters. We also received an allegation of fraud in that state, but our Virginia consultants thought it lacked credibility.

In Massachusetts, growers seemed indifferent to the program and it received no positive endorsements. Oysters are the primary crop for shellfish growers in the state, with 4 times the volume and 7 times the value of clams produced in 2010. South Carolina growers have not been participating but their association representatives urge continuation to potentially serve shrimpers idled by low cost imports who are beginning to shift to clam production.

We were unable to confirm allegations of fraud in Florida from the RMA experience data, but believe they are credible based on the input we received.

Insurance companies appear to put most if not all of the liability in the assigned risk pool but we did not have data to verify this. The insurance is not marketed aggressively because the policies are costly to administer and claims are difficult and expensive to appraise. Our examination of two policy files revealed other shortcomings in program delivery.

We reviewed the policy documents and found few problems. If the pilot is continued, this evaluation includes recommended revisions to the underwriting guide.

1.5 Recommendations

1.5.1 Recommendations that affect statutes

We have no recommendations requiring statutory changes.

1.5.2 Recommendations that affect regulations

With regard to regulatory changes, our primary recommendation is that the pilot program be terminated.

We will first review the arguments for those courses we have not recommended and then explain why we have recommended termination of the pilot.

Conversion to a permanent program

This pilot will be in its twelfth year of operation in 2011, the final year currently authorized. During the first four years the average loss ratio was quite high at 179%. Changes implemented with the 2004 crop year addressed a number of problems with the initial design, and the loss ratio has averaged 108% for 2004-2010. That is a positive development but there are two factors that prevent us from recommending that the pilot be converted to a permanent program.

First, participation has declined every year since 2002. By 2005 there were 202 policies earning premium. The Census of Aquaculture for that year showed 276 farms producing market-size hard clams in the four pilot states, so 73% of those farms were covered. The percentage was necessarily higher in the pilot counties. By 2009 the policies earning premium had dropped to 107, and in 2010 to fewer than 75.

Second, there continue to be allegations of fraud, particularly in Florida. The nature of aquaculture is that the stock of animals is difficult to count, so determining stock mortality – the basis of this dollar insurance plan – is inherently challenging. In the case of hard clams, there continue to be vulnerabilities to abuse of the insurance coverage according to input from the listening sessions.

Clams of this type are also produced in other parts of Florida as well as in Connecticut, New Jersey and North Carolina. There would clearly be some interest among growers in those areas in having access to insurance coverage. However, we cannot recommend conversion to a permanent program given the pilot's trajectory and its vulnerability to abuse.

Modification and continuation as a pilot

For the same and related reasons, we cannot recommend continuation of the current pilot with modifications. We do not think that modifying plan provisions would increase participation rates. In Massachusetts there is no participation in four of the five pilot counties. In South Carolina there were no participants at all in 2008 or 2009, and only one last year. This is despite very low out-of-pocket premiums in all states except Florida. With continuation, we would recommend dropping Florida from the pilot due to concerns about fraud. That would leave only Virginia, where the program is well supported, plus a few policies in Massachusetts where growers have been lukewarm about it.

Participation in Florida dropped sharply in 2010 after RMA appropriately required pre-acceptance inspections for every policy. Eliminating the requirement for such inspections would probably cause participation to recover in that state, but we believe it would result in higher loss ratios. The insurance companies that have been successful at controlling losses mostly require that plantings be certified by an adjuster more often than dictated by the underwriting standards for the pilot.

One reason the pilot has not been successful is that it is both challenging and expensive for the AIPs to administer. Most, if not all, of the liability is reportedly placed in the assigned risk pool. The A&O expense allowance also may not be adequate to cover the companies' actual costs. Thus the incentive to market the plan has been weak. This will not change with plan modifications.

We did give consideration to two other factors. First, RMA has commissioned a research study on the feasibility of insuring bivalves, including oysters, mussels and clams. That might argue for continuing the pilot for another year or two pending the results of that study. But while it is conceivable that some recommendation might emerge with respect to clams that would involve a modification we have not considered, we think it is unlikely.

Second, the two AIPs that have written the most coverage have cumulative 11-year loss ratios that are below 100%, suggesting that it is possible to run a successful program. However, this is entirely due to results in Virginia and does not imply that a geographically broader program can succeed. The Virginia results are attributable to the larger scale of growers in that state, the propensity to buy just 50 or 60 percent coverage, and the requirement by at least one insurer that every planting be inspected by an adjuster.

While we are not recommending modifying and continuing the pilot, if the FCIC Board were to decide to continue the pilot, we would recommend the following main modifications:

- Drop the state of Florida from the pilot program.
- Clarify in the underwriting standards that pre-acceptance inspections must include sampling of the plantings following procedures in the loss adjustment standards handbook.

Termination

We recommend terminating the Cultivated Clam Pilot Crop Insurance Program after the 2011 crop year. There are four reasons:

- Participation has steadily declined and has now fallen to a level that cannot sustain a viable program.
- There continue to be allegations of fraud, particularly in Florida but in other states as well.
- This first program for an aquaculture crop is challenging and expensive for AIPs to operate.
- We do not find any potential program modifications that could be anticipated to both improve the performance of the program and increase grower participation.

If the pilot is terminated, clam growers will have access to the Farm Service Agency's NAP program which can provide a degree of catastrophic protection. The AGR-Lite program is also available in all the pilot counties and can provide good insurance cover for those growers with five years of tax records, although at a higher cost in premiums.

1.5.3 Recommendations that affect actuarial documents

Special Provisions of Insurance

We have no recommended changes.

FCI-35 Coverage and Rates

We have no recommended changes.

1.5.4 Recommendations that affect program materials

If the pilot were to be modified and continued, we recommend a number of revisions to the underwriting guide to correct or simplify wording and to clarify that pre-acceptance inspections must include taking actual samples from the production site, following procedures in the loss adjustment handbook. The purpose is to certify that the clams to be insured actually exist and were planted at a rate per square foot no greater than that listed in the special provisions for each pilot area. Some insurers already do this annually, but at a minimum it must be done for an initial application or whenever the policy is transferred to a different insurance company.

1.5.5 Impact analysis

Impact on government costs

Termination of the pilot would be the lowest cost option for the government. On the cost side, we estimate that a total of one person month would be required to implement the termination. On the savings side, current staff resources devoted to managing the pilot would be freed up but we do not have an estimate of the person months involved.

If the Board were to decide to modify and continue the pilot, we estimate that a total of three person months would be required. In both cases this takes into account the personnel doing the actual work, those with supervisory responsibilities for reviewing and approving that work, and those tasked with communicating the changes to insurance providers.

Impact on insurers

Insurance providers would lose a source of potential revenue if the pilot is terminated. If 2010 participation remains representative, with its total premium of about $520,000, the companies collectively would lose potential A&O revenue of $114,000 but have a small offset for lower liabilities if the loss ratio remains above 100% (assuming they continue to put most of these policies in the assigned risk pool).

Impact on clam producers

Those growers who produce cultivated clams would lose a valuable risk management tool. Without the pilot program, their next best option would be either FSA's NAP program or AGR-Lite. The NAP program has much lower levels of coverage and a maximum indemnity of $100,000, but it also costs next to nothing. The AGR-Lite policy has a much higher liability limit of $1,000,000 but it is more expensive.

SECTION 2: PROGRAM EVALUATION TOOL FINDINGS

2.1 The production process

The production process for the hard clams covered by the pilot program, the *Mercenaria mercenaria* species, involves three stages: hatchery, nursery and growout. In the hatchery, brood stock are induced to spawn and the larval clams are grown to the one millimeter size. At that point they are put in a nursery, where they feed on algae enriched water and increase in size to 7-15 mm. The nursery stage may occur entirely on land, entirely in the ocean, or partly in both. In the growout stage the seed clams are planted on the bottom, either covered by netting or in mesh bags. The clams use their foot to burrow into the substrate. Two siphons extend to the surface, one to bring in seawater containing the phytoplankton that clams feed on, and one to expel waste. The insurance program covers only clams 10 mm or greater in size when planted for growout. Nursery clams were covered during the first four years of the pilot but are no longer eligible for insurance. The program evaluation tool and listening sessions therefore focused on the growout phase.

The evaluation of the pilot program that was undertaken by RTI during 2006-2007 included very thorough Program Evaluation Diagnostic Instruments for each of the four states. We have revised those instruments based on the listening sessions and our other research. They are provided in Appendix B. We will first summarize the listening session results provided in Appendix A because they had an important influence on our revision of the diagnostic instruments. We then summarize the program evaluation tool findings.

2.2 Listening session summary

We conducted two listening sessions in Florida in December 2010 – one on the Atlantic coast in Sebastian and one on the Gulf coast in Cedar Key. In February we held sessions in Melfa Virginia and Plymouth Massachusetts. We were unable to arrange a listening session in South Carolina but received written input from two associations and spoke with individual growers by phone.

2.2.1 Importance of the plan to the local aquaculture sector

The only state where a listening session conveyed a clear message that the insurance plan is important for the future of the state's aquaculture industry was Virginia. It is the state with the greatest production and has larger companies producing clams than in other states due in part to the large size of available leases. Florida is the second largest producer, but there the message was mixed. Most producers who participated in the listening sessions want to keep the program, but producers we heard from in other parts of the state thought the program put them at a disadvantage and urged termination if the program is not extended to other producing counties.

Massachusetts growers seemed disinterested and we received no positive endorsements of the program. In South Carolina the almost total lack of participation speaks for itself. However, the South Carolina Shellfish Growers Association and the South Carolina Seafood Alliance both asked that the pilot be continued for their state. A key reason that both gave is that shrimpers who are getting trade adjustment assistance due to competition from low priced imports are turning to clam aquaculture, and they see potential for growth in the aquaculture industry and in use of the insurance plan.

2.2.2 Awareness of the plan and its parameters

Awareness of the plan seemed greatest in Virginia and Florida, more limited in Massachusetts where there is no participation in four of the five pilot counties, and very poor in South Carolina, where one grower told us that in his twenty years of raising clams he had never heard of it. In Florida, for example, there was poor understanding that pulling bags for inspection on the lease site does not constitute "removal" and the consequent uninsurability of those clams. Bringing the clams to shore does constitute removal, as was clarified during the listening session by RMA personnel. For a pilot that has been in operation for 11 years, one would expect a greater degree of familiarity with the provisions. However, insurance agents have not had a strong incentive to market the plan due to its inherent underwriting and appraisal challenges. No agents or loss adjusters attended the listening sessions in Florida.

2.2.3 The insured crop

Some would certainly like to see nursery clams covered in addition to growout clams, but most recognize that the poor experience with that in the early years of the pilot makes it very unlikely to happen. The only other comment we received regarding the definition of insured crop was in Florida where there is considerable experimentation with hybridization of the *Mercenaria mercenaria* species with native clams, particularly *Mercenaria campechiensis*. Breeders believe that this cross has good prospects and will have greater survivability. Another local hard clam is the sunray venus which is also not currently eligible for insurance coverage. There was discussion of whether the ongoing hybridization work means one should not limit the program to *Mercenaria mercenaria*.

As discussed in Section 3.2.2, there are other types of clams that are being produced with aquaculture techniques. A feasibility research study commissioned by RMA is now underway to assess the potential for insuring a range of bivalves, including oysters, mussels, and these other clam types.

2.2.4 Use of the plan

Clam growers seem increasingly happy to do without the insurance. The 2005 Census of Aquaculture reported 277 hard calm farms in the four states. As discussed below in Section 3, there were 202 policies earning premium that year. The number has declined every year since, to 107 in 2009 and fewer than 75 in 2010. However some growers do see it as a critical part of their business plan. For example, one large Florida grower on the Atlantic coast said he would get out of the business if there were no insurance.

2.2.5 Farmer and agent concerns about the plan

Three main concerns about the plan were expressed by growers. First, we frequently heard allegations of fraud in Florida from people in both that state and Virginia. The nature of clam production does make it somewhat more amenable to fraud than many other crops. There was also an allegation of fraud in Virginia.

Second, Florida growers complained about the requirement to pull three percent of their bags for pre-acceptance inspections. They asserted, and the extension specialist agreed, that pulling bags for inspection causes increased mortality and introduces disease risks when the clams are replanted. However, growers in other parts of Florida and in other states thought pulling bags did not create significant risks.

Third, we heard complaints in Florida and Massachusetts about claims being unjustly denied, and/or delays in settlement of claims. These seem to get widely repeated, whether merited or not, and undoubtedly contribute to lower participation rates.

Agents and insurers have concerns about the inspection and appraisal process that technically may require them to actually get in the water or at least travel over water to lease sites. Most AIP staff are accustomed to dealing only with land-based crop and livestock production. Inspecting and appraising clams takes most of them well out of their comfort zone. Some, for example, cannot swim. Second, the amount of time and effort involved in selling and servicing these policies is higher in relation to premium than for other insurance plans.

2.2.6 Appraisal problems

We heard surprisingly few complaints about appraisal problems. Appraisals are challenging, in that they can involve working in water, but the methods for bags and bottom plant are accepted. All recognize that to prove a claim you have to count the clams. As mentioned above, no agents or adjusters attended the Florida listening sessions even though there were inspections occurring on the date of the listening session in Cedar Key and it would have been convenient.

2.2.7 Plan vulnerabilities

One can drive by a corn field and see for oneself whether there is corn there. Clams are not only under water, they bury themselves down in the substrate. On a large lease, or multiple leases, who really knows where clams were planted, and at what density? Plan vulnerabilities arise mostly from the fact that the grower knows what is going on down there but it is more difficult for the agent or appraiser to accurately assess that. In bag culture in deeper water, as in Florida, it is also reportedly possible for the grower to practice deception and pull bags with dead clams.

Other vulnerabilities arise from the arbitrary cutoff points for stages with different prices, and from the diversity of the hard clam market. There are markets for clams over a wide range of sizes, from three quarters of an inch to over three inches. At the lower end, getting 100% of the insurance price can be more attractive than the market price.

2.3 Program Evaluation Tool summary

Diagnostic tools were completed for all four states and are provided in Appendix B. In general, the assessments for the four states are quite similar. The main differences are associated with the larger scale in Virginia, and the greater potential for moral hazard with bag culture in Florida.

For many of the questions a scale of one to five is used, and we refer to those scores in parts of the following discussion. Depending on the context, they signify e.g. “much less”, “less”, “average”, “more” or “much more”. For ten of the seventeen questions using that scale, the scores are the same for all four states.

2.3.1 Yield, quality and price risk

The pilot counties for the clam pilot are not in major crop producing areas, and clam growers are not generally involved in production of terrestrial crop or animal products. Therefore, in one respect it is somewhat artificial to compare the risks of clam production to the risks of producing other crops covered by FCIC insurance plans. In the statistical sense though, risk is risk and can be compared based on the premium that has to be charged to achieve actuarial soundness.

Clam yield risk tends to be lower than yield risk for other crops in the pilot counties. We scored it much less risky in Virginia, less risky in Massachusetts and South Carolina, and of average risk relative to other local crops in Florida. Looking at yield risk overall, however, we scored all but Virginia as average risk. Due to greater ability to diversify geographically, we rated Virginia producers as facing less yield risk.

Clams are subject to little quality risk. In general, if alive they are marketable. Disease can be an issue but may not be evident to the consumer. And the incidence of disease is rather small, representing only three percent of total liabilities paid. There can be quality issues that arise after harvesting, such as broken shells due to handling, or poor survivability due to cold chain violations. But these are not insurable and at harvest on the lease site, variability of quality is not an issue.

We assessed price risk as average, both relative to other local crops and within the production cycle. Massachusetts and Virginia growers also produce oysters. For both crops there is not a lot of short term price variability, in part because a grower can often harvest more from his inventory when prices go up, or just leave them to grow a little more when prices are low.

2.3.2 Other revenue risks and coping mechanisms

Clam growers face a number of other risks but for all four states we rated them as less important than the combination of yield, quality and price risks. These include inadequate availability of seed from hatcheries or nurseries, area closures by government agencies due to disease or other concerns, poor growing conditions due to low phytoplankton populations, and harvesting delays due to weather events.

The ability of clam growers to self-insure is limited. They get most of their farm income from clams – an estimated 60% in Massachusetts, 85% in Virginia, 95% in South Carolina, and 100% in Florida. And only a minority are part-time clam farmers – an estimated 40% in Massachusetts and 15-20% in the other states. Growers in Massachusetts and Virginia have been diversifying into oyster production, but some of the same perils that affect clams would also affect oysters.

Only the larger Virginia growers have some ability to diversify geographically. This is due to the larger lease sizes in that state and the ability to produce on both the sea side and Chesapeake Bay side of Virginia's Eastern Shore. This led us to score availability of non-insurance coping mechanisms as "average" in Virginia, compared to below average in Massachusetts, and much below in the two other states.

2.3.3 Risk classification

Risk in shellfish farming is sometimes thought to be on a "waterbody scale" in that the weather or environmental changes that cause problems have the same effect on everyone in the area. But much depends on the specific location of each lease and its individual exposure to freezing during low tide, salinity changes due to rainfall runoff, storm surges, etc. We concluded for all states that some clam growers are riskier to insure than others. Thus while the pilot's provisions do an adequate job of establishing the guarantee, they are completely ineffective at classifying growers according to their loss exposure. There is no system to capture individual growers' yield history and base the premium on that history. Everyone in a county pays the same rate.

2.3.4 Moral hazard

The insured's behavior is difficult and expensive to monitor for several reasons. The clams are underwater much of the time and many lease sites must be visited by boat, which is relatively difficult and expensive compared with other commodities. There are significant time constraints for inspections due to the tides, which may necessitate multiple days for inspections of growers with multiple sites or inspections of multiple growers, even if they are located very close to one another. In bottom plant areas, growers typically only work their beds at low tides, when the clam beds are not underwater. Even when the beds are exposed, the clams are still not visible unless they are dead because live clams keep themselves buried under the substrate in which they are growing. Thus, inspectors can more easily inspect the condition of the lease site and the cover nets than the clams themselves. The clams can be sampled and dug up to assess their condition, but this is a time-consuming process.

Where bag culture is used, bags can be randomly pulled up and assessed, but assessors are generally dependent on growers taking them out to their lease sites and there have been concerns that growers could potentially choose to visit and select only bags that they know are in good condition. Growers do not like to pull up many bags because bags are typically attached to one another and must be cut apart, and they also think that it increases mortality to pull up bags and then put them back.

This product is very unique for the insurance companies to monitor and there have been a number of concerns that they are less familiar with this product than others and do not sufficiently understand appropriate management strategies and therefore cannot fully evaluate behaviors observed. The management practice that can be best monitored and has an effect on yield/survival is probably stocking density.

For these reasons we concluded that the potential for gaming yields through acts of management is high, and in Florida very high. In fact we think that Florida should be dropped from the pilot if it is extended. In contrast, the potential to game quality is very low, because there is no coverage for quality under the insurance pilot. Overall, we rated the extent of moral hazard problems as significant for South Carolina, Virginia and Massachusetts, and very large for Florida.

2.3.5 Participation

For agents as well as the companies, clam insurance is a unique product. It requires more time for agents to learn about, and the small markets in all four states seem to have limited agent interest. There were concerns expressed by stakeholders about the perceived lack of agent and adjuster knowledge of the clam industry and details of the clam insurance program, as well as lack of interest in selling clam policies among agents.

Clam insurance is a unique product for which it is difficult and expensive to monitor insured behavior and adjust losses. Therefore, it is difficult for companies to justify investments in marketing and servicing clam policies. Companies seem to have limited interest in marketing this product, and a couple are doing it only due to company policy to serve all agricultural producers nationwide.

Participation has been declining. For Florida we concluded that participation could rebound if one eliminated the requirement for pre-acceptance inspections. However, this would likely result in payment of unacceptably high indemnities. For the other three states we concluded that there is little prospect that changes in the plan provisions could increase participation.

SECTION 3: EVALUATION COMPONENTS FINDINGS

3.1 Background to the pilot program

The cultivated clam insurance program was approved in July 1999 for the 2000-2003 crop years in the following pilot counties, which are also shown on the map on the next page:

- Massachusetts – Barnstable, Bristol, Dukes, Nantucket and Plymouth counties;
- Virginia – Accomack and Northampton counties
- South Carolina – Beaufort and Charleston counties; and
- Florida – Brevard, Dixie, Indian River, and Levy counties.

The insured crop is the *Mercenaria mercenaria* species of clam, grown in an acceptable location using a practice that fixes the clams to the ocean bottom. This clam is also referred to as a quahog or hard clam, to distinguish it from soft shell, geoduck, and other clam types.

During the first four years of the pilot there were numerous problems resulting in high loss ratios. An internal review in 2003 resulted in a wide range of changes in the pilot design for the following crop year and the Board extended it through 2005. Coverage was eliminated for nursery clams (those less than 10 mm). RMA added growth stages and authorized optional units by stage, with early stages receiving less than the full price per clam. Language was added requiring at least three years of experience growing clams and managing a clam farming operation. Ice flow was added as a cause of loss and there were a number of other changes as well. Since then the policy has covered the following perils: oxygen depletion, disease, freeze, hurricane, decrease in salinity, tidal wave, storm surge, or ice flow.

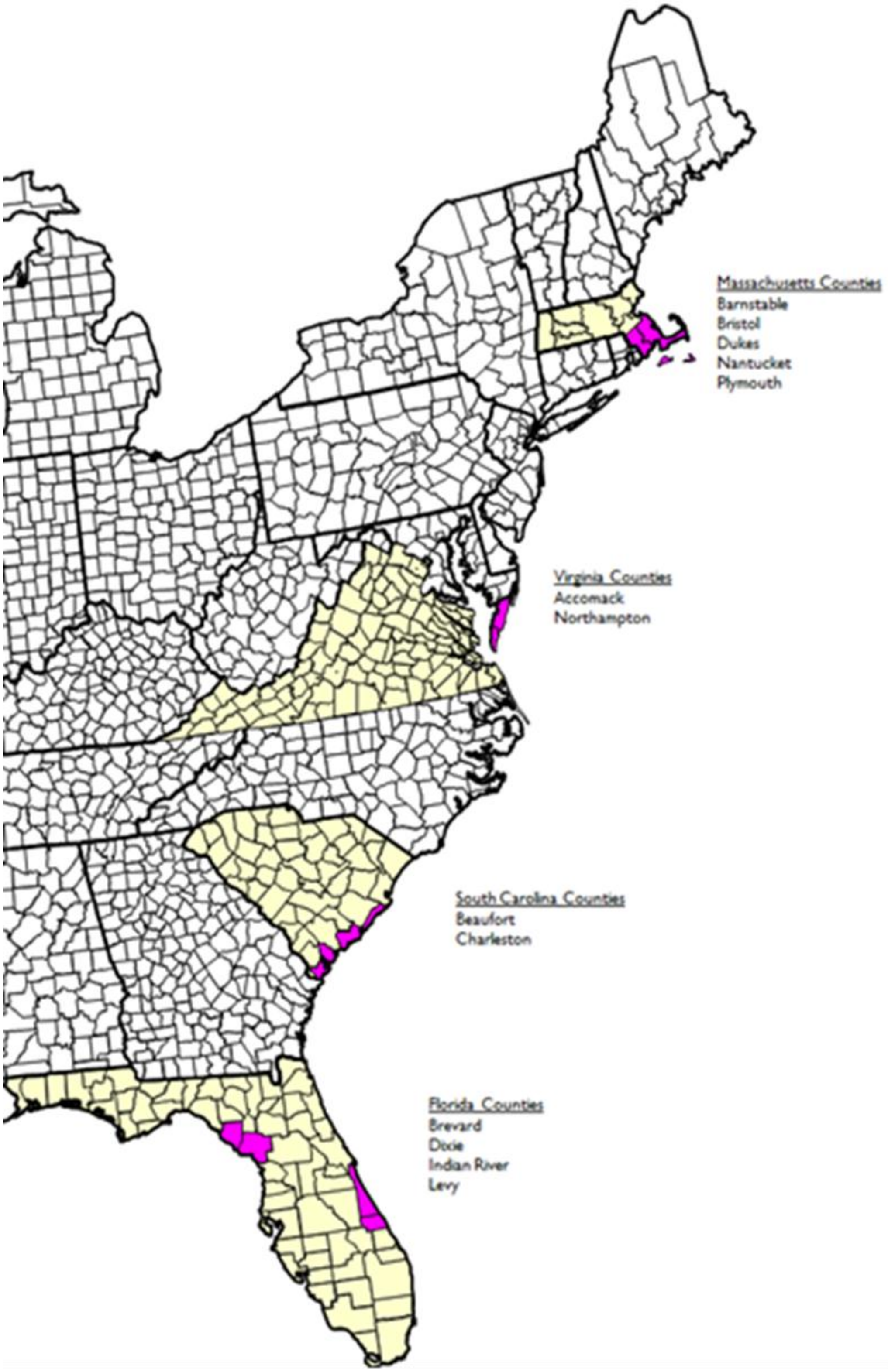
In June 2005 the Board extended the pilot program through 2007 to provide time for an outside evaluation. That was completed in the spring of 2007 and the Board extended the program through 2011. Beginning with 2008, clam leases had to be identified by their Global Positioning System (GPS) coordinates.

The current evaluation was commissioned in November 2010 to provide recommendations to RMA and the Board regarding whether to convert the pilot to a permanent program, extend it with modifications, or terminate it.

3.2 Industry research

Data on the cultivated clam industry and how it fits in the larger US seafood market is rather limited. The principle source of annual data is the "Fisheries of the United States" report from the National Marine Fisheries Service (NMFS). The most recent issue covers 2009. The information in the NMFS report comes from many sources, including NMFS field offices that work with state and federal agencies to compile this data. A major shortcoming for our purposes is that the publication shows clam meat weights and prices per pound, whereas cultivated clams are sold and priced by piece. NMFS uses a factor of 0.4 to convert gross weight of clams to meat weight, a factor that seems much too high for the *Mercenaria mercenaria* hard clams covered by the insurance policy. Nevertheless, the publication does allow us to put the cultivated clam business into a broader context, and to distinguish the species covered by the pilot program from other species produced through aquaculture.

Figure 1: Pilot States & Counties for the Cultivated Clam Insurance Program



The states and counties highlighted in Figure 1 are:

- Massachusetts
  - Barnstable County
  - Bristol County
  - Dukes County
  - Nantucket County
  - Plymouth County
- Virginia
  - Accomack
  - Northampton
- South Carolina Counties
  - Beaufort
  - Charleston
- Florida
  - Brevard
  - Dixie
  - Indian River
  - Levy

The other main source of data on US aquaculture is the 2005 Census of Aquaculture, developed by USDA's National Agricultural Statistics Service (NASS). Another census was planned for 2010 but it has been delayed by budget issues and could be cancelled. The Census of Aquaculture does not disclose information that is about a specific company. Therefore in states with very few producers the data is not disclosed. However, when the totals across the US are looked at, the volumes and values from the states with consolidated data are included. In contrast to the NMFS report, the survey reports the number of clams produced and the price per clam. Clams vary in size but there do not appear to be any official conversion factors from clam count to meat weight, even for the broad categories like littlenecks.

In commerce, the *Mercenaria mercenaria* clams are commonly referred to as quahogs, the original Indian name, or by their general size classification:

- Chowder- 2.5-3.0 inch hinge
- Cherrystone- 2 inch hinge
- Topneck-1.5 inch hinge
- Middleneck- 1.25 hinge
- Littleneck-1 inch hinge
- Button- .88 inch hinge
- Pasta- .75 inch hinge.

3.2.1 The clam industry

According to the 2009 "Fisheries of the United States" report, clams were the seventh most valuable seafood species in the US in 2009. They were valued at $191 million. This figure includes all US domestic species of clams that were landed or harvested in 2009. Of that amount, hard clams accounted for $41 million, or 21% of the total. The *Mercenaria mercenaria* species that is covered by the crop insurance pilot is the principal hard clam.

Table 1: US Clam Supply

Year	US commercial landings		Imports	Total	Exports	Domestic supply
	Total	Aquaculture				
	thousand pounds, meat weight					
2000	118,482	9,929	17,767	136,249	3,627	132,622
2001	122,764	9,975	19,962	142,726	4,080	138,646
2002	130,076	9,861	18,256	148,332	4,348	143,984
2003	127,806	10,790	21,697	149,503	6,429	143,074
2004	119,411	20,967	20,640	140,051	8,136	131,915
2005	105,640	12,564	21,252	126,892	6,725	120,167
2006	110,912	11,307	21,594	132,506	7,653	124,853
2007	115,848	10,743	19,423	135,271	7,833	127,438
2008	107,772	11,420	21,008	128,780	8,065	120,715
2009	101,137	n/a	21,875	123,012	7,243	115,769

Source: "Fisheries of the United States: 2009", National Marine Fisheries Service

There were 101 million pounds of US commercial clam landings in 2009. Of those, 5.7 million pounds were hard clams, or nearly 6% of the total. Hard clams are more valuable than some of the other species of clams. They are usually sold fresh, often served on the half shell, which makes them more expensive, and explains why 6% of the clams by weight make up more than 20% of the value.

To determine estimated domestic consumption of hard clams, the trade data is needed in addition to the landings data. The "Fisheries of the United States" report includes trade information but it is not specific to hard clams. It gives the pounds imported and exported in clam meat equivalent for each year between 2000 and 2009. Since the official trade data is in actual commercial weight, NMFS converts it to meat weight using the following factors: 0.40 for in shell or shucked; 0.30 for canned chowder and juice; and 0.93 for all other. Without trade data by species, it is impossible to tell exactly how many hard clams were consumed domestically.

Domestic aquaculture competes with both wild harvest and imports of clams. US commercial landings, including aquaculture, are broken into 7 categories: hard quahog, Pacific geoduck, Pacific manila, ocean quahog, softshell, Atlantic surf and other. Table 2 below shows the quantity (in pounds of meat) and value (in thousand dollars) for each species. The hard quahogs are also referred to as hard clams by NMFS and they are the clams covered by this insurance program. As one can see, there was a decrease in hard quahogs from 2008 to 2009, a decline of 1.6 million pounds.

Table 2: Clam landings by species				
	2008		2009	
	1,000 lbs	$1,000	1,000 lbs	$1,000
Hard quahog	7,326	49,767	5,710	40,931
Pacific geoduck	3,534	38,620	4,399	52,064
Pacific manila	1,085	18,434	1,183	20,030
Ocean quahog	34,352	20,352	34,909	21,919
Softshell	3,818	21,649	3,853	20,334
Atlantic surf	57,330	36,664	50,641	34,050
Other	327	1,232	442	1,746
Total	107,772	186,718	101,137	191,074

Table 3: Price per pound by species		
	2008	2009
Hard quahog	$6.79	$7.17
Pacific geoduck	$10.93	$11.84
Pacific manila	$16.99	$16.93
Ocean quahog	$0.59	$0.63
Softshell	$5.67	$5.28
Atlantic surf	$0.64	$0.67
Other	$3.77	$3.95
Total	$1.73	$1.89

There is significant variation among the values of the different species of clams. Table 3 shows the calculated price per pound of clam meat, for each of the landed species. The Pacific manilas were valued at $17 per pound of meat, while the Atlantic surf were valued at under $1.00 per pound of meat. The hard quahogs were valued at $7.17 per pound in 2009.

3.2.2 Aquaculture clams

The aquaculture data in "Fisheries of the United States" is similar to the trade data. It is not broken out by species of clam. The numbers could include hard clams, geoducks, Pacific manila clams, softshell clams, Atlantic surf and/or other clams. From the data in Table 4 one can see the overall clam aquaculture trend in the United States has been basically flat according to NMFS. Aquaculture clams are currently about 10% of total clam production, and hard clams are roughly half of total aquaculture clam production.

The NMFS data show the price per meat pound increasing rather steadily over the past decade, except for 2004 (Table 4). However, the price for quahogs has reportedly declined since 2000, a fact that some attribute to the advent of the clam insurance pilot and a resulting expansion in production. The price decline over the past decade was always commented upon in our listening sessions.

Table 4: Price per meat pound for aquaculture clams			
	1,000 lbs	**$1,000**	**$/lbs**
2000	9,929	32,595	3.28
2001	9,975	35,404	3.55
2002	9,861	41,809	4.24
2003	10,790	53,966	5.00
2004	20,967	73,339	3.50
2005	12,564	72,783	5.79
2006	11,307	75,357	6.66
2007	10,743	65,754	6.12
2008	11,420	88,088	7.71

Source: "Fisheries of the United States: 2009", National Marine Fisheries Service

In contrast to the NMFS data for all US clam aquaculture, the following table shows the data on hard clams from the 2005 Census of Aquaculture. This data is exclusively for hard clam aquaculture in the US. The census collected data on the number of clams sold and the value of those clams, which permits calculation of a price per clam. Table 5 shows the data on market size clams. Data were also collected on the value of seed clam sales.

Virginia, Florida, Massachusetts and South Carolina, the four states that have counties that are currently eligible for the cultivated clam pilot program, appear at the top of the table. The sub-total for these four states was 287 million clams valued at $40 million.

Table 5: US Aquaculture Hard Clam Sales in 2005			
State	**Number of clams sold (millions)**	**Total sales (in $ million)**	**Price per clam (cents)**
Virginia	170	26.3	15.4
Florida	92	9.8	10.6
Massachusetts	14	2.4	17.0
South Carolina	12	1.4	11.8
Pilot states	**287**	**39.9**	**13.9**
Connecticut	90	11	12.8
New Jersey	11	N/A	N/A
North Carolina	7	N/A	N/A
Other	17	N/A	N/A
US total	**413**	**56.1**	**13.6**
Pilot state share	**70%**	**71%**	

Source: USDA, NASS "Census of Aquaculture 2005"

There were three other states that had significant clam production, Connecticut, New Jersey and North Carolina. The reason that New Jersey and North Carolina do not have values for total sales is because the industry is too concentrated in those states and disclosing that information could be detrimental to specific producers.

By comparing the total number of clams produced in pilot states to the total number of clams produced in the US, one sees that the pilot states produce 70% of the clams and those clams are valued at over 70% of the value of all hard calms produced in the US through aquaculture. These percentages do not necessarily represent the number of actual clams produced that could be insured by the cultivated clam crop insurance from RMA. This is because the insurance does not cover all of the counties in these four states and some of the clams produced in these states were produced in regions that are ineligible for this insurance.

The last year that the Fulton Fish Market released monthly data on the price of clams by type and state was 2004. Table 6 below shows the average 2004 price per clam based on where they were harvested and the type of clam. The locations are arranged from north to south, because clams from northern locations are generally more expensive than their southern counterparts. Southern clams grow faster because they live in warmer water, and are perceived as having poorer storage qualities.

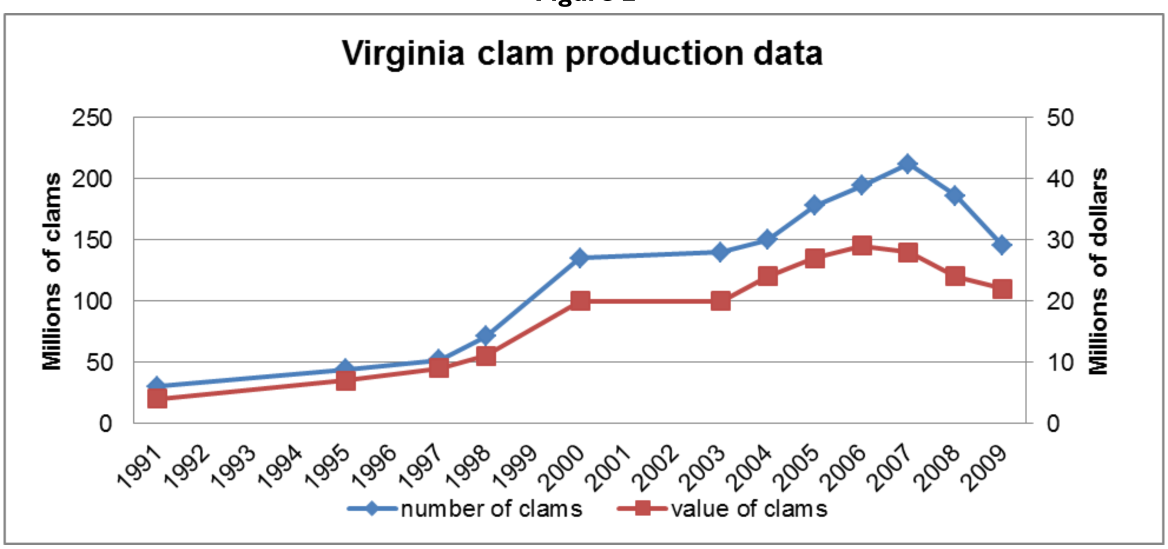
In addition to decreasing in price as the harvest location moves further south, the clams also get cheaper the bigger they get. The "necks", i.e. little necks and middle necks, are the smallest and typically the most expensive, followed by top necks, then cherrystone and finally chowders are the least expensive. The price structure today is similar but lower by 3-4 cents per pound.

Table 6: Hard Clam Price Structure in 2004				
	Necks	Top necks	Cherrystone	Chowder
	cents per clam			
Prince Edward Island	0.21	0.21	0.17	
Massachusetts	0.20	0.20	0.17	0.15
Connecticut	0.19	0.21	0.17	0.15
Long Island, NY	0.20	0.21	0.17	0.16
New Jersey	0.19	0.20	0.17	0.15
Maryland	0.17	0.19	0.15	0.11
Virginia	0.19	0.21	0.17	0.15
North Carolina	0.18	0.19	0.16	0.14
South Carolina	0.16		0.16	0.16
Florida	0.15	0.18		

Virginia hard clam production data

In 2005, Virginia was the leading producer with over 40% of the cultivated hard clams in the US. The state continues to be the largest producer and does a better job of tracking industry statistics. Figure 2 shows data collected from Virginia clam growers from 1991 to 2009 on the number of clams they produced and the value of those clams.

Figure 2



The data for Figure 2 is included in Appendix E.

In 1991 Virginian growers produced 30 million clams, valued at $4 million. Between 1998 and 2000 when the pilot insurance plan was introduced, the number of clams produced grew from 71 million to 135 million, almost doubling. The value of these clams nearly doubled as well, increasing from $11 million to $20 million over the two year period. The number of clams continued to grow until 2007 when 212 million were produced. Since that peak the number of clams has declined to 145 million in 2009. Production volume is thought to have been about the same in 2010 as the recession kept demand for fresh clams in the restaurant trade somewhat weak.

3.3 Insurance experience

3.3.1 Overall Cultivated Clam Pilot insurance experience

RMA provided detailed policy level data for the entire history of the Cultivated Clam Pilot Program on January 3, 2011. The data tables as required in the Statement of Work are provided as Appendix C and are based on that data set. Using this information, we highlight the important issues we discovered during the analysis of this data. For Table 7 below, which also appears in the Executive Summary, we have used Summary of Business data for 2010 as of June 6, 2011. However, all of the analysis in this section is based on the January data set.

In the following tables, a dash "-" signifies no data or zero. A "0" signifies a positive number that is less than 0.5 of the unit in question. Table 7 provides an overall summary of the liability, premium and loss experience for each year of the pilot program.

Table 7: Cultivated Clam Pilot Experience - All Pilot Counties

Crop Year	Liability in $000s	Total Premium in $000s	Policies Earning Premium	Indemnity in $000s	Loss Ratio
2000	36,121	1,126	335	2,070	184%
2001	41,215	1,401	377	2,881	206%
2002	59,953	2,181	472	4,019	184%
2003	51,177	1,860	417	2,775	149%
2004	27,701	969	293	2,182	225%
2005	18,160	626	202	624	100%
2006	26,119	932	164	677	73%
2007	26,780	973	144	502	52%
2008	30,843	1,051	111	407	39%
2009	27,880	674	107	1,557	231%
2010	23,499	520	74	241	46%
2000-2003	188,466	6,567.5	1,601	11,744	179%
2004-2010	180,982	5,745	1,095	6,191	108%
Grand Total	369,448	12,312	2,696	17,935	146%

3.3.2 Cultivated Clam Pilot insurance experience by state and county

The following tables display the insurance experience for each county in the pilot program for each year. Note though that the policy records for Florida for crop year 2010 in the January data set were incomplete.

Brevard County is located on the eastern side of Florida. As Table 8 shows, the participation in the clam pilot program has dropped to one policy in the last few years. The 2004-2010 loss ratio of 327% is well above the RMA targeted loss ratio. Dixie County is located on the western side of Florida. As Table 9 shows, there has been no participation in the clam pilot program since 2006.

Table 8: Cultivated Clam Pilot Experience - Brevard County, Florida

Crop Year	Liability in $000s	Total Premium in $000s	Policies Earning Premium	Indemnity in $000s	Loss Ratio
2000	580	23	14	132	577%
2001	1,426	79	31	520	659%
2002	1,286	75	26	274	367%
2003	595	34	17	213	630%
2004	125	13	8	60	481%
2005	75	6	3	0	0%
2006	17	2	2	0	0%
2007	31	2	3	0	0%
2008	76	7	1	34	507%
2009	4	0	1	0	0%
2010	5	0	1	5	1209%
2000-2003	3,888	210	88	1,139	541%
2004-2010	332	30	19	99	327%
Grand Total	4,220	241	107	1,238	514%

Table 9: Cultivated Clam Pilot Experience – Dixie County, Florida

Crop Year	Liability in $000s	Total Premium in $000s	Policies Earning Premium	Indemnity in $000s	Loss Ratio
2000	2,383	93	50	698	753%
2001	2,255	109	54	116	106%
2002	3,176	150	75	159	106%
2003	2,770	153	70	276	180%
2004	703	70	42	126	181%
2005	294	24	20	57	234%
2006	161	14	8	0	0%
2007	0	0	0	0	0%
2008	0	0	0	0	0%
2009	0	0	0	0	0%
2010	0	0	0	0	0%
2000-2003	10,584	505	249	1,249	247%
2004-2010	1,157	108	70	183	169%
Grand Total	11,741	614	319	1,432	233%

Table 10: Cultivated Clam Pilot Experience – Indian River County, Florida					
Crop Year	**Liability in $000s**	**Total Premium in $000s**	**Policies Earning Premium**	**Indemnity in $000s**	**Loss Ratio**
2000	1,976	86	16	261	301%
2001	1,670	96	32	360	376%
2002	2,059	132	39	134	101%
2003	1,462	98	30	87	88%
2004	448	51	18	178	347%
2005	175	15	14	0	0%
2006	193	18	9	0	0%
2007	149	14	7	0	0%
2008	150	15	4	7	48%
2009	56	5	3	0	0%
2010	0	0	0	0	0%
2000-2003	7,166	413	117	842	204%
2004-2010	1,171	118	55	185	157%
Grand Total	8,337	531	172	1,026	193%

Indian River County is located south of Brevard County on the eastern side of Florida. As Table 10 indicates, there has been declining participation in the clam pilot program since 2003. The 2004-2010 combined loss ratio of 157% is mostly caused by the 2004 year which experienced several hurricanes.

Levy County is located south of Dixie County on the western side of Florida. The majority of clam producing area in Florida is around the city of Cedar Key. According to Table 12, there has been declining participation in the clam pilot program since 2003. The sharp drop in 2010 occurred because of enforcement of the requirement that a pre-acceptance inspection be conducted for every policy. This involved pulling three percent of the bags, and either the growers did not want to do that, or the insurers were unable to complete the inspections within the allotted time.

The 2004-2010 combined loss ratio of 144% is caused by the 2004 hurricane year and low salinity in 2009 due to large rainfalls inland and the runoff of fresh water into the clam leases. June 2011 Summary of Business data show 5 policies earning premium in 2010 and a loss ratio of 158%.

Barnstable County is one of the two counties in Massachusetts that has insurance experience from the clam pilot. The pilot is also available in Bristol, Dukes and Nantucket counties but there have been no policies earning premium. The participation has declined somewhat from 2004 and the loss ratios are high.

Table 11: Cultivated Clam Pilot Experience – Levy County, Florida					
Crop Year	**Liability in $000s**	**Total Premium in $000s**	**Policies Earning Premium**	**Indemnity in $000s**	**Loss Ratio**
2000	12,643	534	151	872	163%
2001	12,945	638	147	1,530	240%
2002	19,867	1,054	222	3,358	319%
2003	15,530	894	192	1,381	154%
2004	4,064	391	124	686	175%
2005	4,024	311	85	180	58%
2006	5,657	470	70	442	94%
2007	6,117	502	60	371	74%
2008	4,494	420	41	304	72%
2009	4,292	222	44	1,328	599%
2010	220	17	2	50	290%
2000-2003	60,985	3,119	712	7,141	229%
2004-2010	28,869	2,333	426	3,362	144%
Grand Total	89,854	5,453	1,138	10,503	193%

Table 12: Cultivated Clam Pilot Experience – Barnstable County, Massachusetts					
Crop Year	**Liability in $000s**	**Total Premium in $000s**	**Policies Earning Premium**	**Indemnity in $000s**	**Loss Ratio**
2000	3,214	84	45	108	128%
2001	2,522	61	38	150	248%
2002	2,710	69	31	0	0%
2003	2,811	67	30	190	284%
2004	2,121	49	26	78	160%
2005	1,825	42	20	388	934%
2006	1,673	42	22	123	296%
2007	1,562	37	19	87	234%
2008	1,584	49	16	61	125%
2009	1,462	37	9	0	0%
2010	1,386	40	12	19	47%
2000-2003	11,256	281	144	447	159%
2004-2010	11,614	295	124	755	256%
Grand Total	22,870	576	268	1,203	209%

Table 13: Cultivated Clam Pilot Experience – Plymouth County, Massachusetts					
Crop Year	**Liability in $000s**	**Total Premium in $000s**	**Policies Earning Premium**	**Indemnity in $000s**	**Loss Ratio**
2000	0	0	0	0	0%
2001	0	0	0	0	0%
2002	0	0	0	0	0%
2003	0	0	0	0	0%
2004	0	0	0	0	0%
2005	223	4	1	0	0%
2006	292	5	1	0	0%
2007	257	5	1	0	0%
2008	0	0	0	0	0%
2009	0	0	0	0	0%
2010	0	0	0	0	0%
2000-2003	0	0	0	0	0%
2004-2010	771	14	3	0	0%
Grand Total	771	14	3	0	0%

Plymouth County is the one other county in Massachusetts that has insurance experience from the clam pilot. One grower participated from 2005 through 2007 and had no indemnity.

Table 14: Cultivated Clam Pilot Experience – Beaufort County, South Carolina					
Crop Year	**Liability in $000s**	**Total Premium in $000s**	**Policies Earning Premium**	**Indemnity in $000s**	**Loss Ratio**
2000	1,188	36	1	0	0%
2001	0	0	0	0	0%
2002	152	3	1	0	0%
2003	349	15	4	0	0%
2004	228	6	4	0	0%
2005	116	2	1	0	0%
2006	116	2	1	0	0%
2007	0	0	0	0	0%
2008	0	0	0	0	0%
2009	0	0	0	0	0%
2010	0	0	0	0	0%
2000-2003	1,688	54	6	0	0%
2004-2010	459	9	6	0	0%
Grand Total	2,147	64	12	0	0%

Beaufort County in South Carolina has relatively little participation in the program and no policies have earned premium since 2006 (Table 14).

Table 15: Cultivated Clam Pilot Experience – Charleston County, South Carolina					
Crop Year	**Liability in $000s**	**Total Premium in $000s**	**Policies Earning Premium**	**Indemnity in $000s**	**Loss Ratio**
2000	209	5	4	0	0%
2001	404	9	5	0	0%
2002	1,091	28	7	0	0%
2003	1,279	33	11	78	236%
2004	609	14	4	32	236%
2005	482	9	2	0	0%
2006	385	8	2	0	0%
2007	283	6	2	0	0%
2008	0	0	0	0	0%
2009	0	0	0	0	0%
2010	0	0	1	0	0%
2000-2003	2,985	75	27	78	104%
2004-2010	1,778	36	11	32	89%
Grand Total	4,762	110	38	110	99%

Charleston County in South Carolina has relatively little participation in the program as well and no policies earned premium during 2008-2009. In 2010, one policy was active.

Table 16: Cultivated Clam Pilot Experience – Accomack County, Virginia					
Crop Year	**Liability in $000s**	**Total Premium in $000s**	**Policies Earning Premium**	**Indemnity in $000s**	**Loss Ratio**
2000	1,358	26	14	0	0%
2001	3,657	87	18	0	0%
2002	8,970	201	16	0	0%
2003	8,511	188	16	275	147%
2004	4,309	85	19	687	809%
2005	622	19	20	0	0%
2006	976	31	14	0	0%
2007	1,386	45	14	44	100%
2008	2,200	67	14	0	0%
2009	2,529	66	15	228	347%
2010	2,271	52	13	53	102%
2000-2003	22,496	501	64	275	55%
2004-2010	14,294	364	109	1,013	278%
Grand Total	36,790	865	173	1,288	149%

Accomack County in Virginia lies on the state's Eastern Shore and has cultivated clams on both the ocean side and the Chesapeake Bay side. The policy count has been fairly stable over the last several years. The large loss in 2009 was due to a nor'easter and the 2004 indemnities were due to freeze.

Table 17: Cultivated Clam Pilot Experience – Northampton County, Virginia					
Crop Year	**Liability in $000s**	**Total Premium in $000s**	**Policies Earning Premium**	**Indemnity in $000s**	**Loss Ratio**
2000	12,569	238	40	0	0%
2001	16,337	323	52	204	63%
2002	20,641	470	55	94	20%
2003	17,871	379	47	275	73%
2004	15,095	292	48	335	115%
2005	10,324	195	36	0	0%
2006	16,649	340	35	112	33%
2007	16,996	363	38	0	0%
2008	22,339	493	35	0	0%
2009	19,537	344	35	0	0%
2010	18,229	316	32	0	0%
2000-2003	67,418	1,409	194	547	41%
2004-2010	119,170	2,343	447	447	19%
Grand Total	186,588	3,752	1,021	1,021	27%

Northampton County in Virginia also lies on the southernmost part of the peninsula and has cultivated clams on both the ocean side and the Chesapeake Bay side. The policy count has been fairly stable over the last several years. The large loss in 2004 was also due to freeze.

3.3.3 Cultivated Clam Pilot Insurance Buy-Up versus Cat

The following table displays the insured liability by coverage level. The pilot insurance is mostly purchased at lower coverage levels, with 50% the most popular. Florida is somewhat of an exception. In the rating section we will show that the coverage level relativities for Florida are much flatter than for the other states, making the incremental costs for higher coverage levels relatively lower in Florida. This may be the reason that higher coverage levels are purchased in Florida.

Table 18: Cultivated Clam Pilot Experience – Liability by Coverage Level $(000s)								
	Crop		Coverage Level (Buy-Up)					
State	Year	CAT	50%	55%	60%	65%	70%	75%
Florida	2004	417	1,256	–	386	1,362	1,087	831
	2005	728	421	97	310	1,514	708	790
	2006	1,040	214	–	374	2,894	632	876
	2007	986	310	–	1,269	1,924	1,078	730
	2008	838	142	90	1,189	919	429	1,111
	2009	1,328	1,734	–	151	4	352	783
	2010	79	–	–	–	5	–	142
Massachusetts	2004	616	445	117	365	362	217	–
	2005	548	298	–	408	722	72	–
	2006	651	343	–	586	385	–	–
	2007	340	556	–	543	379	–	–
	2008	225	256	–	594	391	–	119
	2009	–	243	–	674	389	–	156
	2010	–	99	–	594	471	–	223
South Carolina	2004	61	–	378	358	–	39	–
	2005	273	–	–	325	–	–	–
	2006	263	–	237	–	–	–	–
	2007	125	–	157	–	–	–	–
	2008	–	–	–	–	–	–	–
	2009	–	–	–	–	–	–	–
	2010	–	–	19	–	–	–	–
Virginia	2004	2,389	12,681	169	3,928	169	–	69
	2005	5,548	1,415	–	3,465	395	124	–
	2006	72	11,775	–	5,064	527	187	–
	2007	164	11,284	–	5,749	916	269	–
	2008	72	14,467	–	8,098	1,515	387	–
	2009	125	13,215	–	6,378	2,098	251	–
	2010	1,780	11,617	–	4,904	2,017	182	–

3.3.4 Cultivated Clam Pilot Insurance Participation

The participation in the Cultivated Clam Pilot Program was more difficult to calculate than standard row crops due to the limited availability of NASS data and the fact that clams are grown for longer than one year.

The only NASS data is from the 2005 Census of Aquaculture. It includes the number and value of clams sold that year as well as the number of clam farmers. Therefore we needed to make adjustments to the insurance data to make it more comparable to NASS. Table 19 shows the total harvest value of insured clams after adjusting for both coverage level and price election. For example, if the coverage level was 50% we would double the liability shown in the insurance records. In order to account for different price elections (CAT or Stages) we also divided the liability by the price election percentage. By doing this we can estimate the total harvest value of all the insured clams at the full price per clam and adjusted for coverage level.

Table 19: Cultivated Clam Pilot - Total Clam Value in $Millions

Crop Year	Florida	Massachusetts	South Carolina	Virginia
2000	29	6	2	28
2001	28	6	1	39
2002	40	6	2	57
2003	30	7	3	52
2004	11	5	2	48
2005	8	4	1	25
2006	10	4	1	42
2007	11	4	1	44
2008	9	3	–	56
2009	9	3	–	49
2010	0	3	0	43

This table shows the decline in insurance for each pilot state except Virginia. The difficulty in calculating participation rates is that clams are grown for several years and harvested throughout the year. Using the last available stage for insurance (Stage 3 for Massachusetts and Virginia and Stage 4 for Florida and South Carolina) we made the following table. The latest NASS data is the 2005 Census data that includes all the states' clam data. The insurance data shown is therefore from crop year 2005 as well.

Table 20: Cultivated Clam Pilot Participation

State	NASS Total sales ($Millions)	Last Insured Stage ($Millions)	Liability Participation	NASS Number of Farms	Policies Earning Premium	Number of Farms Participation
Virginia	26.3	16.1	61%	38	56	147%
Florida	9.8	5.5	56%	142	122	86%
Massachusetts	2.4	1.5	62%	75	21	28%
South Carolina	1.4	0.8	57%	21	3	14%
Pilot states	**39.9**	**25.3**	**60%**	**276**	**202**	**73%**

NASS Source: USDA, NASS "Census of Aquaculture 2005"

This table shows that the Cultivated Clam Pilot Program appears to have had decent participation in 2005, whether measured by liabilities or number of farms producing market clams. Since then the participation has declined significantly for Florida and South Carolina while maintaining similar rates in Massachusetts and Virginia. Since Massachusetts can insure until four years after planting, the last insured stage liabilities were divided by two in order to calculate the participation rate.

These are imperfect measures of participation at best. There are no data on square feet of clam beds that would compare to the planted or harvested area data used for measuring row crop participation in crop insurance programs. And the accuracy of the 2005 Census data is unclear. However the participation rates calculated in Table 20 are probably indicative. What is clear is that participation by growers has declined sharply since then. If the total number of growers in the four states is still about 276, the fact that fewer than 75 policies were earning premium in 2010 implies that only about 25% of farmers are using the pilot insurance program. And while the calculated value of clams insured in Virginia has held up, one has to keep in mind that most of the coverage is at the 50% level.

3.3.5 Cultivated Clam Pilot Insurance By Reporting Organization

We reviewed the insurance experience by reporting organization by state for each year of the pilot program. These tables show that there are two major AIPs writing the majority of the clam pilot coverage outside of Florida. These AIPs do not write the clam business in Florida anymore. Since 2006, different AIPs have written clam business in Florida for a year or two and then also exited the business. The reporting organizations are masked in the data provided to us from RMA, but evidence from the listening sessions allows us to deduce that MJ is probably Rain & Hail and OW is probably RCIS.

Table 21: Cultivated Clam Pilot – Experience by Reporting Organization
Florida - All Pilot Counties - Total Premium ($000s)

Crop Year	Reporting Organization								
	HB	HL	MB	MJ	MN	OW	PW	SU	YH
2000	–	37	–	12	466	63	–	–	158
2001	–	54	–	6	485	85	–	–	293
2002	–	30	–	5	–	28	829	–	517
2003	–	9	–	629	–	12	–	–	529
2004	–	–	–	516	–	9	–	–	–
2005	–	–	–	348	–	8	–	–	–
2006	–	–	–	504	–	1	–	–	–
2007	–	–	313	204	–	1	–	–	–
2008	–	196	212	27	–	7	–	–	–
2009	219	–	–	–	–	–	–	8	–
2010	–	–	–	–	–	–	–	17	–
2000-2003	–	130	–	653	951	188	829	–	1,497
2004-2010	219	196	526	1,598	–	26	–	25	–
TOTAL	219	326	526	2,250	951	214	829	25	1,497

Table 22: Cultivated Clam Pilot – Experience by Reporting Organization Florida - All Pilot Counties - Loss Ratio									
	Reporting Organization								
Crop Year	**HB**	**HL**	**MB**	**MJ**	**MN**	**OW**	**PW**	**SU**	**YH**
2000		566%		737%	214%	182%			349%
2001		356%		321%	291%	207%			249%
2002		158%		0%		475%	276%		282%
2003		0%		146%		483%			185%
2004				200%		198%			
2005				68%		0%			
2006				88%		0%			
2007			111%	11%		0%			
2008		0%	143%	28%		507%			
2009	607%					0%		0%	
2010						1209%		290%	
2000-2003		346%		157%	254%	257%	276%		248%
2004-2010	607%	0%	124%	109%		217%		200%	
TOTAL	607%	138%	124%	123%	254%	252%	276%	200%	248%

Table 23: Cultivated Clam Pilot – Experience by Reporting Organization Massachusetts - All Pilot Counties						
	Total Premium ($000s)		**Indemnity ($000s)**		**Loss Ratio**	
	Reporting Organization		**Reporting Organization**		**Reporting Organization**	
Crop Year	**MJ**	**OW**	**MJ**	**OW**	**MJ**	**OW**
2000	64	20	108	-	168%	0%
2001	51	9	150	-	293%	0%
2002	64	5	-	-	0%	0%
2003	59	8	190	-	323%	0%
2004	42	7	78	-	185%	0%
2005	42	4	388	-	934%	0%
2006	35	12	30	93	88%	769%
2007	33	8	48	38	144%	462%
2008	45	4	39	22	86%	612%
2009	31	6	-	-	0%	0%
2010	39	1	19	-	48%	0%
2000-2003	238	42	447	-	188%	0%
2004-2010	267	42	602	153	226%	367%
TOTAL	505	84	1,050	153	208%	183%

Table 24: Cultivated Clam Pilot – Experience by Reporting Organization South Carolina - All Pilot Counties									
	Total Premium ($000s)			Indemnity ($000s)			Loss Ratio		
	Reporting Organization			Reporting Organization			Reporting Organization		
Crop Year	MB	MJ	OW	MB	MJ	OW	MB	MJ	OW
2000	–	42	–	–	–	–		0%	
2001	–	8	1	–	–	–		0%	0%
2002	–	15	15	–	–	–		0%	0%
2003	–	43	5	–	78	–		181%	0%
2004	–	15	4	–	–	32		0%	728%
2005	–	4	6	–	–	–		0%	0%
2006	–	5	5	–	–	–		0%	0%
2007	2	–	3	–	–	–	0%		0%
2008	–	–	–	–	–	–			
2009	–	–	–	–	–	–			
2010	–	–	0	–	–	–			0%
2000-2003	–	107	21	–	78	–		72%	0%
2004-2010	2	24	19	–	–	32	0%	0%	164%
TOTAL	2	131	41	–	78	32	0%	59%	78%

Table 25: Cultivated Clam Pilot – Experience by Reporting Organization Virginia - All Pilot Counties									
	Total Premium ($000s)			Indemnity ($000s)			Loss Ratio		
	Reporting Organization			Reporting Organization			Reporting Organization		
Crop Year	MJ	OW	YH	MJ	OW	YH	MJ	OW	YH
2000	264	–	–	–	–	–	0%	–	
2001	270	–	140	151	–	53	56%	–	38%
2002	349	318	4	43	52	–	12%	16%	–
2003	472	94	–	457	93	–	97%	99%	–
2004	271	105	–	349	673	–	129%	640%	–
2005	122	92	–	–	–	–	0%	0%	–
2006	220	151	–	112	–	–	51%	0%	–
2007	208	200	–	–	44	–	0%	22%	–
2008	289	271	–	–	–	–	0%	–	–
2009	211	199	–	–	228	–	0%	114%	–
2010	181	187	–	–	53	–	0%	28%	–
2000-2003	1,355	412	144	651	145	53	48%	35%	37%
2004-2010	1,501	1,206	–	462	998	–	31%	83%	N/A
TOTAL	2,856	1,618	144	1,113	1,143	53	39%	71%	37%

3.3.6 Cultivated Clam Pilot Indemnity by Cause of Loss

The following charts display the cause of loss by state. We split the data into 2000-2003 and 2004-2010 due to the significant changes in the pilot. The major cause of loss in Florida was salinity for both time periods. The 2004 crop year experienced several major hurricanes and accounts for a significant portion of the losses for this time period. Oxygen depletion is also a major cause of loss for both time periods.

The data for Figures 3 through 10 is included in Appendix E.

Figure 3

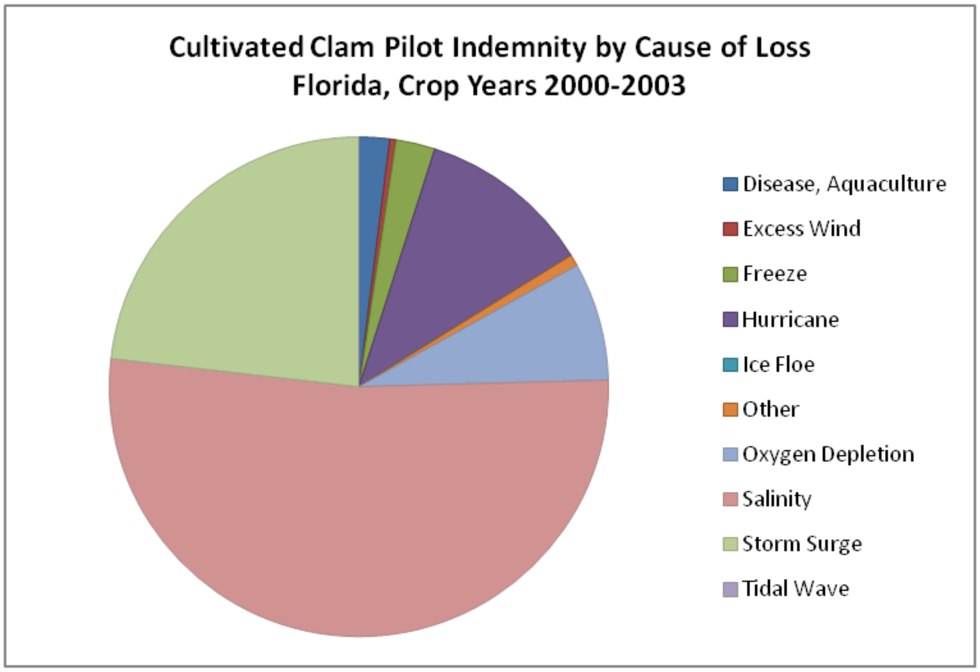


Figure 4

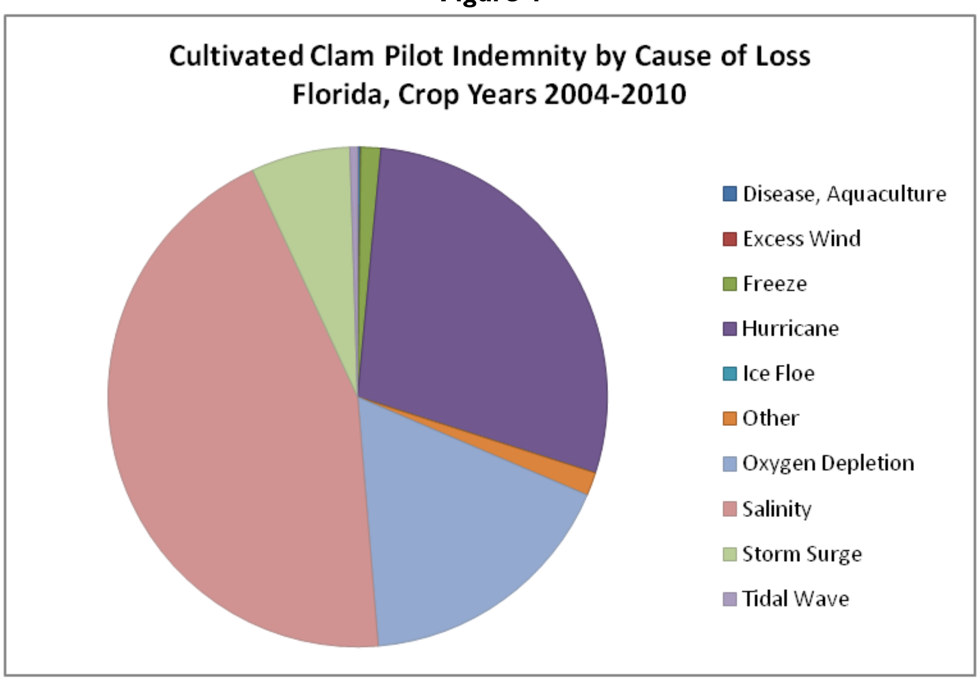


Figure 5

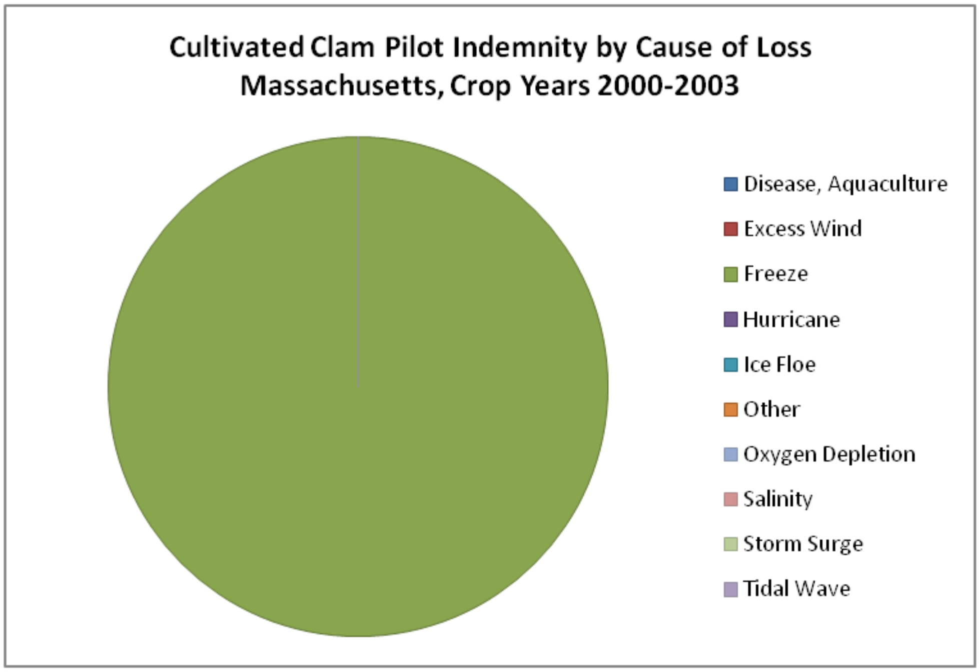
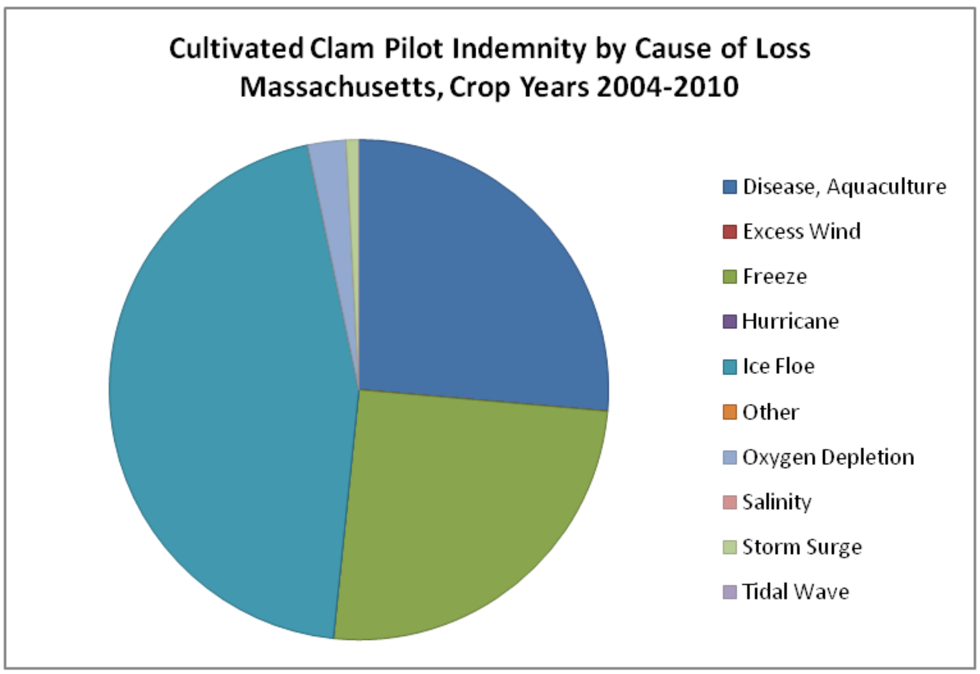


Figure 6



The major causes of loss in Massachusetts were ice floe and freeze. Disease was also a major cause of loss. There were freeze or ice floe losses in each year except for 2009 and 2010.

Figure 7

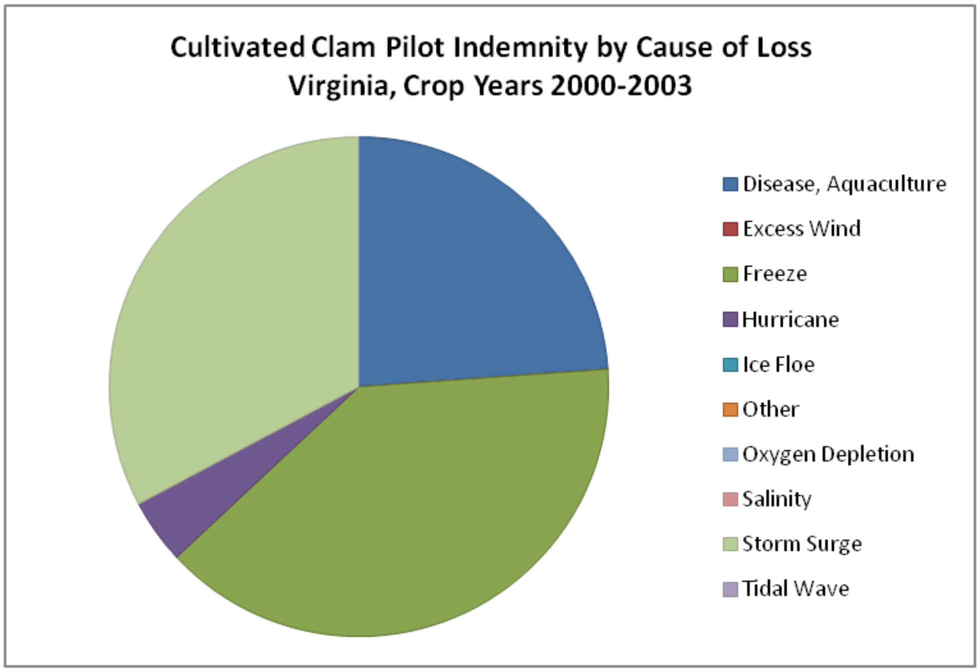
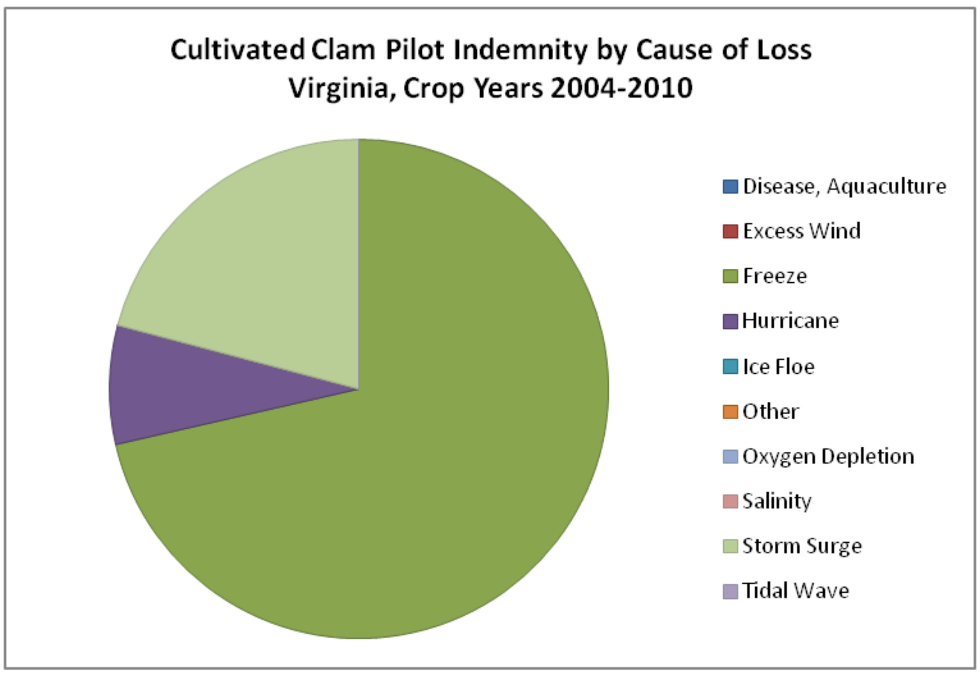


Figure 8



The major causes of loss in Virginia were freeze and storm surge. The older period also had significant losses due to disease, but after the changes in the policy in 2004 there was no indemnity due to disease.

Figure 9

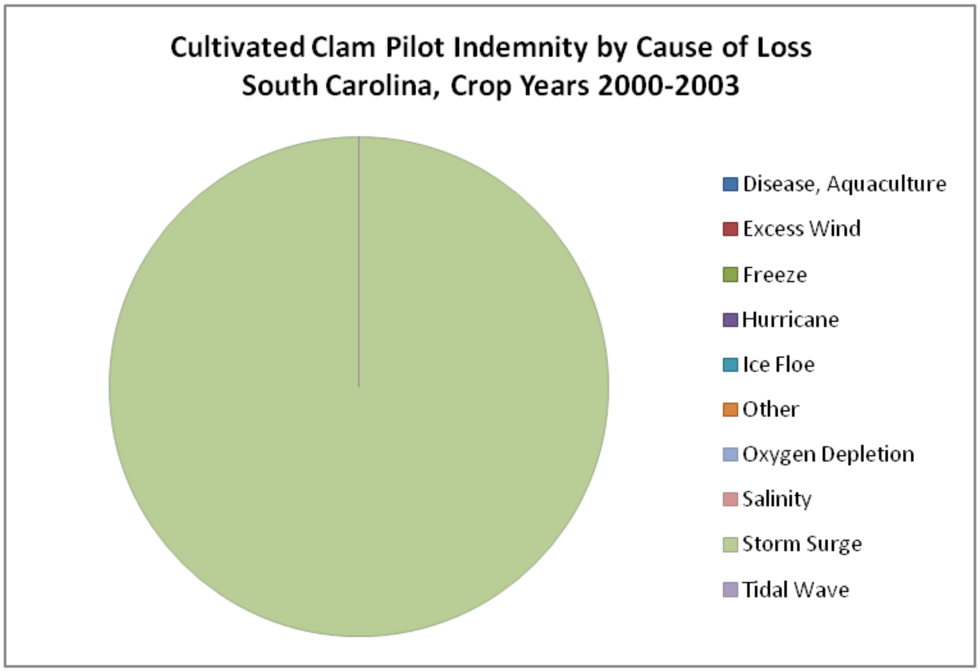
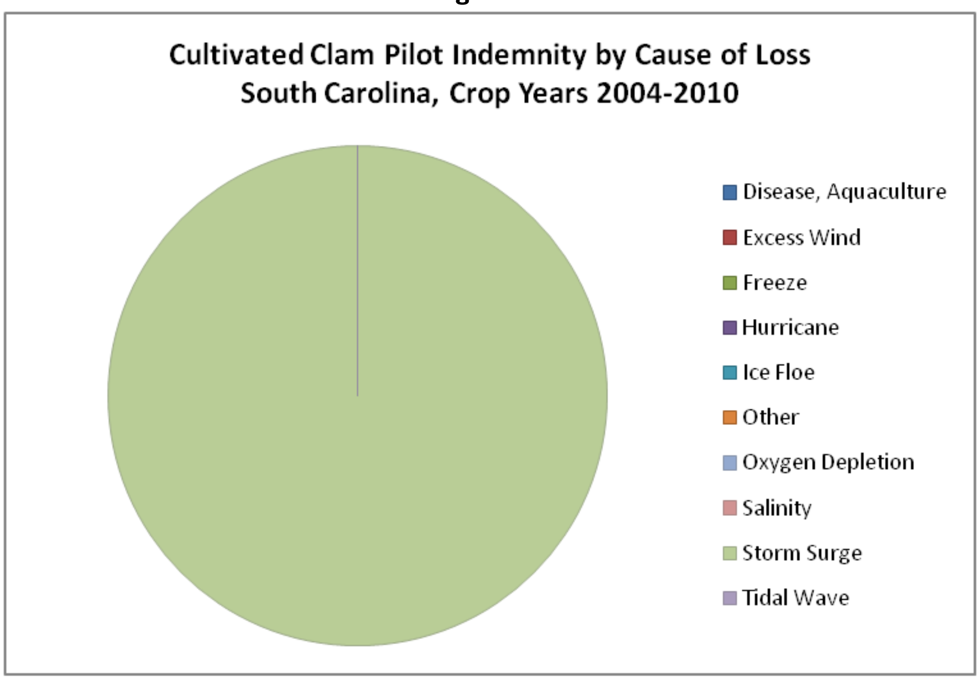


Figure 10



The only cause of loss in South Carolina was from storm surge in 2003 and 2004.

3.3.7 Cultivated Clam Pilot Indemnity Experience By State and County By Day

We reviewed the insurance indemnity experience to attempt to address the allegations of fraud within the Cultivated Clam Pilot Program. The clams are grown on leased acres that are near each other so that a weather event would likely impact most clam growers at the same time and there should be losses on a certain date rather than being spread out over the year. We graphed both the indemnity and units indemnified by day for each pilot county. The graphs are shown in Appendix D.

The units indemnified by day for selected pilot counties are shown below. The first chart for Levy County, Florida shows the large number of claims for the 2000-2003 crop years. There was an obvious problem with the program and this appears to have been changed although there were still a handful of claims being reported in the later years. The large spike in 2004 was due to the hurricanes. The large spike in 2009 was due to low salinity caused by fresh water from excessive rainfall. It should be noted these counts have not been normalized to the number of policies sold (since there are so few in most counties).

The data for figures 11 through 13 is included in Appendix E.

Figure 11

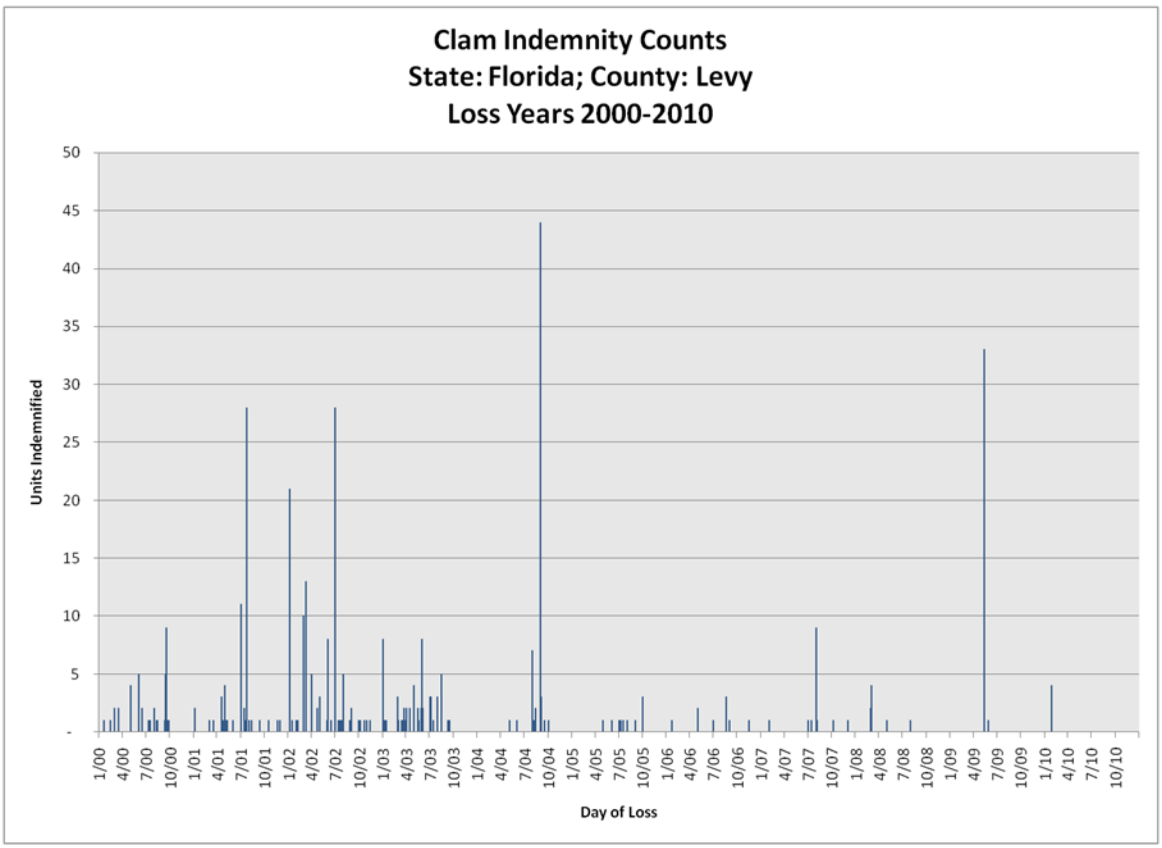


Figure 12 shows units indemnified by day for Barnstable County, Massachusetts. There are only approximately 20 policies per year. This chart shows a few claims have occurred each year. These claims were due to freeze or disease as discussed previously.

The cultivated clam pilot county with the most liabilities is Northampton, Virginia. However few claims have been paid in the pilot years after changes were made to the pilot program. We show the chart from Accomack County as possible fraud was discussed with us. Figure 13 shows that since 2004, there have been only 5 days with claims filed. Due to the differences in leases in Virginia the clams are spread further out so it would be possible for perils to impact certain leases and not others.

Figure 12

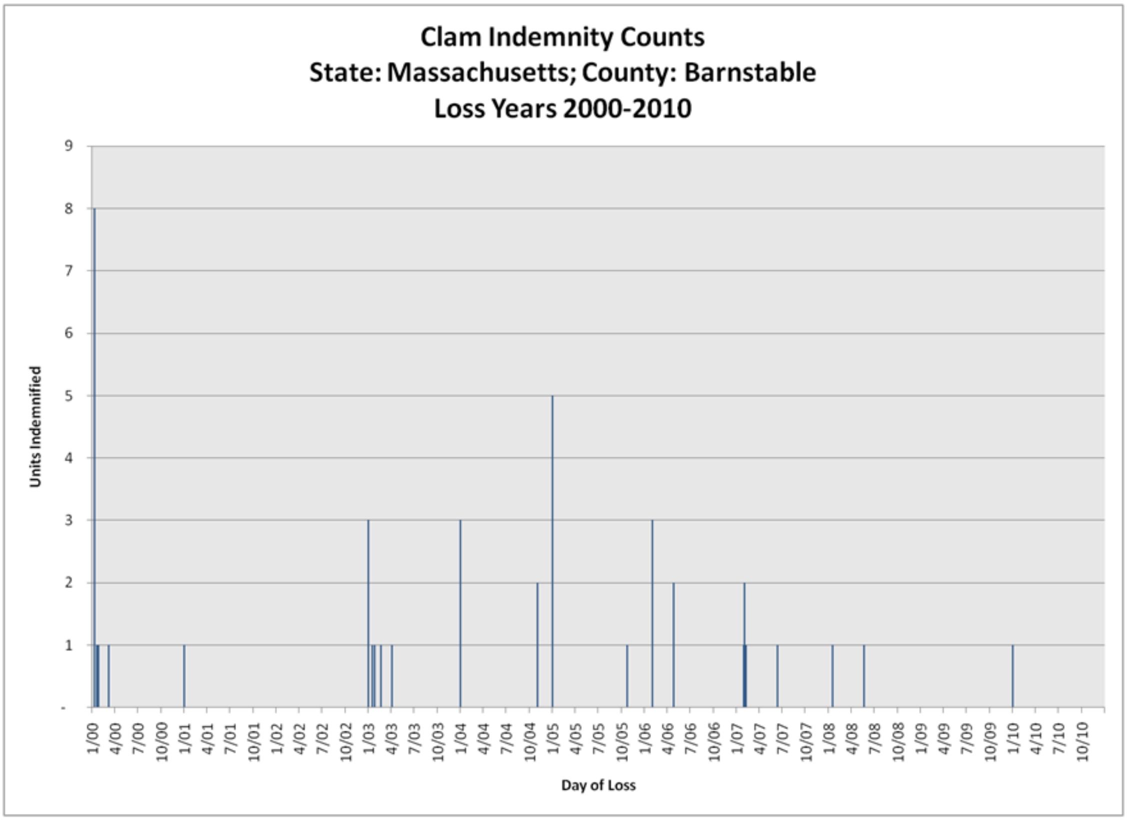
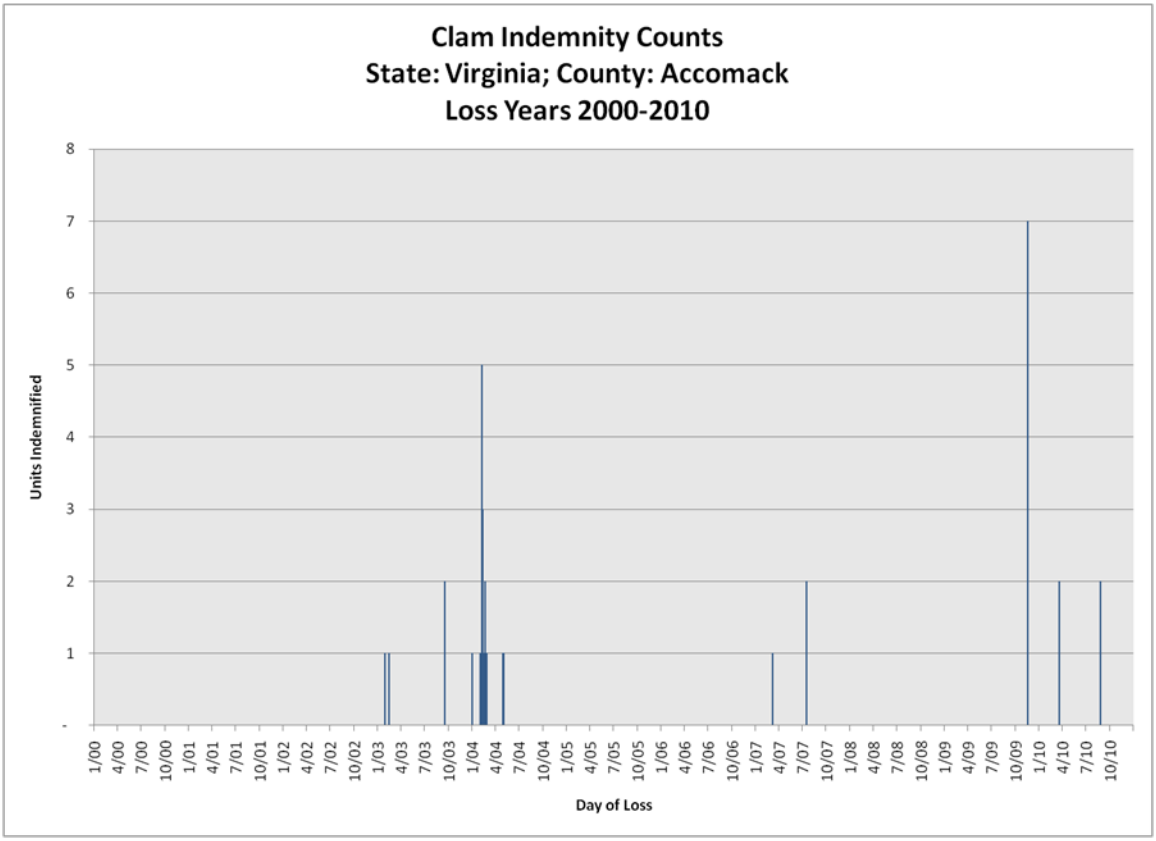


Figure 13



In conclusion, we do not see clear evidence of fraud strictly on using the data provided by RMA. Each county has a mix of single-claim days and multiple-claim days. However, the RMA database only records data when an indemnity is paid rather than reported so it is possible that many more claims are reported and then denied. But we did not hear many complaints during the listening sessions regarding unpaid claims.

3.4 Policy content and structure

The clam policy essentially provides stock mortality coverage. It is a dollar policy that relies on information on the number and density of seed clams planted, an assumed survival rate, the stage of growth of each past planting of seed clams, and a reference price. All of these can differ by region. After reviewing some basic principles of aquaculture insurance, we examine a number of ways in which industry practices are not fully aligned with the insurance plan.

3.4.1 Principles of aquaculture insurance

Aquaculture insurance serves to transfer risk from one party to another in exchange for a premium via contract. Critical challenges when reviewing crop insurance design are identifying the following:

- What perils are of concern and are to be addressed by the contract?
- How frequently are producers subject to the peril and what is the likely impact on losses?
- How does the probability of loss vary among regions, species, production systems, or different types of managers?
- To what extent are losses from the peril of one producer independent of the losses of others (idiosyncratic) or are losses likely to affect producers simultaneously (systemic)? To what extent is the impact of the peril affected by management practices?
- Are there other methods of dealing with the risk and what are their costs?

There are several important considerations when reviewing the viability of an RMA crop insurance plan for aquaculture.

- It must be possible to determine very clearly that a loss has occurred and that it resulted from an insured peril. Also, the size of loss must be measurable using accurate procedures that are acceptable to all parties and repeatable.
- Insurance can only cover losses incurred due to accidental and unintentional events. Moral hazard (behavior representing either fraud or a rational response to the availability of insurance coverage) can reduce the performance of an insurance plan. Deductibles can reduce behavior that might intentionally cause higher losses. However, it is normal to exclude a peril where management can influence the losses incurred.
- Where insufficient data is available to classify potential policymakers, it is difficult to identify appropriate premium rates. This may result in adverse selection and allow more risky operators to pay premiums that are too low and to receive high indemnities.
- Critically, the statistical probability distribution of loss is required for each type of peril. These are normally identified from analysis of data that describe the relationship between losses and perils over an appropriate time period. Such data are generally not available for any aquaculture systems or species.

- Pooling of different risks reduces the variability in losses and results in lower premiums as the incidence of one peril event can be offset against others that are not exposed to the peril.
- The willingness to pay premiums varies according to the structure of the business. An aquacultural operator who is highly geared to aquaculture revenue will be much more likely to pay for aquaculture crop insurance than one that has other crops or enterprises.
- The availability of alternative risk management tools should be considered. Individually or in combination, government disaster assistance programs (some of which are specifically designed for aquaculture), private insurance, contractual arrangements and hedging strategies may offer adequate risk coverage to some sector participants.

Operating an insurance program for clams has a number of challenges. As noted in Section 2.3.4, it is difficult to monitor the insured's behavior and the insured crop is not only underwater most of the time but buried in the sediment as well.

In the following we examine selected policy elements with respect to whether there are discrepancies between policy provisions and industry practices that create vulnerabilities or fail to serve the needs of producers. Three areas warrant discussion – the definition of the insured crop, the classification by stage of growth, and the requirement for pre-insurance inspections.

3.4.2 The insured crop

The insured crop is the *Mercenaria mercenaria* species, after planting minimum size seed, and allowing for normal mortality. In Florida there is reportedly a small amount of production of hybrids with native clam species. This may be something to consider in any future insurance program for hard clams, but for now is not an issue. If the pilot is continued we think there should be no change in the insured crop.

With regard to mortality, the default survival rates in the Special Provisions are 60% in Massachusetts and Virginia where clams grow more slowly, and 70% in South Carolina and Florida (except only 50% of planted at densities greater than 75 per square foot). Maximum planting densities in the two more northern states are 90 per square foot. Growers are allowed to prove a higher survival rate using three successive years of their own records, but few do. This might be because most have lower survival, or because they do not want to share the information, or it could just be the paperwork burden. Comments in the listening sessions were that the default survival rates are about right as averages within the wide range of normal experience, i.e. plus or minus 20% around those numbers. We found no case for changing the default rates or planting density requirements.

3.4.3 Stages

The system of growth stages with lower prices at the earlier stages has some potential for abuse. The cutoff dates and stage lengths are somewhat arbitrary. But that is inevitable unless one adopts a continuous rather than stepwise function for rates and prices. Clams grow at a more or less constant rate, but slower in the winter and faster in moderate weather when food is more available. The fact that a grower can choose to market the clams as necks at any size between 7/8ths inch and 2 inches gives him some degree of flexibility to game the insurance.

For example, smaller independent Virginia growers who do not market clams themselves sell to bigger growers or distributors for 10 cents for 7/8 inch clams and 14 cents for one inch clams. If they plant before July 16, the clams are stage 3 the next spring and get the full price of 15 cents. If one typically grows 7/8 inch clams, an insurance claim gives the grower a 50% premium over the normal selling price, not including the labor savings from not having to harvest the clams. However, there were only 8 claims in Virginia since 2004, so if there has been any abuse of this type, the incidence is quite low.

We asked about stage definitions in the listening session and the typical response was that while arbitrary, they seemed to work. No alternatives were recommended, and we would leave them as is if the pilot is extended.

3.4.4 Inspections

The issue of pre-acceptance inspections (PAI) is important to address. The underwriting guide requires a PAI at the first application by a grower and then any time that a policy is transferred to a different insurer. Thus, if a grower sticks with the same AIP, his clam beds could go for years without an inspection. For other crops it is not uncommon for AIPs to let a farmer self-certify, but then dig in and check everything through an appraisal when there is a claim. This could in theory work for clams if all other procedures were being closely followed. After all, one can only get insurance if one has already been involved in the business for 3-5 years. However, the following of all procedures is not generally the case.

The underwriting guide is not very clear about what the PAI must include. But the bigger problem has been that virtually no PAIs were being done in Florida, despite almost annual changes in the AIPs providing coverage in that state. The RMA Regional Compliance Office finally cracked down and told AIPs that there would be no reinsurance of any Florida policy in 2010 that had not undergone a PAI. This resulted in a precipitous drop in participation.

In Virginia and Massachusetts, some AIPs are requiring frequent inspections. One has an appraiser certify every planting that its clients make in Virginia. Another, for which we were provided two policy files, appears to require frequent inspections in Massachusetts but not in Virginia. These two AIPS account for 77% of the liabilities over the life of the pilot and both have aggregate loss ratios of less than 100%.

Therefore, we conclude that the requirement in the underwriting guide is the minimum that should be applicable, and that the wording should be revised to make clear that the PAI requires sampling of the beds to the same standard that is required by the loss adjustment standards handbook.

3.5 Loss adjustment standards

The listening sessions and our other investigations turned up no significant shortcomings in the loss adjustment standards or their application. They are appropriate for the alternative practices currently in use for production of cultivated clams, and are described in sufficient detail.

The claim settlement process is understandable, but some growers in Florida complained about the length of time it took. In one instance the delay made it too late to plant due to the onset of winter weather, so the indemnity had to be reported as taxable income rather than being reinvested in replacement plantings.

Loss data are reported at a level sufficient to support subsequent analyses.

If the pilot is modified and extended, we have no corrections or additions to the handbook.

3.6 Underwriting standards

We reviewed the "Cultivated Clam Pilot Crop Insurance Underwriting Guide" for 2010 and succeeding years (FCIC-24100(08-2010)). We found it to be clear and well written, and consistent with governing law and policies. The one main thing that needs to be clarified is that pre-acceptance inspections should include taking actual samples from the production site in order to certify that the clams to be insured actually exist and were planted at a rate per square foot no greater than that listed in the special provisions for each pilot area.

If the FCIC Board decides to modify and continue the pilot, we recommend making the changes to the underwriting guide listed below. These changes correct or simplify selected parts of the document, and clarify that pre-acceptance inspections must include sampling of the beds, following procedures in the loss adjustment handbook.

Section 4B: Remove the parentheses around "(B)"

Section 4B(3): In the discussion of growout, the statement that "all clams between 19 and 176 mm are considered field plant size" is incorrect. It is possible that the correct range is 1.9 to 17.6 mm, or roughly one sixteenth to three quarters of an inch. However we could not verify it from the literature.

Section 10A(2): Delete the initial "."

Section 16B: Insert the following after the second sentence: "The inspection must include sampling of the planted clams, following the procedures in Sections 5B and 6 of the Cultivated Clam Pilot Loss Adjustment Standards Handbook."

Section 21A: Delete "The crop year deductible may increase due to increases in inventory value on a revised PIVR. The increased deductible under the endorsement is applicable only during the effective period of the peak endorsement."

Section 22: Replace the existing sentence with the following: "Premium is calculated by multiplying the Inventory Value by the coverage level, premium base rate, coverage level factor, share, basic unit discount (if applicable) and proration percent."

Section 23: Delete existing section on replant payments since the special provisions for every pilot county say they are not applicable.

Section 24: Renumber as Section 23. Renumber subsections B and C as C and D, and insert the following new subsection: "B. <u>REPLANT PAYMENTS</u>: Provisions of section 13 of the Basic Provisions do not apply."

Exhibit 2: Change requirement number 17 on pages 29 and 31 to read as follows: "Determine the average planting density and the number of existing clams in each stage on each unit, following the procedures in Sections 5B and 6 of the Cultivated Clam Pilot Loss Adjustment Standards Handbook."

Exhibit 3: The space allowed for GPS coordinates on the sample Clam Inventory Value Report (and one we saw from an AIP) is clearly inadequate for the four sets of GPS coordinates needed to define the corners of a lease. They should be provided on an attachment, or in a notes section, linked to a site or lease ID.

3.7 Rating sufficiency and analysis

3.7.1 Discussion - Actuarially Sound

The objective of our review was to evaluate the actuarial soundness of the Cultivated Clam Pilot Program rating structure. In the statement of work describing this project, RMA provided the following definition:

> "Actuarially sound – For the purpose of the Federal Crop Insurance Program, a classification and premium rate determination system, where risk premium collected is sufficient to cover future losses and to build a reasonable amount of reserve."

The Casualty Actuarial Society provides the following principles with respect to insurance rates:[1]

- A rate is an estimate of the expected value of future costs;
- A rate provides for all costs associated with the transfer of risk;
- A rate provides for the costs associated with an individual risk transfer; and
- A rate is reasonable and not excessive, inadequate, or unfairly discriminatory if it is an actuarially sound estimate of the expected value of all future costs associated with an individual risk transfer.

In the following discussion, we refer to rate adequacy as the process for evaluating the overall adequacy of the rates and rating structure. The rates we reviewed are the amounts published in the actuarial documents and do not include provisions for acquisition and other expenses. The expenses are provided under the A&O subsidy which is out of the scope of this project. The RMA definition of actuarially sound as discussed above implies that the long-term loss ratio should be close to but less than 100%.

3.7.2 Cultivated Clam Pilot Insurance Experience

The following table summarizes the liability, premium and loss experience for the pilot program in the initial years and the remaining years after significant changes were made.

Table 26: Cultivated Clam Pilot Experience in $Millions

Crop Year	Liability	Total Premium	Policies Earning Premium	Indemnity	Loss Ratio
2000-2003	188.5	6.6	1,601	11.7	179%
2004-2010	179.6	5.7	1,082	6.1	108%
Grand Total	368.1	12.2	2,683	17.8	146%

It is clear from the above table that the program did not perform well in the initial years. Significant changes were made for the 2004 year that brought the loss ratios closer to the RMA target. While this could be an indication that the rates are currently adequate in aggregate, several issues remain in the overall structure of the program that impact the overall rate adequacy. We also note that many pilot counties have zero or only a few policies sold from 2004-2010. We also believe that there is not enough insurance experience for the data to be fully credible in and of itself.

[1] Casualty Actuarial Society, *Statement of Principles Regarding Property and Casualty Insurance Ratemaking* (1988).

That being said, we reviewed the following information to determine if the current rates and methodology are reasonable.

- Cultivated Clam Pilot Insurance experience by state and county,
- Changes in rates over the history of the pilot program,
- The initial and current methodology to establish and maintain the rates and rating structure.

Typically we would also review the insurance experience and rates of crops in the same counties to compare with the clam insurance experience and rates. We do not believe that this comparison is helpful in this situation because clams are grown underneath water and are exposed to different perils than the other crops. While a hurricane or freeze may damage both clams and other crops at the same time, the damage caused by a specified peril is likely to be significantly different between crops. The other crops are not exposed to salinity changes, oxygen depletion or QPX disease that clams are exposed to. On the other hand, clams would have no or less exposure to droughts and diseases that would impact the other crops in the county.

3.7.3 Cultivated Clam Pilot Rates By State and County

Table 27 displays the base rates (65% Coverage Level) for the pilot counties for crop year 2011.

Table 27: Cultivated Clam Pilot Policy Base Rates for 2011

State	Stage 2	Stage 3	Stage 4
Florida	0.127	0.103	0.082
Massachusetts - Barnstable	0.036	0.033	NA
Massachusetts - All Other Counties	0.032	0.029	NA
South Carolina	0.033	0.030	0.028
Virginia	0.033	0.030	NA

Table 28 shows how the base rates have changed over the pilot policy years for the counties with the majority of the insured liabilities.

Table 28: Cultivated Clam Pilot Policy Base Rates for Stage 3

Crop Year	Levy Florida	Barnstable Massachusetts	Virginia
2003	0.048	0.033	0.034
2004	0.105	0.030	0.031
2005	0.105	0.030	0.031
2006	0.115	0.033	0.034
2007	0.116	0.033	0.034
2008	0.116	0.036	0.034
2009	0.093	0.029	0.027
2010	0.093	0.029	0.027
2011	0.103	0.033	0.030

Since the major change in rates for Florida after 2003 there was an increase of about 10% in 2006. In 2009, there was a base rate decrease of approximately 20%. In 2011, the base rate increased approximately 11% for each state. From this table it appears that the clam rates are being reviewed in total and similar changes are being made for each pilot county.

Using the 2011 base rates we recalculated the loss ratios for the 2004-2010 crop years as shown below.

Table 29: Cultivated Clam Pilot Results Crop Years 2004-2010 - Recast at 2011 Base Rates		
State	**Actual Loss Ratio**	**Recast Loss Ratios**
Florida	148%	157%
Massachusetts	245%	233%
South Carolina	71%	74%
Virginia	54%	56%
Grand Total	108%	112%

Table 29 shows that there has not been a large impact from the rate changes, but for Florida the rate changes moved the recast loss ratios further away from 100%. The loss ratios for Massachusetts moved closer to 100%, but are still over 200%.

3.7.4 Cultivated Clam Pilot Survival Factors

The Cultivated Clam Pilot Program utilizes survival factors to adjust the number of clams reported in the inventory. The intent of the survival factor is to recognize the normal expected survival of seed clams as they grow to a marketable size. The factor is applied only once in setting the guarantee and does not enter into any loss adjustment calculations. The adjusted inventory carries through each stage until harvest. The insured has the option of using the default survival factor or using their own experience. The default factors are 70% in Florida and South Carolina and 60% in Massachusetts and Virginia. The insured must show three consecutive years of production history in order to use their own history.

We reviewed the insurance experience data to determine how many growers used their own production records. A field in the database provided by RMA indicated whether the default survival ratio was used, "A", or the grower's history, "I". The following table shows that most growers use the default survival factors. We also noted many "I" codes for both the 70% and 60% factors. These corresponded to the default factors used in each state, so we believe there were several coding errors in these records and adjusted for this.

The data shows that growers using their individual survival factors have much better experience. This is not unexpected since growers who maintain detailed records may be better growers overall. However, the relatively low volume of experience lacks full credibility. We would not recommend making a rating adjustment for using a grower's own experience. The grower will be provided with a larger guarantee. Since many growers are using the default survival factors it is possible that the default factors are too high. We do not have credible data to test these factors. In our listening sessions, many growers thought it was about right. If the plan continues we would recommend that all insureds maintain survival factors in addition to the inventory reports. We would recommend that growers keep track of all clam sales from the inventory records in addition to the plantings.

Table 30: Cultivated Clam Pilot Experience - 2004 to 2010 - Survival Factors				
Survival Flag	**Liability in $000s**	**Total Premium in $000s**	**Indemnity in $000s**	**Loss Ratio**
A	152,805	4,813	5,766	120%
I	26,808	838	310	37%
Total	179,613	5,651	6,076	108%
60% I	2,604	58	57	97%
70% I	5,383	426	251	59%
Adjusted I	18,820	353	2	1%
Percentage Adjusted I	10%	6%	0%	N/A

3.7.5 Cultivated Clam Pilot Rates By Stages

The base rates for Stage 2 compared to Stage 3 are approximately 10% greater for Massachusetts and Virginia and 20% greater for Florida. In Florida the Stage 4 base rates are 20% less than the Stage 3 rates. Table 30 displays the insurance experience by Stage for each pilot state for 2004-2010. The results are somewhat inconclusive as to whether the factors are appropriate by stage. Massachusetts' Stage 3 loss ratio is greater than Stage 2 while Virginia's Stage 3 loss ratio is much lower than Stage 2. This may be due to the small number of losses in total which lead to a lack of credibility for these rating factors.

Table 31: Cultivated Clam Pilot Experience By State By Type Code (Stage) – Crop Years 2004 - 2010						
	Stage 2		**Stage 3**		**Stage 4**	
State	**Liability ($000s)**	**Loss Ratio**	**Liability ($000s)**	**Loss Ratio**	**Liability ($000s)**	**Loss Ratio**
Florida	4,297	214%	8,022	121%	19,210	140%
Massachusetts	2,385	194%	10,000	259%	N/A	N/A
South Carolina	319	413%	714	0%	1,204	0%
Virginia	31,125	115%	102,338	35%	N/A	N/A
Total	**38,126**	**133%**	**121,074**	**59%**	**20,414**	**132%**

3.7.6 Cultivated Clam Pilot Rates By Coverage Level

The following table displays the insurance experience results by coverage level. The lower loss ratio at the 50% coverage level is indicative of the lower loss ratio for Virginia overall since the majority of clams are insured at the 50% coverage level in Virginia. Likewise, the high loss ratio for the 75% coverage level is mostly attributable to Florida experience.

Table 32: Cultivate Clam Pilot Experience By Coverage Level for Crop Years 2004 - 2010					
Coverage Level	**Liability ($000s)**	**Total Premium ($000s)**	**Policies Earning Premium**	**Indemnity ($000s)**	**Loss Ratio**
50%	101,438	2,157	486	1,458	68%
55%	1,265	37	13	197	537%
60%	45,712	1,310	119	648	49%
65%	19,356	1,089	194	1,276	117%
70%	6,013	505	156	785	155%
75%	5,830	553	114	1,711	309%

It is our understanding the coverage level factors are based on studies from crops with much more substantial data. It should be noted that since the majority of clam insurance in Virginia is sold at a 50% coverage level (see Section 3.3.3) this may be why there have been so few losses. A comparison of coverage and premium charged to a farmer in Virginia helps explain why most coverage is bought at the 50% level:

Table 33: Cultivated Clam Pilot Example	
Clams Planted	1,000,000
Survival Factor	0.6
Remaining Clams	600,000
Base Rate	0.030
Price Per Clam	$0.15

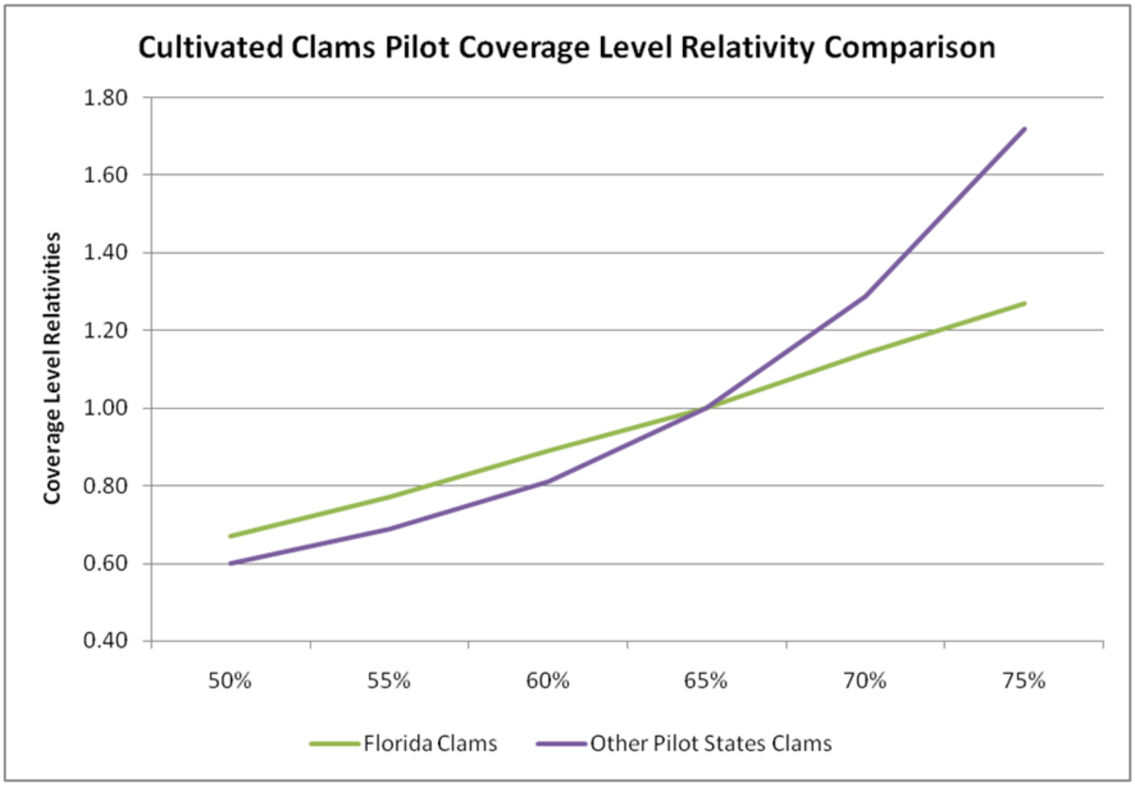
Table 34: Cultivated Clam Pilot Rating Example				
50% Clams Insured	300,000		75% Clams Insured	450,000
50% Coverage Level Factor	0.60		75% Coverage Level Factor	1.72
50% Subsidy	0.67		75% Subsidy	0.55
50% Premium Paid by Farmer	$267.30		75% Premium Paid by Farmer	$1,567.35
Premium per 100 clams	$0.09		Premium per 100 clams	$0.35

A farmer with a 50% coverage level would pay 9 cents per hundred clams for insurance, as shown in Table 33. If the farmer instead selected a 75% coverage level they would pay 35 cents per hundred clams. The additional premium for the 75% coverage level would be $1,300.05 ($1,567.35 - $267.30). The marginal costs for insuring the additional 150,000 (450,000 – 300,000) clams would be 87 cents per hundred clams ($1,300.05 / 150,000). While the additional insured clams would be first to receive an indemnity in case of a loss, the additional amount of premium for this coverage may be perceived to be too high for most growers.

We compared the coverage level relativities for Florida to those in the other states. Figure 14 shows that there is a large difference in the relativities at the 70% and 75% coverage levels between the states. It is typical for other crops with larger base rates to have flatter relativity curves, but these seem much higher at the 70% and 75% coverage levels than for other crops.

The data for Figure 14 is included in Appendix E.

Figure 14



It is not clear how the coverage levels were established. The relativities appear to be the same since the program began except in Florida where they were reduced after base rates were increased in 2004. Since most policies purchased have a 50% coverage level, but are not CAT, it would be difficult to conclude that changes to the higher coverage level relativities would have a significant impact on program experience.

3.7.7 Cultivated Clam Pilot Rate Methodology

It is unclear how the initial rates were established as the previous evaluation did not specifically review the initial rating methodology. However, the previous evaluation was performed after the significant changes were made to the pilot program so the initial rating methodology is somewhat irrelevant to this evaluation. RMA sent the following email regarding the rating methodology for the cultivated clam pilot program:

> *The clam program is still relatively new given the significant policy changes that occurred for the 2004 crop year rendering previous experience useless with respect to the formal methodology for determining target rates. For the 2004 crop year, an effort was made to take the data up until that point and restate it based on the new facets of the policy in order to estimate suitable rates. Since that time, rates have undergone cursory reviews to evaluate whether or not there was enough new information to warrant updates. The annual data is typically feast or famine, either a huge LR or LR of zero. Thus far, the big swings in program performance have typically led us to leaving the rates alone to avoid a*

> *roller coaster effect of rate increases and decreases based on the extremes. Aside from a few minor rate changes, most rates have remained constant for clams.*

The Regional Offices prepare an annual pilot program checklist for the Cultivated Clam Pilot program in conjunction with the Program Manager from RMA. We were provided these for 2006 through 2009. These checklists summarize the insurance experience for the pilot program and also compare the loss ratio to other crops in the pilot counties. We note that nothing was mentioned about the base rate changes in these checklists.

3.7.8 Cultivated Clam Pilot Rating Summary

Overall, the program appears to be performing at a reasonable level since the 2004 changes. However, the low participation since 2004, coupled with the generally concentrated geographic profile of the insureds, leaves the program susceptible to significant variation in loss ratios from year to year. The catastrophic nature of the program has a few years with very high loss ratios and many years with low loss ratios. This extreme variability results in an insurance experience database that has little credibility. When insurance data lacks credibility, actuaries will generally rely on other approaches to develop rates. These other approaches may include:

- Utilizing premium and loss experience from similar products, and/or
- Modeling the claims based on underlying risk characteristics of the exposure.

In our judgment, neither of these approaches will produce reliable rates for clams. As discussed earlier, clams appear to be uniquely different from other crops for which RMA has insurance products. The loss experience suggests that the crop is susceptible to catastrophic weather events, but the probability of these events differs geographically. Further, there is little credible information to assess the severity of loss associated with an event if it occurred. The amount of loss is also influenced by the farming practices of each individual grower, as well as by the location of the beds. Because of the many variables and the absence (to our knowledge) of data that measures the mortality risk of various hazards, we conclude that modeling will not produce reliable rates.

This leads to the use of underwriting judgment in developing rates, and that appears to be the approach RMA has used. While judgment is clearly important in the absence of credible data, we would recommend that RMA develop a framework for rate changes based on long and short-term performance (loss ratios) of the program. We believe there should be documentation, perhaps included in the annual pilot program checklist, when rates are changed.

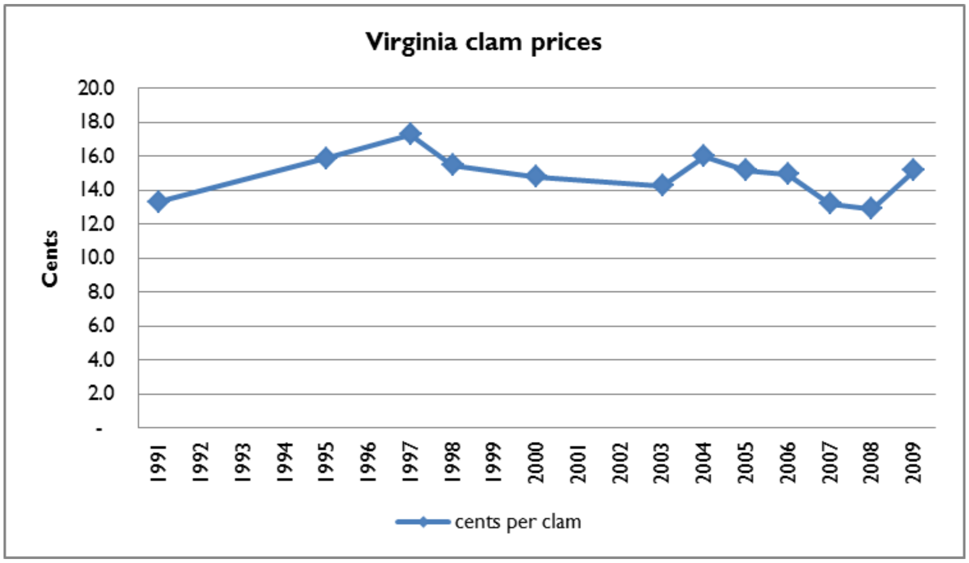
3.8 Pricing analysis

Published price data on hard clams is scarce and may get scarcer. The only quotations readily available are from the New Fulton Fish Market in New York, but that institution is reportedly on the verge of liquidation. For now, the Urner Barry Seafood Price Current continues to publish quotations each Tuesday and Thursday for littleneck, topneck, cherrystone and chowder clams. The quotations are per bushel and usually reflect a range of a couple of dollars. Thus for a bushel of littlenecks, about 400 clams, a recent price of $88 per bushel works out to 22 cents per clam. Topnecks are 200 to the bushel so a $40 price is 20 cents per clam.

Our understanding is that RMA has used a moving average of this data, adjusted for historic differentials among locations, and confirmed with trade sources, to set reference prices for the pilot program. We could not find any alternative. The historic data from that source do not show a great deal of variation year to year. That is also the case with the data collected by the Virginia Institute of Marine Science. Figure 15 shows the average price in the state typically at about 15 cents, plus or minus two cents. The current RMA method of setting reference prices is probably the only alternative.

The data for Figure 15 is included in Appendix E.

Figure 15



3.9 Plans of insurance

3.9.1 AGR and AGR-Lite

In our research we found no competing private insurance for cultivated clams. The other FCIC programs that are available to clam growers are AGR and AGR-Lite. AGR is only available in the Massachusetts and Virginia pilot counties as well as Levy County, Florida. AGR-Lite is available in every pilot county. AGR has three major restrictions that would impact participation by clam growers:

- Have had same tax entity for seven years (filed five consecutive years of Schedule F tax forms plus previous year and insurance year) unless a change in tax entity is reviewed and approved by the insurance provider,
- Earn no more than 35 percent of expected allowable income from animals or animal products, and
- Purchase traditional Federal insurance if more than 50% of your expected income is from insurable commodities.

AGR-Lite has fewer eligibility restrictions than AGR. The major differences for clam growers are:

- Eliminating the restriction of 35 percent of expected allowable income from animal or animal products, and

- Removing the requirement to purchase Federal insurance if more than 50% of your income is from insurable commodities.

AGR-Lite has a more restrictive liability limit of $1,000,000 compared to AGR which is $6,500,000. There were 40 clam policies with liabilities greater than $1,000,000, which was 1.5% of all policies. However, these policies accounted for about 25% of the total clam pilot premium. The liabilities may not be directly comparable since clams grow for more than one year.

We received detailed policy records for AGR and AGR-Lite in connection with another project and only one clam farmer used AGR-Lite in one year. We compared the rates between the two programs and it is obvious why a clam grower would not buy AGR-Lite rather than clam insurance. The producer premium rates for AGR-Lite are between 250% and 350% greater than the clam pilot producer premium rates for Virginia and Massachusetts.

Table 35: Cultivated Clam Pilot Comparison of Producer Paid Rates to AGR-Lite

	Virginia – Northampton		MA – Barnstable		Florida – Levy	
	75% CL	65% CL	75% CL	65% CL	75% CL	65% CL
Clam Pilot	0.020	0.011	0.022	0.012	0.042	0.030
AGR-Lite	0.079	0.047	0.079	0.047	0.098	0.075
% Greater	295%	340%	259%	300%	133%	146%

It should be noted that the commodity rates for AGR-Lite are referred to as "Fish/Aquaculture" in Virginia and Massachusetts. There is a separate "Clam" commodity in Florida for AGR-Lite.

3.9.2 NAP program

In the absence of an FCIC clam policy, growers are eligible for the Farm Service Agency's Non-insured Crop Disaster Assistance Program (NAP). The cost is $250 per crop, payable at the time of application. As with CAT coverage, the grower must have a loss greater than 50% to get an indemnity. Then for losses over that threshold he can receive 55% of the average market price. There is a payment limit of $100,000 and producers with gross revenue greater than $2 million are ineligible.

3.10 Data acceptance requirements

In the course of our analysis of the program experience data, we encountered no incompatibilities between the formulas, calculations and equations used for the various program reports and the Appendix III data reporting requirements. While some records had what would be considered outliers, we were able to reconcile all our calculations to RMA's Summary of Business.

3.11 Program acceptance

The listening sessions and other interviews undertaken as part of the industry research provide the best assessment of program acceptance. A report of the outcome of the listening sessions is included as Appendix A: Listening session comments.

Acceptance is mixed. Those who attended the listening sessions in Florida and Virginia were knowledgeable about the program and most wanted to see the pilot extended and saw no big market issues if it were to be expanded to other states and counties. However, Florida growers were very unhappy about inspections and if those are continued many will not use the program.

We could not get a good reading on Massachusetts growers, who were not very forthcoming at the listening session. In South Carolina, both awareness and understanding of the pilot were poor to nonexistent. The head of the Shellfish Growers Association has been raising clams for 20 years but never heard of it.

We frequently heard that the pilot insurance plan had had an impact on market prices because of the encouragement of clam production in Cedar Key. When the pilot was launched, the Florida state government was also encouraging development of a clam industry to absorb the fishermen who had lost their livelihood due to a fishing ban. The combination of incentives and insurance resulted in additional clams being produced and marketed.

A secondary impact is related to the allegations of fraud in Cedar Key. Those who were said to be taking advantage of the program by filing unwarranted indemnity claims were also said to be still harvesting the clams and selling them under the table at discounted prices, and undermining the normal market price.

Florida clam producers outside the pilot counties wanted either to also be eligible for the insurance plan or to see it terminated because it was putting them at a competitive disadvantage.

The insurance provisions place limits on planting density that seemed to go unenforced in Florida. Planting 1,400-1,500 clams per bag was reported at the Cedar Key listening session to be common practice. The limit for insurability is 1,200.

These problems notwithstanding, we do think the pilot plan's model is an appropriate plan of insurance for cultivated clams. It is just challenging to implement and manage.

3.12 Program delivery

3.12.1 Overview

This has been a challenging program for the insurance companies to deliver. Some of the large companies have stuck with it due to their commitment to be national providers of these FCIC products. But for agents and adjusters accustomed to dealing with field crops, fruits and vegetables, and a little bit of livestock coverage, cultivated clams were an entirely different proposition, as discussed in more detail elsewhere in this report.

After the initial flurry of activity and interest, insurance companies seem to have stopped any aggressive marketing of the product, and often as not, have been happy to have as little to do with the pilot as possible. Most of the liability continues to be placed in the assigned risk pool.

3.12.2 Review of policy files

RMA provided us with two of the requested five policy files. The other three were apparently not forthcoming from the AIPs from which they had been requested. Both files were from RCIS, one from Virginia and one from Massachusetts. We reviewed both files and our comments on them are as follows:

Insurer: Rural Community Insurance Services
Insured: Ballard Fish & Oyster Co., Inc. DBA Cherrystone Aqua Farms

Cherrystone Aqua Farms is the largest cultivated clam producer in Virginia. Under a cooperative agreement, the company provides seed to contract growers who plant, grow, and harvest the clams, which are then delivered to Cherrystone, which markets them. Cherrystone also grows its own clams. For 2011 the group is insuring plantings of approximately 240 million clams. The number of clams sold in Virginia in recent years has averaged below 200 million.

Gross revenue is split by a 60:40 formula between Cherrystone and the growers. They get 50% buyup coverage and the premium is shared in accordance with the same formula.

The 267 pages of material provided by RCIS included the following:

- Initial application for 2000 from 10/29/99.
- Legal correspondence from 11/22/99 regarding the respective insurable interests of Cherrystone and its contract growers.
- A file note from 12/2/99 on agreement with RMA that optional units would be allowed for each individual share with optional units within each share by noncontiguous lease. Cherrystone to handle insurance transactions for its contracted growers.
- Documentation of seed planting, harvests, prices and survival rates for 2000-2004 for various growers.
- Documentation of 2011 coverage for a total of 61 units among 16 growers.
- Documentation of 2010 coverage for 40 units among 18 growers.
- Documentation of 2009 coverage for 45 parcels in 2 units among 18 growers.
- Documentation of a 2009 claim for disease (QPX), with pathology report, appraisal, and withdrawal of claim after clam population per foot exceeded the 80 clam threshold.
- Documentation of 2008 coverage for 39 parcels in 2 units.
- Documentation of single 2007 GPS readings for various plats/leases.

For 2011, there was a signed clam inventory value report for each of the 16 growers with coverage plus one grower with no clams. Each is signed by a Cherrystone employee rather than the insured. Cherrystone has 3 units of Stage 2 clams. Each of 13 contract growers reported all Stage 2 clams as a single unit. All but one grower had multiple Stage 3 units, and that grower had no Stage 2 clams.

The general picture was the same for 2010, but for the prior two years there were apparently only two units, one for Cherrystone and one for the contract growers. This is odd because optional units have been permitted for separately named creeks on the bay side and leases at least a mile apart on the sea side throughout this period.

There are seven areas of concern.

1. The Special Provisions require that GPS readings be taken for each corner of a lease or parcel. The RCIS file has only a single reading per lease.
2. Maps of leases with location of plantings would be useful, although they may not technically be required. There was only one map of a lease location in the file.
3. We have some concern that the contract grower does not sign the inventory value report.
4. Planting dates are frequently shown as a date range or as either July 15 or July 16 for stage differentiation purposes. This does not permit enforcement of the 3-year end of insurance. Growers may well have the necessary information, but it is not in the file.
5. There are no pre-acceptance inspections for what appear to be new contract growers, although it is possible that entities changed names. Whether there were ever inspections for any grower is not evident because we do not have the earlier years.
6. One error for 2011 is that Charles Robbins is designated as Stage 3 but has a 7/16/10 planting date.
7. There are never any reports of additions to inventory, which seems implausible for an operation this size.

Overall, RCIS appears to be relying on being able to access the growers' records of planting and harvesting at particular locations after the fact in the event of a claim. This is a potential area of vulnerability. However, it may not be any different than the situation with corn and other field crops, where the AIP is relying to a great degree on self-certification by the farmer that he planted certain fields on certain dates, or applied crop protection chemicals at particular rates on particular dates. The company and associated growers are clearly aiming at a modest degree of protection if there is a catastrophic event like a hurricane. We conclude that the insurance agent is following the underwriting guidelines in spirit, but not in fact.

Insurer: Rural Community Insurance Services
Insured: Robert Ashworth

Ashworth farms on a two acre lease that his spouse has in Barnstable Harbor. The 118 pages provided from his policy file go back to a claim for ice floe damage filed in 2007 but do not contain the original 2007 policy information. A state fisheries specialist certified that ice was abundant from mid-January to late February in 2007. The appraiser who investigated the claim in October 2007 also completed a pre-acceptance inspection for 2008. This included sampling the grower's 2004, 2005 and 2007 plantings and determining that there were 502,731 clams in the 2007 planting. The PAI form's question 25 – "Are the areas susceptible to excessive silting?" was answered in the negative.

The initial indemnity calculated by the appraiser was $12,923. This was recalculated to $18,605 when the claims administrator "was informed that the CAT price adjustment is to be made on the front end (i.e. on the Appraisal Worksheet) and not in Box 33 on the Clam Production Worksheet." Why the latter had Box 33 CAT Adjustment is therefore not clear. The form was not changed in subsequent years. Total indemnities for ice flow damage in the county that year were $48,167.

The applications for 2008-2011 include Clam Inventory Reports and copies of the town aquaculture license for the two acres that are leased. The letter includes the GPS coordinates of the lease.

A June 2008 invoice is included for 500,000 seed clams. A PAI for 2009 included sampling of the 2008 plantings (with an estimated 453,024 clams) and a more extensive resampling of the 2007 plantings, showing a larger planted area and total clams at 565,226. The larger area was due to the inclusion of previously uninsurable beds after the grower spread out clams to additional nets to get down to the acceptable planting density. The November 24 PAI form for 2009 again indicates that the lease is not susceptible to excessive silting. A December 2 file note from the adjuster says: "Insured stated that he wished to cancel his policy for 2009; that same confirmed by agent. No 2009 PAI is needed."

Subsequently, 2009 policy materials are included in the file with signature dates in November 2008 but other date markings in December, indicating that this may have been put into effect after the November 30 sales closing date. The only copy of a signed application for 2009 has a fax header on it with the insured's company name and a date of February 1, 2011. The files were provided to Promar by RMA on February 9, 2011. No claim was filed for 2009 so it is not clear why the agent thought it necessary to show a policy in place for that year.

The signed 2010 application has the same 2011 fax header. The Clam Inventory Value Report is signed and dated November 30, 2009.

On September 15, 2010, the insured reported a loss due to oxygen depletion. The appraiser inspected and sampled the beds on November 6 and calculated an indemnity of $18,658. The extension agent provided a letter on November 5 which is reproduced on the following page. There are basic problems with this situation:

- The applications for both 2009 and 2010 appear to have been added to the file in 2011.
- The PAIs had indicated that the lease is not subject to excessive siltation, and there were no other claims in the county for any cause in 2010.
- The extension agent discusses siltation during the winter when beds are less accessible, and that would be discovered in the spring. Filing a claim in September indicates that the grower was not following good farming practices by inspecting and maintaining the beds. The letter does not provide a candid assessment of the situation.
- Siltation is not a cause of loss under the policy.
- Oxygen depletion is a cause of loss but not applicable here based on the definition of causes of loss in Section 13A(1) of the underwriting guide: "Oxygen depletion due to vegetation, microbial activity, harmful algae bloom, or high water temperature unless otherwise limited by the Special Provisions."

It appears to us that, if there was indeed a valid policy in place, the claim should have been denied.

On the plus side, the appraiser does a workmanlike job throughout the period, and RCIS is doing pre-acceptance inspections, even though they are not formally required each year.

Figure 16: Letter regarding Massachusetts claim

Diane C. Murphy
Fisheries & Aquaculture Specialist
Woods Hole Sea Grant
& Cape Cod Cooperative Extension
PO Box 367
Barnstable, MA 02630 USA
508 375-6953
dmurphy@whoi.edu

November 5, 2010

Leo Dalbec
RCIS Claim Adjuster

Dear Mr. Dalbec:

I am writing to remark upon the effect of siltation on clams under netting. This is a possible cause for the recent mortality observed on Robert Ashworth's shellfish farm in Barnstable. I am the Fisheries and Aquaculture Specialist for Cape Cod Cooperative Extension and Woods Hole Oceanographic Institution Sea Grant, and specialize in shellfish management and culture. I have worked with shellfish in the region for over ten years.

Barnstable Harbor experiences wide fluctuations in sediment transport as evidenced by numerous bars and channels that shift their positions throughout the seasons. Aquacultured clams which are typically held beneath netting are vulnerable to siltation. The netting creates a small disturbance to the overflowing water currents and traps the sand, not unlike a snow fence. If enough sand settles out from the water column and over the netting it becomes increasingly difficult for clams to extend their siphons to reach water and farmers proactively take measures to remove this excess sediment. The net barrier and deepening sand will eventually 'smother' the animals. During the winter season farmers visit their clam farms less frequently due to the weather and ice. Sedimentation events may come and go during this time without the farmer ever being aware and these events may occur over a very short time period. The subsequent mortality from 'buried' clams will only be evidenced the following spring when clams are harvested.

RCIS/W-S, NC
NOV 12 2010
Received

Sincerely,

Diane C. Murphy

Diane C. Murphy

Fisheries & Aquaculture Specialist
Woods Hole Sea Grant
& Cape Cod Cooperative Extension

SECTION 4: UNPUBLISHED DATA REPORT FINDINGS

Standard analysis of records is appended at Appendix C. All additional analysis and tables are included in others parts of this report.

SECTION 5: RECOMMENDATIONS

5.1 Recommendations that affect statutes

We have no recommendations requiring statutory changes.

5.2 Recommendations that affect regulations

With regard to regulatory changes, our primary recommendation is that the pilot program be terminated.

Our assignment in this evaluation was to recommend whether the pilot program should be modified and continued as a pilot, terminated, or converted to a permanent program. We will first review the arguments for those courses we have not recommended and then explain why we have recommended termination of the pilot.

5.2.1 Conversion to a permanent program

This pilot will be in its twelfth year of operation in 2011, the final year currently authorized. During the first four years the average loss ratio was quite high at 179%. Changes implemented with the 2004 crop year addressed a number of problems with the initial design, and the loss ratio has averaged 108% for 2004-2010. That is a positive development but there are two factors that prevent us from recommending that the pilot be converted to a permanent program.

First, participation has declined every year since 2002. By 2005 there were 202 policies earning premium. The Census of Aquaculture for that year showed 276 farms producing market-size hard clams in the four pilot states, so 73% of those farms were covered. The percentage was necessarily higher in the pilot counties. By 2009 the policies earning premium had dropped to 107, and in 2010 to fewer than 75.

Second, there continue to be allegations of fraud, particularly in Florida. The nature of aquaculture is that the stock of animals is difficult to count, so determining stock mortality – the basis of this dollar insurance plan – is inherently challenging. In the case of hard clams, there continue to be vulnerabilities to abuse of the insurance coverage according to input from the listening sessions.

Clams of this type are also produced in other parts of Florida as well as in Connecticut, New Jersey and North Carolina. There would clearly be some interest among growers in those areas in having access to insurance coverage. However, we cannot recommend conversion to a permanent program given the pilot's trajectory and its vulnerability to abuse.

5.2.2 Modification and continuation as a pilot

For the same and related reasons, we cannot recommend continuation of the current pilot with modifications. We do not think that modifying plan provisions would increase participation rates. In Massachusetts there is no participation in four of the five pilot counties. In South Carolina there were no participants at all in 2008 or 2009, and only one last year. This is despite very low out-of-pocket premiums in all states except Florida. With continuation, we would recommend dropping Florida from the pilot due to concerns about fraud. That would leave only Virginia, where the program is well supported, plus a few policies in Massachusetts where growers have been lukewarm about it.

Participation in Florida dropped sharply in 2010 after RMA appropriately required pre-acceptance inspections for every policy. Eliminating the requirement for such inspections would probably cause participation to recover in that state, but we believe it would result in higher loss ratios. The insurance companies that have been successful at controlling losses mostly require that plantings be certified by an adjuster more often than dictated by the underwriting standards for the pilot.

One reason the pilot has not been successful is that it is both challenging and expensive for the AIPs to administer. Most, if not all, of the liability is reportedly placed in the assigned risk pool. The A&O expense allowance also may not be adequate to cover the companies' actual costs. Thus the incentive to market the plan has been weak. This will not change with plan modifications.

We did give consideration to two other factors. First, RMA has commissioned a research study on the feasibility of insuring bivalves, including oysters, mussels and clams. That might argue for continuing the pilot for another year or two pending the results of that study. But while it is conceivable that some recommendation might emerge with respect to clams that would involve a modification we have not considered, we think it is unlikely.

Second, the two AIPs that have written the most coverage have cumulative 11-year loss ratios that are below 100%, suggesting that it is possible to run a successful program. However, this is entirely due to results in Virginia and does not imply that a geographically broader program can succeed. The Virginia results are attributable to the larger scale of growers in that state, the propensity to buy just 50 or 60 percent coverage, and the requirement by at least one insurer that every planting be inspected by an adjuster.

While we are not recommending modifying and continuing the pilot, if the FCIC Board were to decide to continue the pilot, we would recommend the following main modifications:

- Drop the state of Florida from the pilot program.
- Clarify in the underwriting standards that pre-acceptance inspections must include sampling of the plantings following procedures in the loss adjustment standards handbook.

5.2.3 Termination

We recommend terminating the Cultivated Clam Pilot Crop Insurance Program after the 2011 crop year. There are four reasons:

- Participation has steadily declined and has now fallen to a level that cannot sustain a viable program.
- There continue to be allegations of fraud, particularly in Florida but in other states as well.
- This first program for an aquaculture crop is challenging and expensive for AIPs to operate.
- We do not find any potential program modifications that could be anticipated to either improve the performance of the program or increase grower participation.

If the pilot is terminated, clam growers will have access to the Farm Service Agency's NAP program which can provide a degree of catastrophic protection. The AGR-Lite program is also available in all the pilot counties and can provide good insurance cover for those growers with five years of tax records, although at a higher cost in premiums.

5.3 Recommendations that affect actuarial documents

5.3.1 Special Provisions of Insurance

We have no recommended changes.

5.3.2 FCI-35 Coverage and Rates

We have no recommended changes.

5.4 Recommendations that affect program materials

If the pilot were to be modified and continued, we recommend a number of revisions to the underwriting guide to correct or simplify wording and to clarify that pre-acceptance inspections must include taking actual samples from the production site, following procedures in the loss adjustment handbook. The purpose is to certify that the clams to be insured actually exist and were planted at a rate per square foot no greater than that listed in the special provisions for each pilot area. Some insurers already do this annually, but at a minimum it must be done for an initial application or whenever the policy is transferred to a different insurance company.

5.5 Impact analysis

5.5.1 Impact on government costs

Termination of the pilot would be the least cost option for the government. On the cost side, we estimate that a total of one person month would be required to implement the termination. On the savings side, current staff resources devoted to managing the pilot would be freed up but we do not have an estimate of the person months involved.

If the Board were to decide to modify and continue the pilot, we estimate that a total of three person months would be required. In both cases this takes into account the personnel doing the actual work, those with supervisory responsibilities for reviewing and approving that work, and those tasked with communicating the changes to insurance providers.

5.5.2 Impact on insurers

Insurance providers would lose a source of potential revenue if the pilot is terminated. If 2010 participation remains representative, with its total premium of about $520,000, the companies collectively would lose potential A&O revenue of $114,000 but have a small offset for lower liabilities if the loss ratio remains above 100% (assuming they continue to put most of these policies in the assigned risk pool).

5.5.3 Impact on clam producers

Those growers who produce cultivated clams would lose a valuable risk management tool. Without the pilot program, their next best option would be either FSA's NAP program or AGR-Lite. The NAP program has much lower levels of coverage and a maximum indemnity of $100,000, but it also costs next to nothing. The AGR-Lite policy has a much higher liability limit of $1,000,000 but it is more expensive.

APPENDIX A: LISTENING SESSION COMMENTS

Listening sessions were held in Florida, Virginia and Massachusetts. We were unable to schedule a session in South Carolina, the fourth pilot state, due to lack of interest. However, we did interview selected producers by phone. The listening sessions and other input from producers and agents by phone or email are summarized below.

a) Florida listening sessions

During December 2010, two listening sessions were scheduled in Florida with the advice and help of the Multi-County Shellfish Aquaculture Extension Agent at the state's Cedar Key Marine Field Station. One was scheduled for January 5 in Sebastian on the Atlantic Coast, and a second the following day in Cedar Key on the Gulf Coast. This made it feasible for growers in all four pilot counties to attend a listening session without an undue amount of time spent travelling to the session.

We contacted the Florida Department of Agriculture's Division of Aquaculture and they were able to provide us with contact information for all of the 360 certified clam growers, including hatchery and nursery as well as lease holders. We mailed each of them a letter inviting them to the listening sessions, and provided the Extension Agent with an appropriate notice that was placed in the local newspaper for Cedar Key. In addition, we contacted five of the insurance companies that had been identified as participating in the program: John Deere, Great American, Rain & Hail, Hudson and RCIS. We provided them with notice of the listening sessions. We also contacted NCIS staff who forwarded the notice to the group of insurance representatives that had been dealing with recent clam pilot issues such as pre-acceptance inspections. Despite this, no insurance company representatives attended either session.

Prior to the listening sessions we prepared a one-page summary of program experience showing overall results by year, summary results by state and pilot county, and yearly policies earning premium and loss ratios for the four Florida counties. We also prepared a one-page "customer satisfaction questionnaire" to solicit additional feedback at the sessions.

Sebastian listening session (January 5, 2011)

The session was held at the Best Western. We had low expectations about attendance due to the apparent decline of the industry on the Atlantic coast after a 2004 hurricane and the small number of participants in the pilot program. However we had five people show up and they were all quite forthcoming. Two were growers, two were nursery but had experience as growers, and one was primarily a seed producer and breeder. Two RMA staff were also present.

One participant was a large grower with 34 acres of leases. He was insistent that he would get out of the business if there was no insurance available and strongly recommended continuation of the program. He was the only one of the five using the insurance, and rated it very favorably. "The insurance payments can allow you to restart after a big loss, but it then takes you 18 months to get back on your feet."

The others mostly thought the program should continue but only "if you could get the fraud under control". There was also sentiment that all Florida clam growers should be eligible because the program has given Cedar Key growers a competitive advantage. They said there are about 10 growers in Charlotte Harbor, 80 in Cedar Key, and single digits in two or three other areas.

They complained about the decline in prices from 14-16 cents ten years ago to 10 cents or less recently. That is apparently another reason behind the decline of the industry on the Atlantic coast. One grower said there are 40 leases in his area but he only sees three being worked. There has apparently been a big improvement in water quality in the "lagoon", the inland waterway where clams are grown. This is due to state efforts to control storm water runoff into Indian River. The C-54 canal and storage ponds, coupled with Marine Resource Council efforts to restore mangroves, have helped with this.

The clam breeder is doing a lot of work with hybrids and thinks a cross of the local *mercenaria campechiensis* with *mercenaria mercenaria* has good prospects and will have greater survivability. Another local hard clam is the sunray venus. There was discussion of whether the ongoing hybridization work means one should not limit the program to *Mercenaria mercenaria*.

Another area where there is apparently conflict between the pilot provisions and actual practice is planting density. The pilot specifies that there be no more than 1,200 clams per 16 square foot bag, i.e. 75 per square foot. But participants said most people plant 1,400-1,500 per bag. They also asked why the bottom planting practice is not covered in Florida, saying that one local grower has been using it with good results.

There is an active Clam Industry Task Force that has been meeting with state officials to address various issues related to leases and industry regulation.

With regard to pre-acceptance inspections, they said in their experience there is no unusual mortality resulting from pulling bags. The large grower said he had just finished his inspection and everyone should just do it.

They said there are many ways to commit fraud. You can put a burlap bag on top of a clam bag and it will kill them. Or a grower can be saving shell and planting it. But this only works when the adjuster is not choosing the bags to be pulled.

Prices for seed clams have been weak: $3,000 per million for 1.2mm, $7-8,000 per million for 4mm, and less than $20,000 per million for 12mm. From 1mm to 4mm the survival rate is 50%, and you lose another 50% getting from 4mm to 12mm, according to the breeder. Then there is 30-40% mortality from that point on.

One can plant clams year round, but summer is best. There was no basic problem with program dates. One grower said December is the best time for inspections.

Responses on the questionnaire supported the program design.

Cedar Key Meetings (January 6, 2011)

On arrival we went by boat out to the nearest lease area where we were met by a long-time grower. This was arranged by the Extension Agent. The grower pulled a bag of mature clams so we could get a sense of what the process and result looks like. He does not buy insurance. Back on shore, the Extension Agent took us to a nursery to show us the process and we spoke with the owner, also a long-time grower. He also does not buy the insurance because he is averse to paperwork. In a subsequent discussion the Extension Agent confirmed that growers typically plant 1,400-1,500 clams, particularly if they are producing for the "casino market" that wants smaller clams. The agent was insistent that pulling bags causes increased mortality. Another problem is that bags are often belted together, so you have to pull cover netting off a large portion of the belt to get to a bag in the middle.

We then had a private meeting with a grower who said there are crooked agents and growers who have scammed the program for years. Some seem to get a check every year. They plant bags with clam shells in them and then pull those up for appraisals. Other relatives sell the clams that are harvested later at a low price to wholesalers. This drops the price for other legitimate growers. He said they should have to pull the bags with claimed losses and put them in the dumpster. With regard to inspections, he said 30 days is not enough time to get them done. It took an hour per bag to inspect his. He felt there should be a ceiling of $50,000 on any insurance payment. Pulling bags for inspection may kill clams during certain times.

We then had a second meeting with a town official with direct program experience who played a large role in getting everything in place to allow cultivated clams in Cedar Key. The pilot is a problem – "No one's been driving that boat". Instead of clam farmers, they now have "claim farmers" that are "a cancer that needs to be addressed". The pilot is not fair across the board, no matter what insurance group is involved. The fraud has caused market price issues. The official does not want the industry to be destroyed by a problematic program. It is a small town with a population of 700 and the "false sense of entitlement is eroding the integrity of the group". They have a potential goldmine – a clean industry that is providing a safe American food product. The official believes there should only be a CAT or AGR type program to stem fraud. Companies are not fair. There are real problems that need to be addressed. Insurance caused a supply/demand issue that dropped prices. Regulation is needed for both seed and sales to address fraud. Agents and adjusters are not well informed.

Cedar Key listening session (January 6, 2011)

The session was held in the evening at the Senator Kirkpatrick Marine Lab. We had been promised a group of irate growers, but the participants were all polite. The sign-in sheet recorded 15 attendees but there were over 20 present. Pre-acceptance inspections were the main topic they raised, but there was also discussion of long delays in payment of indemnities, the paperwork burden, and the definition of replants. They would not comment on the issue of fraud despite prompting, although two who filled out the customer satisfaction survey said those with high loss ratios should be penalized.

The general opinion on pre-acceptance inspections was that they are too burdensome, will result in high mortality for the bags that are pulled, and will spread disease when the bags are returned to the bottom. Some farmers proposed that they simply be paid for those clams in the 3 percent of bags.

> "You are creating disease by pulling the bags, taking them out, and putting them back."
>
> "They (RMA) are creating a lot of loss across the board for all the clammers. They are creating a field of disease out there, which has been documented."
>
> "Everything was fine till this came about. I don't even let people walk into my clams. You can literally step on the bags and kill the clams it's so soft."

The insurance agents and adjusters will generally not go in the water so the farmer has to go in to pull the bags. This is done by tying a line to the bag, which is then winched aboard the boat. What comes up is about half clams and half mud, worms and other matter that has to be washed away before one can count. Doing so in the bottom of a rocking boat out in the weather has its own problems. Insurance company staff have been asking (or requiring) the farmers to bring the clams to shore for counting. If a farmer has a million clams, that is 833 bags at 1,200 per bag, and a 3 percent sample is 25 bags. That is a lot to put in a boat, and very time consuming to clean and count. One farmer said it is simply not practical to count clams on the boat. Another farmer proposed that there be a cap on the number of bags that have to be pulled. If all 56 farmers were getting insurance and needed to be inspected, there is no way it could be done in 30 days. Most thought it is too cold in January to be doing inspections, and it was indeed cold the day we were there.

There was concern that pulling the bags made those clams uninsurable, due to confusion about what constituted replanting. We and RMA staff clarified that as long as the clams are not removed from the lease area, they remain insured when replanted after counting. But if they are brought ashore and then returned to the site, they become uninsurable.

There were several complaints about the length of time it took to get paid an indemnity, e.g. a November claim with adjustment in January and no payment received until May. Another example was a June claim not paid until December. At that point it was impossible to plant, so the farmer could not spend it on new seed and the insurance money became taxable income.

> "That's the problem with the whole program – real slow pay."

> "With clam insurance they treat you like a thief. And you wait nine months to get your check and it puts you so far behind and by the time your check comes it's too late to plant seeds and by the time you plant you are a year behind. You follow the rules and they change the rules, and you follow the rules and they change the rules again and they still treat you like a thief."

Several complained about various aspects of the necessary paperwork. There was confusion about when growers need to submit updated Clam Inventory Reports (after every planting? Just quarterly?). They thought it was unfair that you can only add to the guarantee, not subtract.

> "They don't send you notices saying they need your updated reports; you just have to know to do it."

> "Clam farmers are not very adept at doing paper work. If there was a software developer that could create a point and click kind of thing and it all got submitted through the internet, it would be better. Instead of anything be due in the winter, which is ridiculous."

They complained about having to re-designate clams as having moved to the next stage, saying this should happen automatically. Stages should automatically adjust based on planting date since they are six month stages. Now they need to resubmit the Clam Inventory report or the original clams will not be covered for insurance. It can only cost more when submitting an updated clam inventory report because you can increase Inventory but cannot decrease it. Why pay for something they don't have? Sometimes planting isn't viable (no seed clams for sale, poor weather, etc.). Some would like an internet application that keeps track of clams and could be submitted to agents (and automatically adjust for stages).

Ten attendees filled out the "Cultivated Clam Pilot Satisfaction" form. They generally thought the November 30 sales closing date, 70% survival rate, $0.10 clam price, coverage levels, and premiums were appropriate. 40% said the program was well advertised and promoted while 60% thought not. Scoring of four aspects of administration by the insurance companies covered the full range of 1 to 5 but mostly averaged about 3. Adjusters scored higher than agents. Six of the ten said they bought buyup coverage for ten years, from 2 to 6 companies (although the latter might have been interpreted as agents rather than insurance companies). Fairness of indemnity was scored at 3.3 while promptness of payment was only 2.6. Five out of eight said the program was providing the necessary risk management tools and seven out of nine said the pilot should be continued. (Whether that is because it is a good program or because they see it as easy to defraud cannot be determined.)

Other Florida input by phone

After mailing the letter to Florida growers we received two phone calls from seed producers, one on the Gulf coast and one on the Atlantic coast. Both noted that Cedar Key growers were reportedly abusing the program. Cedar Key also has problems from the varying nutrient load in the Suwanee River and periodic influxes of fresh water. One wanted to begin growing out the clams but is constrained by the small size of Florida leases and the lack of insurance in his area and is contemplating beginning to produce in Thailand. One noted that Virginia has a commercial industry because of its large leases. One estimated that Virginia produces 70% of the cultivated clams, Florida 25%, and other areas 5%. One said seed producers would definitely benefit from coverage in the 4mm-12mm stage.

After the listening sessions another Cedar Key farmer called and said the program was riddled with fraud and it was ruining the market. This past year there have been problems obtaining seed.

A Charlotte Harbor grower called asking whether coverage would be expanded to that area, which he said would be beneficial. The Cedar Key clams go mostly to the New York market. Florida clams have always sold at a lower price than Virginia or Northeast clams because of the perception of shorter shelf life stemming from being grown in warmer water. Charlotte Harbor clams are mostly sold to the local markets in South Florida. He said they pull up bags all the time and put them back and it does not hurt them. He said the program should be continued only if it is expanded to other Florida clam areas.

> "I would be remiss if I did not let you know how negatively many farmers feel about this program at this time. I do believe that a decision to continue the pilot program in select counties as it is in its present form will be met with strong resolute opposition. Many farmers feel that they have been injured by this program in the past and will not tolerate further injury."

b) Virginia listening session

In early January 2011 we scheduled a listening session for February 10 with the help of our consultants from the Virginia Institute of Marine Science (VIMS), who advertised it repeatedly over subsequent weeks through their shellfish industry listserv. In order to notify insurers we contacted NCIS staff who sent the announcement to their clam pilot committee.

The venue was the Eastern Shore Community College in Melfa, Virginia, conveniently located for growers in both pilot counties – Northampton and Accomack. The formal session was held in the evening from 6:30 to 8:30. We also advertised our availability for private meetings from 4:00 to 5:30 in the afternoon. While no one showed up during that period, it was a good opportunity for an in-depth conversation about the industry with our VIMS consultants.

Prior to the listening session we prepared a one-page summary of program experience showing overall results by year, summary results by state and pilot county, and yearly policies earning premium and loss ratios for the two Virginia counties. We also prepared a one-page "customer satisfaction questionnaire" to solicit additional feedback at the session.

The evening listening session was conducted by Contractor staff and was reasonably well-attended. Nine people signed the attendance sheet and there were about five others who did not. One Rain & Hail agent and two adjusters attended. The rest were growers, including two associated with the largest clam and oyster producer – Cherrystone Aqua Farms. In addition, our two VIMS consultants were present.

There are two companies insuring clams in Virginia – Rain & Hail and RCIS. Much of the initial discussion was about the process of certifying plantings. Rain & Hail apparently requires growers to notify them of any new plantings and then adjusters have 30 days to go out and certify that the clams are there. Insurance does not attach until the necessary paperwork reaches the company's Raleigh office. If adjusters cannot get it done within 30 days, the plantings are automatically certified. The adjusters complained that this is simply not enough time. Growers do not notify the company promptly and then all come in at once and there is not enough time for adjusters to go out and inspect everything. They recommended a 60-day time period.

> "Thirty days is just not enough time to get certification completed. Even trying to sample 50% of them, I don't have a damn clue how they are coming close to doing it, you can't do it. What I used to do is sample a bed here and a bed there and if you walk over them you know what's going on."

This is clearly a company policy, and undoubtedly a good one from the fraud protection perspective, but it is not something required by the pilot provisions. The one Virginia policy file we were provided for review is from RCIS. They do not have the same elaborate certification requirement as Rain & Hail.

We reviewed the one-page summary of experience and asked why there seemed to be losses in Accomack but not in Northampton. The general response was that production in Accomack is more on the sea side rather than the bay side and experiences rougher weather. The high loss ratio in 2009 was attributed to a "Veterans Day northeaster".

Standard practice is to plant 50,000 clams per bed, so 1 million clams requires 20 beds. Beds are typically 10-12 feet wide and 50-60 feet long. Beds are sampled by peeling back the covering netting and taking square foot samples.

Virginia has large leases and there are reportedly more than 100,000 acres under lease. The leases are for ten years and are supposed to be renewable only if you can prove you used it for aquaculture. However, only one or two thousand acres are in clams, and much less than that for oysters. There is also so-called

"Baylor Ground" which historically was naturally producing oyster rocks set aside for the public based on an 1890s U.S. Coast and Geodetic Survey. There is pending legislation to restudy and recertify those areas on the sea side, which could make some of the existing Baylor Ground available for lease. The shellfish industry is reportedly very interested in leasing more bottom.

Optional units were something of an issue. Some said they wanted optional units by lease. They complained about the one year that the whole bay side was one unit. On one of the questionnaires the respondent also indicated that the optional unit policy did not meet his risk management needs. However, another commented that more units just mean more paperwork, and the broader consensus seemed to be that optional units were "not a big deal".

It was suggested in discussion that areas with repeated losses should be classified as high risk land. In a similar vein, one written response on a questionnaire was "Shouldn't insure clams in areas with loss history, i.e. freeze." The thinking was that if a piece of bottom froze once, it will probably freeze again. Freeze damage occurs when temperatures are sufficiently low and strong winds from the right direction result in the bottom being exposed to the cold for a prolonged period. If this coincides with a spring tide (on a full moon or new moon) the effect is exacerbated.

A couple of attendees claimed great familiarity with the situation in Florida and felt that fraud there has been and continues to be a major problem. There were comments about growers keeping bags of shell on the leases to pull up for appraisals. Not surprisingly there was no mention of any abuse problems in Virginia.

> Referring to Florida: "Anytime you go to a place with no wild clam landings and they go in there and teach them how to raise clams and give them leases on the bottom that has no wild stock on it, that is 5-6 feet deep and in bags you've got trouble .... I know for a fact that there are 500 bags with clam shells in them, they get rotated around when it comes time for a claim and they put them on top and they go down there and they are right on top and they have no growth on them."

Attendees were generally satisfied with the other policy provisions -- the 60% survival rate, the $0.15 clam price, the stages, etc. "It's tough to be consistently over 60%." There was some discussion of whether one should get an "unharvested" price if the bed was not worth harvesting, but they concluded that the current system seems to work. It takes 4.5 man hours to harvest 30,000 clams, which works out to only three tenths of a cent per clam if wages are $20/hour. With regard to stages there was a similar comment to the effect that while they are arbitrary they seem to work. The limit on density made sense to them because "increasing density increases risk – the denser they are the longer they take to grow, and the longer it takes to grow, the more time at risk." The concern about density focused on disease risk, i.e. QPX.

There were no complaints or suggestions regarding the loss adjustment standards. But it was suggested that sometimes the best way to appraise is just to harvest the whole bed and run the clams through a counter. A grower mentioned that he had a loss adjustment done on some beds and the sampling technique was saying that there were a lot more clams there than were actually planted a year earlier. He was present for the appraisal and it looked like everything was being done by the book. He believed it was perhaps that when they dug out the sample, clams from nearby would also get picked up, or they were picking up dead clam shells from many years ago. He mentioned it would be simpler just to harvest the entire bed and run it through the machine. Another grower thought that during the Veterans Day Northeaster, the waves caused the sand to move around in the bed and this would impact the sampling technique. Storm surge could also have the same issue in bottom culture clams.

There was no concern that making the pilot a permanent program that could be expanded to other states or counties would result in excess production. They see themselves as the dominant leaders of the industry and did not seem concerned about new competition. However they do see Florida producers as having to compete via lower prices due to the perception of poorer shelf life for clams grown in warmer water.

They were familiar with the NAP program but commented that it does not cover nursery clams in their area. One grower said nursery clams do not do well on the bay side unless they are in containers, which is very labor intensive.

The overall sentiment during the meeting was that the program is important and should be continued. Losing it would weaken the industry, partly because it is harder for a grower to get a loan from a bank if he does not have insurance.

> "If you want to borrow money and there is no insurance it's hard to borrow money. A lot of growers borrow money every year and with agriculture insurance its tough. I can't get insurance on my seed crop, it makes life interesting."

Seven attendees filled out the Cultivated Clam Pilot Satisfaction form. They mostly answered yes to the questions on program design, but two of the seven did not think the $0.15 cent price was appropriate. They were satisfied with program marketing and administration. Four reported using buy-up coverage for 6-10 years, but one of those is not getting it for 2011. On loss adjustment and indemnity, one gave a grade of "1" and two gave "4" or "5". Two of the seven said the pilot should not be continued.

There was only one comment on RMA as an organization: "The biggest problem RMA's got is that they don't know what the hell they are doing with these pilot programs. You can't get help from them."

Input by phone

One insurance agent called prior to the listening session and said that one problem is that growers have to resort to administrative tricks to prevent escalation in premiums due to new plantings. Most growers are harvesting and planting continuously. Sometimes they might want to plant in a new area but will instead plant on a lease where they are harvesting so they don't have to report them as additional plantings that would result in a premium increase. He also said there needs to be an easier way to get information to the insurance company than the quarterly inventory report, but did not have a specific recommendation.

Private meeting

We subsequently had a separate meeting with one knowledgeable grower who strongly believed that there is a significant amount of fraud in Accomack County and was very bothered by it. This resonated because the experience data is showing losses in Accomack but not in Northampton. One method is to buy seed but plant less than half of it in the reported beds, say a third, while planting the remainder elsewhere on that or some other lease. It costs $3,000 in labor to plant a million clams plus $20,000 for the seed (or $8,000 if you produce it yourself). Insurance at 75% is about $1,000 so the maximum investment is $24,000 plus labor and equipment. Moreover, if you plant before July 16 the clams will be Stage 3 the next year and eligible for the full $0.15 cent payment.

You report a loss in the spring and the appraiser finds fewer than half the expected number of clams so an indemnity is paid. The guarantee is 450,000 clams. If the appraiser finds only 200,000 clams the indemnity is $37,500 so you have cleared $13,500 immediately ($37,500 - $24,000). And between the two sites you still have 600,000 clams to sell. The grower gets an interim return on his investment in less than a year instead of having to wait another year or more for the clams to mature. Various other tricks and strategies were explained, such as planting them where you know they will probably freeze, alternating losses between husband and wife, etc. His suggestions were to either end the program, do not cover certain areas, charge higher rates in Accomack, or just reimburse sunk costs rather than giving the grower the estimated market price.

Our VIMS consultants did not think this rang true because the insurance requires that there must be an event that causes the loss, which would also affect other growers. The scenarios painted seemed to them to involve a lot of effort with low probability of payoff. They felt that the biggest incentive to fraud is the 15 cent payout for less than one year old clams.

Use of GPS in Virginia

Our VIMS consultants recommend that GPS positions required for insurance should be precisely qualified so that growers can provide useful coordinates. The coordinates for the outline of a lease could require 10 to 20 points while the center of the lease would require only one, but neither is really much help on the ground. A lease can be 200 acres with the clams planted on only two of the acres. Neither the outline of the lease nor the center of the lease would facilitate the finding of a particular group of clams under this situation. The best way to designate an area may be to give the four coordinates of a named block on the grower's lease map where a particular group of plantings are located. Most growers will usually block out their planting areas in this way and usually apply marking stakes to the block. If the adjusters had coordinates for the four corners of any given block, they could accurately find any group of clams in question.

c) Massachusetts listening session

We had considerable difficulty scheduling a listening session. Finally the head of the Massachusetts Aquaculture Association agreed to make it part of their annual meeting, which was scheduled for Saturday February 26 from 8:00 to 1:00 in Plymouth Massachusetts.

As for the other listening sessions, we prepared a one-page summary of program experience showing overall results by year, summary results by state and pilot county, and yearly policies earning premium and loss ratios for the two Massachusetts counties. The pilot is available in five counties but except for one policy in Plymouth County during 2005-2007, all of the participation has been from Barnstable County. According to data compiled by the Massachusetts Division of Marine Fisheries, Barnstable County accounted for almost all of the state's clam production in 2010, and most of that was in the town of

Wellfleet. We also used the same one-page "customer satisfaction questionnaire" to solicit additional feedback at the session.

The clam insurance discussion ended up as the last thing on the morning's agenda. There were more than 50 people in attendance, predominantly oyster growers. We asked for a show of hands by clam growers and counted seven. After reviewing the handout on insurance experience, we solicited comments on various aspects of the insurance program, but with a couple of exceptions the attendees were pretty non-responsive. The two exceptions mainly had stories about how growers who had major losses got nothing from the insurance.

> "I know a couple of guys who have paid a pretty good premium in the past, six to nine thousand dollars, and we had one instance where this individual had two different beds from the same year class and there was a 90% loss on one bed. He had high end insurance but it was less than 50% of his total crop. He said you go by area and they said you go by year so that was out the window. Word got around. Then there was a QPX infection of an area. So in the winter we all volunteered to pull the clams and throw them in the dumpster. If we had left them it could have wiped out the whole harbor. They said 'They weren't dead, we're not covering it.' "

> "We had an instance of neoplasia, a 90% fatal disease. Peter had coverage but it was apparently not a covered disease and they denied the claim. I feel sorry for the girl who called a couple of weeks later asking if he was going to renew the policy."

Use of the program has declined steadily, from more than 30 growers in the early years to just a dozen recently, with 60 percent buy-up coverage chosen most frequently.

There was time for informal conversation before the meeting and during breaks. Most of the interest among growers is in oysters, not clams. Demand is growing and prices per unit are much higher, e.g. 70 cents for an oyster versus 17 cents for a clam. But oysters are viewed as more risky and require more of an investment in cages and other equipment.

State data for 2010 show the value of oyster production at $7 million compared to only $1 million for clams. Not surprisingly, there seemed to be quite a bit of interest in having an oyster insurance program. Currently there is a lot of use of the NAP program for oysters, which is run by the Farm Service Agency county committee. The committee decides whether an indemnity is warranted and usually seeks advice from the Extension Agent. Mussels are being grown only experimentally in Massachusetts. There is a new offshore operation near Martha's Vineyard, and one other was mentioned, along with one in Rhode Island.

There were a couple of contrasting comments on insuring oysters:

> "If I was in the insurance business I don't think I would get near oysters. Diseases are the big issue."

> "The risk in oyster coverage may now be less than in previous years because of new technology that has been developed in the broodstock of these animals. Diseases may not occur as often or to such extremes as they have in the past. There are now disease resistant strains."

Overall this was not a very productive listening session, except to the degree that it illustrated an almost total lack of interest in the clam pilot. Only one person completed a questionnaire, and he indicated that the pilot should not be continued. We did not get the impression that anyone would miss it if it were gone. There was no appreciation of the fact that indemnities paid have been more than four times what growers paid out of pocket in premiums.

d) South Carolina industry input

Since we were unable to arrange a listening session in South Carolina, we made phone calls to selected clam growers in the state, including, by chance, the only one currently using the insurance. As a result of these conversations, we received input regarding the pilot plan from two organizations in the state – the South Carolina Seafood Alliance and the South Carolina Shellfish Growers Association.

The Executive Director of the Seafood Alliance said they had not been aware of the low participation, or even of the existence of the insurance program, but think it is important for the future of the state's fishery sector. He said that some of the fishermen who are abandoning the wild caught sector due competition from low-priced imports are turning to clam aquaculture as an alternative, and that maintaining the insurance plan would be important to them. Finally, he said the SCSA would initiate an information/education program for clam growers about the insurance and aid them in applying if it were continued.

The Shellfish Growers Association noted that 130 South Carolina shrimpers had been accepted to the USDA Trade Adjustment Assistance Program and are interested in diversifying into clam farming. This will give the insurance program an opportunity to grow in the state. The association Board observed that the state has had the fewest claims under the insurance (but that would tend to be the case if no one buys coverage).

The Board requested that the pilot be continued and gave three reasons for the decline in participation in the state:

- "Conversion to a value crop over a market crop" reduced grower interest because the introduction of stages reduced the payout on smaller clams.
- The demand for larger product sizes has increased the time to harvest, so the insurance is being paid on the same clams for three years.
- The conversion to an inventory program caused record keeping problems for smaller growers who are also involved in commercial fishing and shrimping.

With regard to the second point, we would argue that in an ongoing business where the grower is planting and harvesting a constant number of clams each year, the single annual premium is the cost for what is harvested each year.

APPENDIX B: DIAGNOSTIC INSTRUMENTS

Program Evaluation Diagnostic Questions

Region **Florida – Pilot Counties (Brevard, Dixie, Indian River, and Levy)**

Crop **Hard clam (Marcenaria mercenaria)**

Market **Fresh Live Market**

Background Information

Production Processes

~~Annuals~~ **Multi-year Crop**

1. Is the crop planted multiple times during a crop production year? If yes, explain: *Because of higher water temperatures and availability of seed clams, growers in warm climates such as Florida can plant year-round. Producers generally plant continuously throughout the year so that they have clams reaching market size throughout the year.*	***Yes***	*No*
2. For a single planting, is the crop harvested multiple times during a crop production year? If yes, explain: *Harvest for market occurs throughout much of the year, with a slow period in the winter. Portions of a single planting are potentially harvested on multiple occasions to provide a steady supply of market clams. In addition, clams are marketed and priced by size. Some farmers sort and sell everything they harvest from the field, whereas others will replant smaller clams and harvest them at a later date to get a higher price.*	***Yes***	*No*

3. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as double crop, fallow, irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.

Clam production in Florida is typically a two-stage process. Unlike other states, almost all growers incorporate a field nursery into their growing practices. This involves planting 5-6mm seed clams in polyester mesh bags and growing them in the field until reaching a size of 12-15mm, when they are replanted at lower density in bags with larger mesh size for final growout. This initial stage usually takes 3-6 months, depending on the time of year the nursery clams are planted (faster growth at *warmer water temperatures), stocking densities, and site productivity. For final growout, clams are bottom planted in polyester mesh bags. Some reportedly plant 1,400 – 1,500 per bag, particularly if they are planning to produce smaller clams (less than one inch) for the "casino market". (This exceeds the 75/sq. ft. ceiling for insurance eligibility.) Intensive methods are used (i.e., clams stocked in 3'x4' or 4'x4' bags at 75/sq ft and around 1,000 bags planted per acre). Many growers have enough lease area that they rotate planting on different parts of the lease(s). The average crop cycle for final growout of seed clams to market size ranges from 10-18 months (1-2 years total with nursery stage), again depending on water temperatures, stocking densities, and lease site productivity.*

Biennials		
4. Is the crop harvested multiple times during a crop production year?	*Yes*	*No*
5. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.		

Perennials		
6. Is the crop harvested multiple times during a crop production year? If yes, explain:	*Yes*	*No*
7. Is the crop alternate bearing?	*Yes*	*No*
8. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.		
9. What is the economic life of the capital stock (trees, vines, etc.)?	____*Years*	

10. Over its economic life, what is the likelihood that 10 percent or more of the capital stock would be lost due to natural causes? Describe:	________% *(probability of loss)*
11. If capital stock is lost, how long will it take to reestablish the capital stock to a point where it starts producing salable output?	____*Years*
12. If capital stock is lost, how long will it take to reestablish the capital stock to a point where it is at peak production?	____*Years*

Nursery

13. Describe distinguishing characteristics of prevailing production system(s) for nursery crops in this region. Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.

Marketing

14. Describe typical marketing channels and/or contracting structures for this crop.

The market for cultivated hard clams is primarily grocery chains and the main mode of consumption is probably steamed. Half-shell raw bars and other restaurants are also important. Molluscan shellfish harvesting and marketing is regulated by FDA. Growers can only sell to certified shellfish wholesalers or become wholesalers themselves by following State and Federal guidelines for operating a shellfish food production facility. In Florida, there are about 350 people registered with the state as certified clam growers, but there appear to be fewer than 100 active growers. There tend to be informal working relationships between growers and their wholesalers, with no formal contracting structures or cooperatives in place.

15. In this region are there critical time periods (i.e., marketing windows) when producers hope to market this crop? If so, describe.

Clams are harvested and marketed year round, but the peak marketing periods for cultivated clams are the summer months (particularly around Memorial Day, July 4th, and Labor Day) followed by a second, smaller peak during the Thanksgiving to New Year's Day holiday season.

16. Within the marketing channels and/or contracting structures mentioned above describe how quality variations are handled (e.g., off-grade apples in a fresh market system may be processed for juice).

The quality of cultivated hard clams centers on size, shelf-life, and breakage during handling and shucking. If one of these quality issues should diminish, the wholesale/retail purchaser generally provides feedback directly to the grower. Depending on the issue, growing and handling strategies can be implemented to rectify quality issues. Clams are sorted by size and growers are paid based on prevailing prices for each size, which go into different markets. Clams less than littleneck size (1 inch hinge) will be used in pastas and other products rather than sold on the half-shell and will receive lower prices per clam. Clams that are too large for the half-shell market (e.g., cherrystones and chowders) are chopped up for processed products such as clam chowder and also receive lower prices per clam.

17. In this region, do federal supply control marketing orders exist for production of this crop? Describe:	*Yes*	***<u>No</u>***
18. In this region, do state quality marketing orders exist for production of this crop? Describe:	*Yes*	***<u>No</u>***

RMA–Facilitated Insurance Products

19. In this region, what RMA-facilitated insurance products are currently available for this crop? List all:

1) Cultivated Clam Pilot Insurance Program (stock mortality insurance)

2) AGR-Lite (whole farm revenue insurance)

Yield Risk

20. In this region what are examples of crops with very ***low*** *relative* yield risk? Relative risk is used to adjust absolute magnitudes that vary across crops to a relative level to facilitate comparability (roughly, a measure of variation divided by the mean level).

Crops in the region that are relatively low risk include citrus, nursery and peanuts.

21. In this region what are examples of crops with very ***high*** *relative* yield risk?

Some of the crops with high relative yield risks include tobacco, peppers and other vegetables.

22. Is this crop exposed to catastrophic risks that would reduce yields by 50 percent or more? *This and responses below refer to the risk of mortality of 50 percent or more, after adjusting for normal mortality.*	***Yes***	*No*

23. If the answer to the previous question is yes, describe these risks. If no, proceed to the next question. Over 25 years (or crop cycles) approximately how often would you expect such catastrophic losses to occur?

Description	***Years (or crop cycles) out of 25***
Hurricanes and other storm-related wind and wave action	*4 years out of 25*
Salinity changes	*Highly location-dependent; some locations seem to have large salinity changes almost annually whereas they are rare in other locations*
Low dissolved oxygen	*1 year out of 25*
Freeze/ice	*< 1 year out of 25*

24. Characterize yield risk for this crop *ignoring the catastrophic yield risk(s) described earlier*. On a scale from one to five, if the low relative yield risk crops identified earlier were one, and the high relative yield risk crops identified earlier were five, what number would you assign to the non-catastrophic yield risk associated with this crop in this region?

1 very low relative yield risk	***2***	***3***	***4***	***5*** very high relative yield risk
		X		

25. In this region, do producers tend to experience multiple-year sequences of good yields or bad yields for this crop? If yes, describe what causes these multiple-year sequences.	*Yes*	***No***

26. On a scale from one to five, where one is very low yield risk and five is very high yield risk, provide an overall assessment of yield risk faced by producers of this crop in this region.

1 very low yield risk	***2***	***3***	***4***	***5*** very high yield risk
		X		

Quality Risk

27. In this region what are examples of crops with very **low** quality risk?

As with yield risk, there are not many crops comparable to clams, but some products with relatively low quality risk include dairy and corn.

28. In this region what are examples of crops with very **high** quality risk?

Many nursery products, fruits, and vegetables produced in the region have relatively high quality risk

29. Is this crop exposed to catastrophic quality risks that would reduce the average price received by 20 percent or more? *In general, clams are marketable if alive and not subject to substantial quality risk from catastrophic events that would reduce average prices received substantially.*	*Yes*	***No***

30. If the answer to the previous question is yes, describe these risks. If no, proceed to the next question. Over 25 years (or crop cycles) approximately how often would you expect such catastrophic quality losses to occur?

Description	***Years (or crop cycles) out of 25***

31. We now want to characterize quality risk for this crop *ignoring the catastrophic quality risk(s) described earlier*. On a scale from one to five, if the crops with very low risk of quality problems identified earlier were one, and the crops with very high risk of quality problems identified earlier were five, what number would you assign to the quality risk associated with this crop in this region?

1 very low quality risk	***2***	***3***	***4***	***5*** very high quality risk
X				

32. On a scale from one to five, if one is very low quality risk and five is very high quality risk, provide an overall assessment of quality risk faced by producers of this crop in this region.

1 very low quality risk	***2***	***3***	***4***	***5*** very high quality risk
X				

Price Risk

33. In this region what are examples of crops with very ***low*** *relative* price risk *within the production cycle*? That is, variation in price between pre-plant for annuals (or equivalent for perennials) and sale. (Similar concept to IP and RA for crops with futures markets).

Corn and livestock have low relative price risk in this region.

34. In this region what are examples of crops with very ***high*** *relative* price risk *within the production cycle*? That is, variation in price between pre-plant for annuals (or, equivalent for perennials) and sale. (Similar concept to IP and RA for crops with futures markets).

Many fruits and vegetables produced in this region have relatively high price risk.

35. On a scale from one to five, if the low price risk crops identified earlier were one and the high price risk crops identified earlier were five, what number would you assign to the relative price risk (within the production cycle) associated with this crop in this region?

1 low price risk crop	***2***	***3***	***4***	***5*** high price risk crop
		X		

36. In this region, do producers tend to experience multiple-year sequences of high prices or low prices for this crop? If yes, describe.	*Yes*	***No***

37. On a scale from one to five, where one is very low price risk and five is very high price risk, provide an overall assessment of price risk (within the production cycle) faced by producers of this crop in this region.

1 very low price risk	***2***	***3***	***4***	***5*** very high price risk
		X		

Other Sources of Revenue Risk

38. For this region, describe other factors that affect revenue risk for this crop (e.g., prevented planting).

1) Inadequate seed availability from commercial hatcheries.
2) High mortality at the nursery stage for growers with nursery clams, leaving them with fewer clams to plant for growout.
3) Area closures by government agencies.

39. On a scale from one to five, where one is very low risk and five is very high risk, provide an overall assessment of risk sources other than yield, quality, and price risks faced by producers of this crop in this region.

1 very low risk	***2***	***3***	***4***	***5*** very high risk
	X			

Sufficient Non-Insurance Coping Mechanisms

40. On a scale from one to five, where one is very low and five is very high, assess the extent to which producers of this commodity in this region use risk-reducing inputs as a substitute for crop insurance.

1 very low	***2***	***3***	***4***	***5*** very high
	X			

41. Are government crop programs (e.g., marketing loans and counter-cyclical payments) available for this crop? Describe:	*Yes*	***No***
42. In this region, is there a history of federal disaster payments for this crop? Describe: *There have been claims made by hard clam growers under the Non- Insured Crop Disaster Assistance Program in the past prior to the introduction of the Cultivated Clam Pilot Insurance Program.*	***Yes - limited***	*No*
43. Approximately what percentage of the total production of this crop is under production contract with a first handler or processor? *Describe contracts:* *There are no known contracts in place in the region.*	***0*** *%*	
a. Under the terms of a typical production contract for this crop, is the grower exposed to *production risk* (i.e., the grower must deliver on the contract even if production shortfalls occur)?	*Yes*	*No*
b. Under the terms of a typical production contract for this crop, is the grower exposed to *quality risk* (i.e., there are significant price penalties if the product does not meet the quality characteristics specified in the contract).	*Yes*	*No*
c. Under the terms of a typical production contract for this crop, is the grower exposed to *price risk* (i.e., prices for specific quality characteristics are not specified in the contract)?	*Yes*	*No*
44. In this region, approximately what percentage of the total production of this crop is priced prior to harvest (may or may not be tied to a production contract)? Describe:	***0*** *%*	

45. When corn farmers in the Midwest experience low (high) yields, they can often expect higher (lower) market prices (i.e., prices and yields are very negatively correlated). This moderates the revenue impacts of low yields. In contrast, for corn farmers in the Southeast there is very little relationship between their yields and market prices (i.e., prices and yields are independent). In this

region the price and yield for this crop are (circle one):

Independent ***<u>Somewhat Negatively Correlated</u>*** *Highly Negatively Correlated*

Describe:

The regional price for hard clams is influenced by wild harvests as well as cultivated clam harvests from other regions, which reduces the correlation between yield (mortality) and price. There are limited data to quantitatively assess the correlation, but there seems to be some negative correlation between clam crop success and prices. When there were high crop losses in the hurricane seasons of 2004 and 2005, Florida prices increased.

46. On a scale from one to five, where one is "strongly disagree" and five is "strongly agree," provide your reaction to the following statement:

"In this region, producers of this crop are financially able to self-insure against production losses."

1 strongly disagree	***2***	***3***	***4***	***5*** strongly agree
	X			

Describe: *Most growers are highly dependent on revenue from clams and do not have sufficient assets to self-insure.*

47. For a typical grower of this crop, approximately what percentage of the total farm revenue would be attributable to this crop? *According to growers and aquaculture specialists, clam growers in the state typically derive all farm income from clams.*	***<u>100</u>*** *%*

48. What other commodities would typically be produced on a farm that produces this commodity? What is the correlation between revenue from these other commodities and the revenue from this commodity? For correlation use a scale of one to five, where 1 is "strongly negatively correlated," 2 is "negatively correlated," 3 "independent," 4 is "positively correlated," and 5 is "strongly positively correlated."

List:	***Correlation*** *(assign a number between 1-5)*
N/A	

49. In this region, approximately what percentage of the total production of this crop is produced by part-time farmers who have full-time employment off the farm?	***<u>20</u>*** *%*

50. On a scale from one to five, where one is "strongly disagree" and five is "strongly agree," provide your reaction to the following statement:

"In this region, producers of this crop attempt to manage production risk by spreading their production over several geographic locations."

1 strongly disagree	***2***	***3***	***4***	***5*** strongly agree
	X			

Describe: *Growers are dependent on access to shellfish leases from the State or can potentially sublease from another grower that has a State lease. The available State creek leases have all been taken for years, but there is a market for subleasing. Many of the longer-term and larger growers have multiple lease sites and attempt to reduce production risk by having production on different creeks as well as on the seaside. They may plant near the head of a creek for more reliable protection from the weather, and near the mouth of the creek for protection from fresh water inflows. For newer growers forced to sublease from others, spatial diversification may be difficult to achieve. In addition, they are unlikely to be able to access the best sites in terms of risk/return tradeoff.*

51. In this region, what private-sector insurance products (if any) are currently available for this crop?

List all:

None identified

52. Characterize how agricultural lenders in this region view the available RMA-facilitated insurance products for this crop. "Unfavorable" implies that lenders actually discourage borrowers from purchasing the product while "favorable" implies that lenders strongly encourage and often require borrowers to purchase the product. If multiple insurance products are offered, answer for each product.

Unfavorable *Indifferent* ***Favorable***

Describe: *Lenders view the insurance coverage positively and growers and aquaculture specialists indicated that it has been valuable for growers seeking loans (particularly with loan originators familiar with agriculture and crop insurance).*

53. On a scale from one to five, where one is very high and five is very low, assess the sufficiency of non-insurance coping mechanisms for producers of this crop in this region.

1 high availability	*2*	*3*	*4*	*5* low availability
				X

Risk Classification

54. On a scale from one to five, where one is strongly disagree and five is strongly agree, provide your reaction to the following statement:

"In this region, no producers of this crop are really any more or less risky than any others. They all face about the same risk of loss."

1 strongly disagree	*2*	*3*	*4*	*5* strongly agree
	X			

Describe: *Risk in shellfish farming is generally thought to be on a "waterbody scale" in that a catastrophic situation probably will affect most growers within a specific embayment. Therefore, the risk in one embayment may be significantly different than the risk of a neighboring embayment, assuming that the two environments have distinct physical differences. Risk is also dependent on the husbandry practices of the individual grower.*

55. In this region, *for those who are currently **not** insured*, would you say that premium rate on the existing RMA-facilitated insurance products for this crop are "much too low," "about right," or "much too high"? If more than one RMA insurance product is offered, answer for each product.

Much Too Low ***About Right*** *Much Too High*

If you answered that premium rates are "much too high," explain why (or how) you think this happened.

56. In this region, *for those who currently are insured,* would you say that premium rate on the existing RMA-facilitated insurance products for this crop are "much too low," "about right," or "much too high"? If more than one RMA insurance product is offered, answer for each product.

Much Too Low ***About Right*** *Much Too High*

If you answered that premium rates are "much too high," explain why (or how) you think this happened.

Rates have been higher in Florida than in other states since the inception of the program, but they were significantly increased beginning in the 2004 crop year following relatively high losses in the state in 2000-2003. Based on the frequency of past losses, the rates are probably not much too high and the insured growers that provided feedback did not emphasize rates as a major concern.

57. For this region, to what extent does the system used to establish the guarantee (e.g., APH yield or expected revenue) for this crop match the true value of the production at risk? An answer of one indicates that the system used to establish the guarantee does a very poor job of matching the true value of the production at risk. An answer of five indicates that the system used to establish the guarantee does a very good job of matching the true value of the production at risk.

1 very poor job	***2***	***3***	***4***	***5*** very good job
		X		

58. On a scale from one to five, where one is very low and five is very high, assess the effectiveness of existing RMA-facilitated insurance products in accurately classifying potential policyholders according to their loss exposure (i.e., higher risk growers pay higher premiums while lower risk growers pay lower premiums).

1 very low	***2***	***3***	***4***	***5*** very high
X				

All growers within a county pay the same premium for a given stage although there may be substantial differences in risk based on location and management practices, which was raised by the majority of stakeholders providing feedback on the program.

Moral Hazard and Monitoring

59. Yield variation can be caused by unavoidable "*acts of nature*" or avoidable "*acts of management*." In practical parlance, what is the potential for "gaming" the insurance product? Evaluate the potential for gaming the RMA-facilitated crop insurance product for this crop on a scale from one to five, where one implies that variation in yield is almost exclusively due to "acts of nature" (potential for gaming is low) and five implies that yield variation is almost exclusively due to "acts of management" (potential for gaming is high). If multiple insurance products are offered, answer for each product.

1 very low	***2***	***3***	***4***	***5*** very high
				X

60. To the extent that management affects yield loss risk exposure, how difficult is it to monitor the insured's behavior?

Extremely Difficult *Difficult* *Not too Difficult*

Explain: *The insured's behavior is difficult and expensive to monitor for several reasons. The clams are underwater at all times and must be visited by boat, which is relatively difficult and expensive compared with other commodities. In addition, because they are underwater, it is difficult and time-consuming to assess the condition of the clams. Bags can be randomly pulled up and assessed, but assessors are generally dependent on growers taking them out to their lease sites and there have been concerns that growers could potentially choose to visit and select only bags that they know are in good condition. Growers do not like to pull up many bags because bags are typically attached to one another and must be cut apart and they also feel that it increases mortality to pull up bags and then put them back. This product is also very unique for the insurance companies to monitor and there have been a number of concerns that* *they are less familiar with this product than others and do not sufficiently understand appropriate management strategies and therefore cannot fully evaluate behaviors observed. The management practice that can be best monitored and would have an effect on yield/survival is probably stocking density.*

61. Quality variation can be caused by unavoidable "acts of nature" or avoidable "acts of management." In practical parlance, what is the potential for "gaming" the insurance product? Evaluate the potential for gaming the RMA-facilitated insurance product for this crop on a scale from one to five, where one implies that variation in quality is almost exclusively due to "acts of nature" (potential for gaming is low) and five implies that quality variation is almost exclusively due to "acts of management" (potential for gaming is high). If multiple insurance products are offered, answer for each product.

1 very low	***2***	***3***	***4***	***5*** very high
X				

The current insurance product does not cover quality variations, so there is no potential for gaming it. In addition, quality variations do not tend to be as much of an issue for calms as yield/survival.

62. To the extent that management affects quality loss risk exposure, how difficult is it to monitor the insured's behavior?

Extremely Difficult Difficult Not too Difficult

Explain: *Quality variation results from subtle changes in management and acts of nature. It would be extremely difficult for someone not well-trained in clam farming practices to monitor a grower's behavior with respect to quality variation.*

63. On a scale from one to five, where one is very large and five is very small, assess the extent of moral hazard problems with existing RMA-facilitated insurance products for this crop.

1 very large	***2***	***3***	***4***	***5*** very small
X				

Moral hazard has been a major problem in Florida based on numerous reports from stakeholders. There are concerns about moral hazard in Florida from stakeholders in all pilot states.

Problems Affecting Insurance Participation		
64. Have *significant* problems occurred (either past or current) with policy provisions on existing RMA-facilitated insurance products for the crop? If multiple insurance products are offered, answer for each product.	***Yes***	*No*

65. If the answer to the previous question is no, go to next question. If yes, for each significant problem:

a. Briefly describe the problem.

1) The 2007 evaluation of the program reviewed the problems that arose in the early years of the pilot, their effects, and how they were dealt with. Those problems were associated with coverage of nursery clams (no longer covered), poorly defined causes of loss, planting density, and poor identification of planted clams and their locations. All of this was dealt with in the 2004 revisions to the pilot.

2) The one more recent recurring problem in Florida with policy provisions has been the continuing failure of insurers to carry out required pre-acceptance inspections. This issue was highlighted as early as 2003. Section 16 of the underwriting guide requires that AIPs complete an inspection report the first year for all insureds and when a policy is transferred from one AIP to another, as well as under various other circumstances. Investigation by the RMA Eastern Regional Compliance Office revealed that the required inspections were still not being done in Florida.

b. What has been the impact of the problem (e.g., high loss ratios, reduced demand, etc.)?

1) Failure to complete pre-acceptance inspections was potentially contributing to abuse of the program because there was no verification that the number of clams being insured actually existed.

c. Have policy provisions since been changed to adequately address the problem?

1) This was less a problem with the policy provisions themselves than with AIP adherence to the provisions. There was also no specific definition of what constituted an appropriate inspection. Finally the Compliance Office notified AIPs that there would be no reinsurance for any policy without an acceptable pre-acceptance inspection in the file, and that for Florida it would be necessary to sample three percent of the bags.

d. If policy provisions have not been changed, what changes in policy provisions do you think would increase insurance demand for this crop?

1) *Policy provisions (underwriting standards) have not been changed. Tightening them will likely reduce demand for the insurance.*

	Yes	No
66. In this region, do reinsured companies have sufficient incentives to aggressively market existing RMA-facilitated insurance products for the crop? If yes, go to next question. If no, explain. *Clam insurance is a unique product for which it is difficult and expensive to monitor insured behavior and adjust losses. Therefore, it is difficult for companies to justify investments in marketing and servicing clam policies. No AIPs have consistently stuck*	*Yes*	***<u>No</u>***

with the Florida market for this pilot. Nine companies have written coverage at one point or another—six in the last three years. They seem to try it for a while and then give up.		
67. In this region, do agents have sufficient incentives to aggressively market existing RMA-facilitated insurance products for the crop? If yes, go to next question. If no, explain. *For agents as well as the companies, clam insurance is a unique product. It requires more time for agents to learn about, but the relatively larger market in Florida than in South Carolina or Massachusetts has led to more interest and more agents marketing the insurance than in those states. However, there have been numerous allegations of fraudulent practices both by growers and by agents in their marketing of clam policies in the state. There have reportedly been cases of agents working with growers to structure their units and subleasing arrangements in attempts to increase the likelihood of losses sufficient for insurance claims as well as a variety of other questionable practices.*	***<u>Yes</u>***	*No*

68. List any perils that concern growers of this crop but are not covered by the existing RMA-facilitated insurance products (e.g., business interruption due to unavailability of irrigation water, disease quarantines, etc.). For each peril assess the extent of growers' concerns about this peril on a scale from one to five where one is minor concern and five is major concern.

List all:	***1*** minor concern	***2***	***3***	***4***	***5*** major concern
Inability to market					**X**
Inability to plant due to low seed availability					**X**
Low market prices					**X**
High salinity due to drought		**X**			

69. Briefly describe the potential for insuring these currently uninsured perils? In answering this, consider the following questions:

Can hidden action/moral hazard and classification/adverse selection problems be avoided?

Can clearly stated policy provisions be developed and accurate premium rates established?

Although growers and state aquaculture specialists identify several of these perils as major *issues, there is little potential for covering inability to market or inability to plant due to the high potential for hidden action/moral hazard and classification/adverse selection problems. High salinity could potentially be covered (it was previously covered under the program before being removed beginning in the 2004 crop year), including a clause that the loss must be verified by recognized marine authorities. Low market prices could also potentially be covered, although that would require development of revenue insurance for clams rather than the current stock mortality insurance.*

70. On a scale from one to five, where one is very high and five is very low, assess the likelihood that problems affecting participation can be adequately addressed by product or policy modifications.

1 very low	***2***	***3***	***4*** **X**	***5*** very high

Changes to the program in 2004 have greatly reduced loss ratios. It may be difficult to increase participation back to peak levels (in part because of grower exit from the industry), but product and policy modifications dealing with some of the growers' issues and improving risk classification are likely to increase participation.

Program Evaluation Diagnostic Questions

Region **Massachusetts – Pilot Counties (Barnstable, Bristol, Nantucket, and Plymouth)**

Crop **Hard clam (Marcenaria mercenaria)**

Market **Fresh Live Market**

Background Information

Production Processes

~~Annuals~~ **Multi-year Crop**

1. Is the crop planted multiple times during a crop production year? If yes, explain: *Clams could potentially be planted multiple times during a year, although in Massachusetts, growers typically plant for final growout only once per year between September and November.*	***<u>Yes, to some extent</u>***	*No*
2. For a single planting, is the crop harvested multiple times during a crop production year? If yes, explain: *Harvest for market occurs throughout much of the year, with a slow period in the winter, with portions of a single planting potentially harvested on multiple occasions to provide a steady supply of market clams. In addition, clams are marketed and priced by size. Some farmers sort and sell everything they harvest from the field, whereas others will replant smaller clams and harvest them at a later date to get a higher price.*	***<u>Yes</u>***	*No*

3. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as double crop, fallow, irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.

Leases used for clam production in Massachusetts are laid out in rectangular blocks and are relatively small compared with other states. In two of the primary production areas, Barnstable Harbor and Wellfleet, the standard lease areas are 2 acres and 7 acres, respectively, and many leases are adjacent to one another in a grid pattern. Some growers have acquired multiple lease sites, but growers generally have less area here than in other locations and have limited ability to rotate their clams and leave parts of their leases fallow. As in Virginia, growers primarily rely on bottom culture with cover nets for growout and work on their clam beds (e.g., cleaning nets, *checking nets for predators, harvesting, etc.) at low tide when the clam beds are exposed. The average crop cycle for final growout of seed clams to market size ranges from about 2 to 3 years, depending on water temperatures when seeded, stocking densities, and lease site productivity.*

Biennials		
4. Is the crop harvested multiple times during a crop production year?	*Yes*	*No*
5. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.		

Perennials		
6. Is the crop harvested multiple times during a crop production year? If yes, explain:	*Yes*	*No*
7. Is the crop alternate bearing?	*Yes*	*No*
8. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.		
9. What is the economic life of the capital stock (trees, vines, etc.)?	____*Years*	
10. Over its economic life, what is the likelihood that 10 percent or more of the capital stock would be lost due to natural causes? Describe:	_______*%* (*probability of*	

	loss)
11. If capital stock is lost, how long will it take to reestablish the capital stock to a point where it starts producing salable output?	____*Years*
12. If capital stock is lost, how long will it take to reestablish the capital stock to a point where it is at peak production?	____*Years*

Nursery

13. Describe distinguishing characteristics of prevailing production system(s) for nursery crops in this region. Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.

Marketing

14. Describe typical marketing channels and/or contracting structures for this crop.

The market for cultivated hard clams is primarily grocery chains and the main mode of consumption is probably steamed. Half-shell raw bars and other restaurants are also important. Molluscan shellfish harvesting and marketing is regulated by FDA. Growers can only sell to certified shellfish wholesalers or become wholesalers themselves by following State and Federal guidelines for operating a shellfish food production facility. There are several shellfish wholesalers in Massachusetts and they generally are also clam growers. In addition, there is a marketing cooperative in Wellfleet that has contracted with some growers in that region to supply clams.

15. In this region are there critical time periods (i.e., marketing windows) when producers hope to market this crop? If so, describe.

Peak marketing periods for cultivated clams are the summer months (particularly around Memorial Day, July 4th, and Labor Day) followed by a second, smaller peak during the Thanksgiving to New

Year's Day holiday season. Winter is also slow for producers in colder climates, such as Massachusetts.

16. Within the marketing channels and/or contracting structures mentioned above describe how quality variations are handled (e.g., off-grade apples in a fresh market system may be processed for juice).

The quality of cultivated hard clams centers on size, shelf-life, and breakage during handling and shucking. If one of these quality issues should diminish, the wholesale/retail purchaser generally provides feedback directly to the grower. Depending on the issue, growing and handling strategies can be implemented to rectify quality issues. Clams are sorted by size and growers are paid based on prevailing prices for each size, which go into different markets. Clams less than littleneck size (1 inch hinge) will be used in pastas and other products rather than sold on the half-shell and will receive lower prices per clam. Clams that are too large for the half-shell market (e.g., cherrystones and chowders) are chopped up for processed products such as clam chowder and also receive lower prices per clam.

17. In this region, do federal supply control marketing orders exist for production of this crop? Describe:	*Yes*	***<u>No</u>***
18. In this region, do state quality marketing orders exist for production of this crop? Describe:	*Yes*	***<u>No</u>***

RMA–Facilitated Insurance Products

19. In this region, what RMA-facilitated insurance products are currently available for this crop? List all:

1) Cultivated Clam Pilot Insurance Program (stock mortality insurance)

2) AGR-Lite (whole farm revenue insurance)

Yield Risk

20. In this region what are examples of crops with very ***low** relative* yield risk? Relative risk is used to adjust absolute magnitudes that vary across crops to a relative level to facilitate comparability (roughly, a measure of variation divided by the mean level).

Eastern Massachusetts is not an agricultural area. Crops with low relative yield risk are nursery and cranberries (the largest crop in the region by far).

21. In this region what are examples of crops with very ***high** relative* yield risk?

Corn and apples have high relative yield risk.

22. Is this crop exposed to catastrophic risks that would reduce yields by 50 percent or more?	***Yes***	*No*

23. If the answer to the previous question is yes, describe these risks. If no, proceed to the next question. Over 25 years (or crop cycles) approximately how often would you expect such catastrophic losses to occur?

Description	***Years (or crop cycles) out of 25***
Ice damage and freezing	*5 years out of 25*
Disease (QPX)	*5 years out of 25*
Hurricanes and other storm-related wind and wave action	*3 years out of 25*
Salinity changes	*<1 year out of 25*
Low dissolved oxygen	*<1 year out of 25*

24. Characterize yield risk for this crop *ignoring the catastrophic yield risk(s) described earlier*. On a scale from one to five, if the low relative yield risk crops identified earlier were one, and the high relative yield risk crops identified earlier were five, what number would you assign to the non-catastrophic yield risk associated with this crop in this region?

1 very low relative yield risk	***2***	***3***	***4***	***5*** very high relative yield risk
	X			

25. In this region, do producers tend to experience multiple-year sequences of good yields or bad yields for this crop? If yes, describe what causes these multiple-year sequences.	*Yes*	***No***

26. On a scale from one to five, where one is very low yield risk and five is very high yield risk, provide an overall assessment of yield risk faced by producers of this crop in this region.

1 very low yield risk	***2***	***3***	***4***	***5*** very high yield risk
		X		

Quality Risk

27. In this region what are examples of crops with very **low** quality risk?

As with yield risk, there are not many low quality risk crops identified in the region, but there are limited data available to assess.

28. In this region what are examples of crops with very **high** quality risk?

Fruits, nuts, berries, vegetables produced in the region have relatively high quality risk.

29. Is this crop exposed to catastrophic quality risks that would reduce the average price received by 20 percent or more? *In general, clams are marketable if alive and not subject to substantial quality risk from catastrophic events that would reduce average prices received substantially.*	*Yes*	***No***

30. If the answer to the previous question is yes, describe these risks. If no, proceed to the next question. Over 25 years (or crop cycles) approximately how often would you expect such catastrophic quality losses to occur?

Description	***Years (or crop cycles) out of 25***

31. We now want to characterize quality risk for this crop *ignoring the catastrophic quality risk(s) described earlier*. On a scale from one to five, if the crops with very low risk of quality problems identified earlier were one, and the crops with very high risk of quality problems identified earlier were five, what number would you assign to the quality risk associated with this crop in this region?

1 very low quality risk	***2***	***3***	***4***	***5*** very high quality risk
X				

32. On a scale from one to five, if one is very low quality risk and five is very high quality risk, provide an overall assessment of quality risk faced by producers of this crop in this region.

1 very low quality risk	***2***	***3***	***4***	***5*** very high quality risk
X				

Price Risk

33. In this region what are examples of crops with very ***low*** *relative* price risk *within the production cycle*? That is, variation in price between pre-plant for annuals (or equivalent for perennials) and sale. (Similar concept to IP and RA for crops with futures markets).

There is relatively little information available and most agricultural production in the region is expected to have relatively high price risk.

34. In this region what are examples of crops with very ***high*** *relative* price risk *within the production cycle*? That is, variation in price between pre-plant for annuals (or, equivalent for perennials) and sale. (Similar concept to IP and RA for crops with futures markets).

Nursery, fruits and vegetables have relatively high price risk. Cranberries, which are a major crop in this region, have had significant price variation in recent years.

35. On a scale from one to five, if the low price risk crops identified earlier were one and the high price risk crops identified earlier were five, what number would you assign to the relative price risk (within the production cycle) associated with this crop in this region?

1 low price risk crop	***2***	***3***	***4***	***5*** high price risk crop
		X		

36. In this region, do producers tend to experience multiple-year sequences of high prices or low prices for this crop? If yes, describe.	*Yes*	***<u>No</u>***

37. On a scale from one to five, where one is very low price risk and five is very high price risk, provide an overall assessment of price risk (within the production cycle) faced by producers of this crop in this region.

1 very low price risk	*2*	*3*	*4*	*5* very high price risk
		X		

Other Sources of Revenue Risk

38. For this region, describe other factors that affect revenue risk for this crop (e.g., prevented planting).

1) Inadequate seed availability from commercial hatcheries.
2) High mortality at the nursery stage for growers with nursery clams, leaving them with fewer clams to plant for growout.
3) Poor growth conditions in the field, e.g., inadequate or improper food resources due to poor phytoplankton production.
4) Area closures by government agencies due to harmful algal blooms or other events.

39. On a scale from one to five, where one is very low risk and five is very high risk, provide an overall assessment of risk sources other than yield, quality, and price risks faced by producers of this crop in this region.

1 very low risk	*2*	*3*	*4*	*5* very high risk
	X			

Sufficient Non-Insurance Coping Mechanisms

40. On a scale from one to five, where one is very low and five is very high, assess the extent to which producers of this commodity in this region use risk-reducing inputs as a substitute for crop insurance.

1 very low	*2*	*3*	*4*	*5* very high
	X			

41. Are government crop programs (e.g., marketing loans and counter-cyclical payments) available for this crop? Describe:	*Yes*	***No***
42. In this region, is there a history of federal disaster payments for this crop? Describe: *There have been claims made by hard clam growers under the Non- Insured Crop Disaster Assistance Program in the past prior to the introduction of the Cultivated Clam Pilot Insurance Program.*	***Yes - limited***	*No*
43. Approximately what percentage of the total production of this crop is under production contract with a first handler or processor? *Describe contracts:* *There is one marketing cooperative in Wellfleet that has negotiated production contracts with local growers to supply clams.*	***10*** *%*	
a. Under the terms of a typical production contract for this crop, is the grower exposed to *production risk* (i.e., the grower must deliver on the contract even if production shortfalls occur*)? Growers are not necessarily committed to provide a specific quantity of clams, but are subject to production risk because lower production will reduce their payments.*	***Yes***	*No*
b. Under the terms of a typical production contract for this crop, is the grower exposed to *quality risk* (i.e., there are significant price penalties if the product does not meet the quality characteristics specified in the contract). *Growers are paid based on clams sorted by size so if they produce a mix of clams that are too small or too large (less likely), they will receive less per clam.*	***Yes***	*No*
c. Under the terms of a typical production contract for this crop, is the grower exposed to *price risk* (i.e., prices for specific quality characteristics are not specified in the contract)? *Information not available.*	***Yes***	*No*

44. In this region, approximately what percentage of the total production of this crop is priced prior to harvest (may or may not be tied to a production contract)? Describe:	***_N.A._*** *%*

45. When corn farmers in the Midwest experience low (high) yields, they can often expect higher (lower) market prices (i.e., prices and yields are very negatively correlated). This moderates the revenue impacts of low yields. In contrast, for corn farmers in the Southeast there is very little relationship between their yields and market prices (i.e., prices and yields are independent). In this region the price and yield for this crop are (circle one):

Independent ***Somewhat Negatively Correlated*** *Highly Negatively Correlated*

Describe:

The regional price for hard clams is influenced by wild harvests as well as cultivated clam harvests from other regions, which reduces the correlation between yield (mortality) and price. There are limited data to quantitatively assess the correlation, but there seems to be some negative correlation between clam crop success and prices. Massachusetts produces a relatively small share of national clam production, but they are differentiated as a higher quality product in many markets and sell at a premium price. Thus, they are not perfect substitutes for clams from other locations and local yield will tend to have some effect on prices received.

46. On a scale from one to five, where one is "strongly disagree" and five is "strongly agree," provide your reaction to the following statement:

"In this region, producers of this crop are financially able to self-insure against production losses."

1 strongly disagree	***2***	***3***	***4***	***5*** strongly agree
	X			

Describe*: Most growers are small and highly dependent on revenue from clams, although somewhat more diversified than in other regions and a larger percentage estimated with work off-farm. Their diversification is often with other aquaculture products such as oysters.*

47. For a typical grower of this crop, approximately what percentage of the total farm revenue would be attributable to this crop? *According to growers and aquaculture specialists, clam growers in the state typically derive the majority of their farm income from clams, but oyster cultivating is growing in importance.*	***60_*** *%*

48. What other commodities would typically be produced on a farm that produces this commodity? What is the correlation between revenue from these other commodities and the revenue from this commodity? For correlation use a scale of one to five, where 1 is "strongly negatively correlated," 2 is "negatively correlated," 3 "independent," 4 is "positively correlated," and 5 is "strongly positively correlated."

List:	***Correlation*** *(assign a number between 1-5)*
American oyster	*4*
Soft shell clam	*4*

49. In this region, approximately what percentage of the total production of this crop is produced by part-time farmers who have full-time employment off the farm?	***40*** *%*

50. On a scale from one to five, where one is "strongly disagree" and five is "strongly agree," provide your reaction to the following statement:

"In this region, producers of this crop attempt to manage production risk by spreading their production over several geographic locations."

1 strongly disagree	**2**	**3**	**4**	**5** strongly agree
	X			

Describe: *Growers are dependent on access to shellfish leases from the towns, which restrict access to lease sites and to area. All available leases are generally taken and growers attempting to diversify are likely to have difficulty finding areas in which to diversify. Some growers do have multiple sites, but they are not necessarily that distant from one another and individual leases are small compared to other states. This limits growers' ability to diversify spatially.*

51. In this region, what private-sector insurance products (if any) are currently available for this crop?

List all:

None identified

52. Characterize how agricultural lenders in this region view the available RMA-facilitated insurance products for this crop. "Unfavorable" implies that lenders actually discourage borrowers from purchasing the product while "favorable" implies that lenders strongly encourage and often require borrowers to purchase the product. If multiple insurance products are offered, answer for each product.

Unfavorable *Indifferent* ***Favorable***

Describe: *The primary lender in this region is USDA Farm Services Agency. During the 2007 evaluation, growers stated that they are required to have clam insurance coverage to get loans related to their clam production, which many growers indicated was the only reason they were still carrying the insurance.*

53. On a scale from one to five, where one is very high and five is very low, assess the sufficiency of non-insurance coping mechanisms for producers of this crop in this region.

1 high availability	*2*	*3*	*4* X	*5* low availability

Risk Classification

54. On a scale from one to five, where one is strongly disagree and five is strongly agree, provide your reaction to the following statement:

"In this region, no producers of this crop are really any more or less risky than any others. They all face about the same risk of loss."

1 strongly disagree	*2* X	*3*	*4*	*5* strongly agree

Describe: *Risk in shellfish farming is generally thought to be on a "waterbody scale" in that a catastrophic situation probably will affect most growers within a specific embayment. Therefore, the risk in one embayment may be significantly different than the risk of a neighboring embayment, assuming that the two environments have distinct physical differences. Risk is also dependent on the husbandry practices of the individual grower.*

55. In this region, *for those who are currently **not** insured*, would you say that premium rate on the existing RMA-facilitated insurance products for this crop are "much too low," "about right," or "much too high"? If more than one RMA insurance product is offered, answer for each product.

Much Too Low ***About Right*** *Much Too High*

If you answered that premium rates are "much too high," explain why (or how) you think this happened.

56. In this region, *for those who currently are insured,* would you say that premium rate on the existing RMA-facilitated insurance products for this crop are "much too low," "about right," or "much too high"? If more than one RMA insurance product is offered, answer for each product.

Much Too Low ***About Right*** *Much Too High*

If you answered that premium rates are "much too high," explain why (or how) you think this happened.

57. For this region, to what extent does the system used to establish the guarantee (e.g., APH yield or expected revenue) for this crop match the true value of the production at risk? An answer of one indicates that the system used to establish the guarantee does a very poor job of matching the true value of the production at risk. An answer of five indicates that the system used to establish the guarantee does a very good job of matching the true value of the production at risk.

1 very poor job	***2***	***3***	***4***	***5*** very good job
		X		

58. On a scale from one to five, where one is very low and five is very high, assess the effectiveness of existing RMA-facilitated insurance products in accurately classifying potential policyholders according to their loss exposure (i.e., higher risk growers pay higher premiums while lower risk growers pay lower premiums).

1 very low	***2***	***3***	***4***	***5*** very high
X				

All growers within a county pay the same premium for a given stage although there may be substantial differences in risk based on location and management practices, which was raised as an issue by the majority of stakeholders providing feedback on the program.

Moral Hazard and Monitoring

59. Yield variation can be caused by unavoidable "*acts of nature*" or avoidable "*acts of management*." In practical parlance, what is the potential for "gaming" the insurance product? Evaluate the potential for gaming the RMA-facilitated crop insurance product for this crop on a scale from one to five, where one implies that variation in yield is almost exclusively due to "acts of nature" (potential for gaming is low) and five implies that yield variation is almost exclusively due to "acts of management" (potential for gaming is high). If multiple insurance products are offered, answer for each product.

1 very low	***2***	***3***	***4***	***5*** very high
			X	

60. To the extent that management affects yield loss risk exposure, how difficult is it to monitor the insured's behavior?

Extremely Difficult ***<u>Difficult</u>*** *Not too Difficult*

Explain: *The insured's behavior is difficult and expensive to monitor for several reasons. The clams are underwater much of the time and many lease sites must be visited by boat, which is relatively difficult and expensive compared with other commodities. There are significant time constraints for inspections due to the tides, which may necessitate multiple days for inspections of growers with multiple sites or inspections of multiple growers, even if they are located very close to one another. Growers typically only work their beds at low tides, when the clam beds are not underwater. Even when the beds are exposed, the clams are still not visible unless they are dead because live clams keep themselves buried under the substrate in which they are growing. Thus, inspectors can more easily inspect the condition of the lease site and cover nets than the clams themselves. The clams can be sampled and dug up to assess their condition, but this is a time-consuming process. This product is very unique for the insurance companies to monitor and there have been a number of concerns that they are less familiar with this product than others and do not sufficiently understand appropriate management strategies and therefore cannot fully evaluate behaviors observed. The management practice that can be best monitored and has an effect on yield/survival is probably stocking density. Because leases in Massachusetts are smaller and often adjacent to one another on the same tidal flat areas, monitoring is somewhat easier than in other states, although still difficult.*

61. Quality variation can be caused by unavoidable "acts of nature" or avoidable "acts of management." In practical parlance, what is the potential for "gaming" the insurance product? Evaluate the potential for gaming the RMA-facilitated insurance product for this crop on a scale from one to five, where one implies that variation in quality is almost exclusively due to "acts of nature" (potential for gaming is low) and five implies that quality variation is almost exclusively due to "acts of management" (potential for gaming is high). If multiple insurance products are offered, answer for each product.

1 very low	**2**	**3**	**4**	**5** very high
X				

The current insurance product does not cover quality variations, so there is no potential for gaming it. In addition, quality variations do not tend to be as much of an issue for calms as yield/survival.

62. To the extent that management affects quality loss risk exposure, how difficult is it to monitor the insured's behavior?

<u>Extremely Difficult</u> Difficult Not too Difficult

Explain: *Quality variation results from subtle changes in management and acts of nature. It would be extremely difficult for someone not well-trained in clam farming practices to monitor a grower's behavior with respect to quality variation.*

63. On a scale from one to five, where one is very large and five is very small, assess the extent of moral hazard problems with existing RMA-facilitated insurance products for this crop.

1 very large	***2***	***3***	***4***	***5*** very small
	X			

Problems Affecting Insurance Participation		
64. Have *significant* problems occurred (either past or current) with policy provisions on existing RMA-facilitated insurance products for the crop? If multiple insurance products are offered, answer for each product.	***Yes***	*No*

65. If the answer to the previous question is no, go to next question. If yes, for each significant problem:

a. Briefly describe the problem.

1) There have been instances where growers with valid claims (in their opinion) have not received indemnities. Often, this is because they did not fully understand the policy provisions (e.g., survival factors, reporting requirements, stages) or disagree with the adjusters' interpretation of policy provisions and/or their loss adjustment. Some growers feel adjustors are not sufficiently familiar with practices and procedures of clam farming and are not able to adequately perform field evaluations or adjust losses. In any event, word spreads that even if an insured farm suffers substantial losses, it is unlikely that an indemnity will be paid.

2) All the clam growers in the region seem to be familiar with the situation of a grower that discovered QPX in Wellfleet and destroyed their clams, with the help of neighboring clam growers, before they had died due to concern that the disease would spread to other growers. Because those clams had not died prior to removal, they did not meet the definition for a covered loss and the claim was denied, but growers in the region felt this was unfair and that if this particular grower was denied coverage, then they had little hope of receiving payments themselves if they had a loss. USDA eventually settled with this grower and did make some payment, but this case contributed to grower mistrust of the program and numerous questions about the status of QPX coverage.

b. What has been the impact of the problem (e.g., high loss ratios, reduced demand, etc.)?

1) Reduced demand and shift towards catastrophic coverage.

2) Reduced demand.

c. Have policy provisions since been changed to adequately address the problem?

1) This is not a problem with the provisions as much as a difficulty in providing the insured with sufficient information about what the provisions are and ensuring that they are aware of and understand the policy provisions and special provisions.

2) Again, this is in part a difficulty in providing the insured with sufficient information about what the provisions are and ensuring that they are aware of and understand the policy provisions and special provisions. In addition, more definitive information on QPX coverage would be helpful for growers in this region.

d. If policy provisions have not been changed, what changes in policy provisions do you think would increase insurance demand for this crop?

1) *With the pilot now in its 12th year, we think it unlikely that changes in the policy will increase participation. Minds are made up and there is not enough potential for insurance agents to be motivated to actively market it.*

66. In this region, do reinsured companies have sufficient incentives to aggressively market existing RMA-facilitated insurance products for the crop? If yes, go to next question. If no, explain. *Clam insurance is a unique product for which it is difficult and expensive to monitor insured behavior and adjust losses. Therefore, it is difficult for companies to justify investments in marketing and servicing clam policies. There are not many growers in Massachusetts and they tend to be small. Companies seem to have limited interest in marketing this product.*	*Yes*	***<u>No</u>***
67. In this region, do agents have sufficient incentives to aggressively market existing RMA-facilitated insurance products for the crop? If yes, go to next question. If no, explain. *For agents as well as the companies, clam insurance is a unique product. It requires more time for agents to learn about and the small market in Massachusetts seems to have limited agent interest. There were numerous concerns expressed by stakeholders about lack of contact with agents and the perceived lack of knowledge of the clam industry and details of the clam insurance program as well as lack of interest in selling clam policies among agents.*	*Yes*	***<u>No</u>***

68. List any perils that concern growers of this crop but are not covered by the existing RMA-facilitated insurance products (e.g., business interruption due to unavailability of irrigation water, disease quarantines, etc.). For each peril assess the extent of growers' concerns about this peril on a scale from one to five where one is minor concern and five is major concern.

List all:	***1*** minor concern	***2***	***3***	***4***	***5*** major concern
Inability to market			**X**		
Inability to plant due to low seed availability			**X**		
Low market prices			**X**		

69. Briefly describe the potential for insuring these currently uninsured perils? In answering this, consider the following questions:

    Can hidden action/moral hazard and classification/adverse selection problems be avoided?

    Can clearly stated policy provisions be developed and accurate premium rates established?

Although growers and state aquaculture specialists identify several of these perils as major issues, there is little potential for inability to market or inability to plant due to the high potential for hidden action/moral hazard and classification/adverse selection problems as well as the difficulty in defining premium rates for state or local government marketing restrictions being imposed. Low market prices could potentially be covered, although that would require development of a revenue insurance product rather than the current stock mortality insurance.

70. On a scale from one to five, where one is very high and five is very low, assess the likelihood that problems affecting participation can be adequately addressed by product or policy modifications.

1 very low	***2***	***3***	***4***	***5*** very high
	X			

Program Evaluation Diagnostic Questions

Region **South Carolina – Pilot Counties (Beaufort and Charleston)**

Crop **Hard clam (Marcenaria mercenaria)**

Market **Fresh Live Market**

Background Information

Production Processes

~~Annuals~~ **Multi-year Crop**

1. Is the crop planted multiple times during a crop production year? If yes, explain: *Because of higher water temperatures and availability of seed clams, growers in warmer climates such as South Carolina can plant year-round. Producers generally plant multiple times during the year so that they have clams reaching market size throughout the year. However, there is typically more planting in the cooler months of fall, winter, and early spring to reduce crab predation of the newly planted seed clams.*	***Yes***	*No*
2. For a single planting, is the crop harvested multiple times during a crop production year? If yes, explain: *Harvest for market occurs continuously throughout the year, with portions of a single planting potentially harvested on multiple occasions to provide a steady supply of market clams. In addition, clams are marketed and priced by size. Some farmers sort and sell everything they harvest from the field, whereas others will replant smaller clams and harvest them at a later date to get a higher price.*	***Yes***	*No*

3. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as double crop, fallow, irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.

One large seed grower provides most of the seed used in the state, and also markets seed from Virginia down to Georgia. Most South Carolina growers buy 4-6 mm seed, grow it under mesh and then replant as 12-15 mm seed. From that point it takes about a year to produce a littleneck, and 2-2.5 years to produce a cherrystone. The current trend is to produce bigger clams, with growers aiming for the topneck market. Growers have been switching from bag culture to bottom culture which reportedly has demonstrated better survival for the longer growth period. But it also *depends on the nature of the bottom. Some growers are doing both, keeping the easier to harvest bags for when they suddenly need to meet demand for volume.*

Biennials		
4. Is the crop harvested multiple times during a crop production year?	*Yes*	*No*
5. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.		

Perennials		
6. Is the crop harvested multiple times during a crop production year? If yes, explain:	*Yes*	*No*
7. Is the crop alternate bearing?	*Yes*	*No*
8. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.		
9. What is the economic life of the capital stock (trees, vines, etc.)?	____*Years*	
10. Over its economic life, what is the likelihood that 10 percent or more of the capital stock would be lost due to natural causes? Describe:	_______*%* *(probability of loss)*	

11. If capital stock is lost, how long will it take to reestablish the capital stock to a point where it starts producing salable output? _____*Years*

12. If capital stock is lost, how long will it take to reestablish the capital stock to a point where it is at peak production? _____*Years*

Nursery

13. Describe distinguishing characteristics of prevailing production system(s) for nursery crops in this region. Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.

Marketing

14. Describe typical marketing channels and/or contracting structures for this crop.

The market for cultivated hard clams is primarily grocery chains and the main mode of consumption is probably steamed. Half-shell raw bars and other restaurants are also important. Molluscan shellfish harvesting and marketing is regulated by FDA. Growers can only sell to certified shellfish wholesalers or become wholesalers themselves by following State and Federal guidelines for operating a shellfish food production facility. In South Carolina, approximately 90 percent of the clams are shipped out of state through traditional seafood channels, with some product going directly to large chain restaurants. There is limited local marketing. There tend to be informal working relationships between growers and their wholesalers, with little or no formal contracting in place.

15. In this region are there critical time periods (i.e., marketing windows) when producers hope to market this crop? If so, describe.

Clams are harvested and marketed year round, but the peak marketing periods for cultivated clams are the summer months (particularly around Memorial Day, July 4th, and Labor Day) followed by a second, smaller peak during the Thanksgiving to New Year's Day holiday season.

16. Within the marketing channels and/or contracting structures mentioned above describe how quality variations are handled (e.g., off-grade apples in a fresh market system may be processed for juice).

The quality of cultivated hard clams centers on size, shelf-life, and breakage during handling and shucking. If one of these quality issues should diminish, the wholesale/retail purchaser generally provides feedback directly to the grower. Depending on the issue, growing and handling strategies can be implemented to rectify quality issues. Clams are sorted by size and growers are paid based on prevailing prices for each size, which go into different markets. Clams less than littleneck size (1 inch hinge) will be used in pastas and other products rather than sold on the half-shell and will receive lower prices per clam. Clams that are too large for the half-shell market (e.g., cherrystones and chowders) are chopped up for processed products such as clam chowder and also receive lower prices per clam.

17. In this region, do federal supply control marketing orders exist for production of this crop? Describe:	*Yes*	***No***
18. In this region, do state quality marketing orders exist for production of this crop? Describe:	*Yes*	***No***

RMA–Facilitated Insurance Products

19. In this region, what RMA-facilitated insurance products are currently available for this crop? List all:

1) Cultivated Clam Pilot Insurance Program (stock mortality insurance)

2) AGR-Lite (whole farm revenue insurance)

Yield Risk

20. In this region what are examples of crops with very ***low** relative* yield risk? Relative risk is used to adjust absolute magnitudes that vary across crops to a relative level to facilitate comparability (roughly, a measure of variation divided by the mean level).

Crops in the region that are relatively low risk include nursery and fresh market tomatoes, but there is not much agriculture in these two counties. Clam growers do not produce field crops.

21. In this region what are examples of crops with very ***high** relative* yield risk?

Some of the crops with relatively high relative yield risks include corn, soybeans and wheat.

22. Is this crop exposed to catastrophic risks that would reduce yields by 50 percent or more? *This and responses below refer to the risk of mortality of 50 percent or more, after adjusting for normal mortality.*	***<u>Yes</u>***	*No*

23. If the answer to the previous question is yes, describe these risks. If no, proceed to the next question. Over 25 years (or crop cycles) approximately how often would you expect such catastrophic losses to occur?

Description	***Years (or crop cycles) out of 25***
Hurricanes and other storm-related wind and wave action	*2 years out of 25*
Oxygen depletion	*1 year out of 25*
Freeze/ice	*1 year out of 25*
Toxic algae	*1 year out of 25*

24. Characterize yield risk for this crop *ignoring the catastrophic yield risk(s) described earlier*. On a scale from one to five, if the low relative yield risk crops identified earlier were one, and the high relative yield risk crops identified earlier were five, what number would you assign to the non-catastrophic yield risk associated with this crop in this region?

1 very low relative yield risk	***2***	***3***	***4***	***5*** very high relative yield risk
	X			

25. In this region, do producers tend to experience multiple-year sequences of good yields or bad yields for this crop? If yes, describe what causes these multiple-year sequences.	*Yes*	***<u>No</u>***

26. On a scale from one to five, where one is very low yield risk and five is very high yield risk, provide an overall assessment of yield risk faced by producers of this crop in this region.

1 very low yield risk	***2***	***3***	***4***	***5*** very high yield risk
		X		

Quality Risk

27. In this region what are examples of crops with very **low** quality risk?

Grains, soybeans and nursery plants have very low quality risk.

28. In this region what are examples of crops with very **high** quality risk?

Many fruits and vegetables produced in the region have relatively high quality risk.

29. Is this crop exposed to catastrophic quality risks that would reduce the average price received by 20 percent or more? *In general, clams are marketable if alive and are not subject to catastrophic quality risk.*	*Yes*	***No***

30. If the answer to the previous question is yes, describe these risks. If no, proceed to the next question. Over 25 years (or crop cycles) approximately how often would you expect such catastrophic quality losses to occur?

Description	***Years (or crop cycles) out of 25***

31. We now want to characterize quality risk for this crop *ignoring the catastrophic quality risk(s) described earlier*. On a scale from one to five, if the crops with very low risk of quality problems identified earlier were one, and the crops with very high risk of quality problems identified earlier were five, what number would you assign to the quality risk associated with this crop in this region?

1 very low quality risk	***2***	***3***	***4***	***5*** very high quality risk
X				

32. On a scale from one to five, if one is very low quality risk and five is very high quality risk, provide an overall assessment of quality risk faced by producers of this crop in this region.

1 very low quality risk	***2***	***3***	***4***	***5*** very high quality risk
X				

Price Risk

33. In this region what are examples of crops with very ***low** relative* price risk *within the production cycle*? That is, variation in price between pre-plant for annuals (or equivalent for perennials) and sale. (Similar concept to IP and RA for crops with futures markets).

Corn and most livestock have low relative price risk in this region.

34. In this region what are examples of crops with very ***high** relative* price risk *within the production cycle*? That is, variation in price between pre-plant for annuals (or, equivalent for perennials) and sale. (Similar concept to IP and RA for crops with futures markets).

Many fruits and vegetables produced in this region have relatively high price risk.

35. On a scale from one to five, if the low price risk crops identified earlier were one and the high price risk crops identified earlier were five, what number would you assign to the relative price risk (within the production cycle) associated with this crop in this region?

1 low price risk crop	***2***	***3***	***4***	***5*** high price risk crop
		X		

36. In this region, do producers tend to experience multiple-year sequences of high prices or low prices for this crop? If yes, describe.	*Yes*	***No***

37. On a scale from one to five, where one is very low price risk and five is very high price risk, provide an overall assessment of price risk (within the production cycle) faced by producers of this crop in this region. *3*

1 very low price risk	***2***	***3***	***4***	***5*** very high price risk
		X		

Other Sources of Revenue Risk

38. For this region, describe other factors that affect revenue risk for this crop (e.g., prevented planting).

1) Inadequate seed availability from commercial hatcheries.
2) High mortality at the nursery stage for growers with nursery clams, leaving them with fewer clams to plant for growout.
3) Poor growth conditions in the field, e.g. inadequate or improper food resources due to poor phytoplankton production.
4) Area closures by government agencies.
5) Delayed harvest due to major rainfall events.

39. On a scale from one to five, where one is very low risk and five is very high risk, provide an overall assessment of risk sources other than yield, quality, and price risks faced by producers of this crop in this region.

1 very low risk	***2***	***3***	***4***	***5*** very high risk
	X			

Sufficient Non-Insurance Coping Mechanisms

40. On a scale from one to five, where one is very low and five is very high, assess the extent to which producers of this commodity in this region use risk-reducing inputs as a substitute for crop insurance.

1 very low	***2***	***3***	***4***	***5*** very high
	X			

41. Are government crop programs (e.g., marketing loans and counter-cyclical payments) available for this crop? Describe:	*Yes*	***No***

42. In this region, is there a history of federal disaster payments for this crop? Describe: *There have been claims made by hard clam growers under the Non- Insured Crop Disaster Assistance Program in the past prior to the introduction of the Cultivated Clam Pilot Insurance Program.*	***Yes - limited***	*No*
43. Approximately what percentage of the total production of this crop is under production contract with a first handler or processor? *Describe contracts:* *We did not identify any.*	***0*** *%*	
a. Under the terms of a typical production contract for this crop, is the grower exposed to *production risk* (i.e., the grower must deliver on the contract even if production shortfalls occur)?	*Yes*	*No*
b. Under the terms of a typical production contract for this crop, is the grower exposed to *quality risk* (i.e., there are significant price penalties if the product does not meet the quality characteristics specified in the contract).	*Yes*	*No*
c. Under the terms of a typical production contract for this crop, is the grower exposed to *price risk* (i.e., prices for specific quality characteristics are not specified in the contract)?	*Yes*	*No*
44. In this region, approximately what percentage of the total production of this crop is priced prior to harvest (may or may not be tied to a production contract)? Describe:	***0*** *%*	

45. When corn farmers in the Midwest experience low (high) yields, they can often expect higher (lower) market prices (i.e., prices and yields are very negatively correlated). This moderates the revenue impacts of low yields. In contrast, for corn farmers in the Southeast there is very little relationship between their yields and market prices (i.e., prices and yields are independent). In this region the price and yield for this crop are (circle one):

Independent ***Somewhat Negatively Correlated*** *Highly Negatively Correlated*

Describe:

The regional price for hard clams is influenced by wild harvests as well as cultivated clam harvests from other regions, which reduces the correlation between yield (mortality) and price. There are limited data to quantitatively assess the correlation, but there seems to be some negative correlation between clam crop success and prices. In the case of farmers who are selling to a local niche market, local yield can greatly influence their market price. For those farmers selling wholesale to larger regional markets, the *local yield has relatively little influence.*

46. On a scale from one to five, where one is "strongly disagree" and five is "strongly agree," provide your reaction to the following statement:

"In this region, producers of this crop are financially able to self-insure against production losses."

1 strongly disagree	***2***	***3***	***4***	***5*** strongly agree
	X			

Describe: *Most growers are highly dependent on revenue from clams and do not have sufficient assets to self-insure.*

47. For a typical grower of this crop, approximately what percentage of the total farm revenue would be attributable to this crop?

According to growers and aquaculture specialists, clam growers in the state tend to derive almost all farm income from clams.

95 *%*

48. What other commodities would typically be produced on a farm that produces this commodity? What is the correlation between revenue from these other commodities and the revenue from this commodity? For correlation use a scale of one to five, where 1 is "strongly negatively correlated," 2 is "negatively correlated," 3 "independent," 4 is "positively correlated," and 5 is "strongly positively correlated."

List:	***Correlation*** *(assign a number between 1-5)*
Oyster	*4*
Shrimp	*3*

49. In this region, approximately what percentage of the total production of this crop is produced by part-time farmers who have full-time employment off the farm?

20*%*

50. On a scale from one to five, where one is "strongly disagree" and five is "strongly agree," provide your reaction to the following statement:

"In this region, producers of this crop attempt to manage production risk by spreading their production over several geographic locations."

1 strongly disagree	*2*	*3*	*4*	*5* strongly agree
	X			

Describe: *Growers are dependent on access to shellfish leases from the State or can potentially sublease from another grower that has a State lease. There was an average of about 1.7 mariculture leases per mariculture permittee in South Carolina in 2004 with an overall average of 32 acres per lease (not all of which is necessarily usable area for planting clams). Therefore, at least some growers have multiple leases and leases are relatively large compared to states such as Florida or Massachusetts, but there is still generally limited ability to spatially diversify to reduce risk based on feedback received.*

51. In this region, what private-sector insurance products (if any) are currently available for this crop?

List all:

None identified

52. Characterize how agricultural lenders in this region view the available RMA-facilitated insurance products for this crop. "Unfavorable" implies that lenders actually discourage borrowers from purchasing the product while "favorable" implies that lenders strongly encourage and often require borrowers to purchase the product. If multiple insurance products are offered, answer for each product.

Unfavorable *Indifferent* ***Favorable***

Describe: *Lenders view the insurance coverage positively and growers and aquaculture specialists indicated that it has been valuable for growers seeking loans.*

53. On a scale from one to five, where one is very high and five is very low, assess the sufficiency of non-insurance coping mechanisms for producers of this crop in this region.

1 high availability	*2*	*3*	*4*	*5* low availability
				X

Risk Classification

54. On a scale from one to five, where one is strongly disagree and five is strongly agree, provide your reaction to the following statement:

"In this region, no producers of this crop are really any more or less risky than any others. They all face about the same risk of loss."

1 strongly disagree	*2*	*3*	*4*	*5* strongly agree
	X			

Describe: *Risk in shellfish farming is generally thought to be on a "waterbody scale" in that a catastrophic situation probably will affect most growers within a specific embayment. Therefore, the risk in one embayment may be significantly different than the risk of a neighboring embayment, assuming that the two environments have distinct physical differences. Risk is also dependent on the husbandry practices of the individual grower.*

---

55. In this region, *for those who are currently **not** insured*, would you say that premium rate on the existing RMA-facilitated insurance products for this crop are "much too low," "about right," or "much too high"? If more than one RMA insurance product is offered, answer for each product.

Much Too Low *About Right* ***<u>Much Too High</u>***

If you answered that premium rates are "much too high," explain why (or how) you think this happened.

There are few growers in the state, but among growers and aquaculture specialists that provided feedback, there were concerns that the rates in South Carolina are too high relative to the risk protection provided. Rates in South Carolina have been exactly the same as in Virginia during the entire program (with the exception of stage 4 clams, which are not defined in Virginia, starting in 2004) and slightly higher than in Massachusetts. The perception is that the state is relatively low risk and large enough losses to trigger an indemnity are unlikely. However, participation has been limited and there is little data available to assess the probability and magnitude of expected indemnities.

---

56. In this region, *for those who currently are insured*, would you say that premium rate on the existing RMA-facilitated insurance products for this crop are "much too low," "about right," or "much too high"? If more than one RMA insurance product is offered, answer for each product.

Much Too Low ***<u>About Right</u>*** *Much Too High*

If you answered that premium rates are "much too high," explain why (or how) you think this happened.

There is only one grower currently insured and he said he had no problem at all with the rate.

---

57. For this region, to what extent does the system used to establish the guarantee (e.g., APH yield or expected revenue) for this crop match the true value of the production at risk? An answer of one indicates that the system used to establish the guarantee does a very poor job of matching the true value of the production at risk. An answer of five indicates that the system used to establish the guarantee does a very good job of matching the true value of the production at risk.

1 very poor job	***2***	***3***	***4***	***5*** very good job
		X		

58. On a scale from one to five, where one is very low and five is very high, assess the effectiveness of existing RMA-facilitated insurance products in accurately classifying potential policyholders according to their loss exposure (i.e., higher risk growers pay higher premiums while lower risk growers pay lower premiums).

1 very low	***2***	***3***	***4***	***5*** very high
X				

All growers within a county pay the same premium for a given stage although there may be substantial differences in risk based on location and management practices.

Moral Hazard and Monitoring

59. Yield variation can be caused by unavoidable "*acts of nature*" or avoidable "*acts of management*." In practical parlance, what is the potential for "gaming" the insurance product? Evaluate the potential for gaming the RMA-facilitated crop insurance product for this crop on a scale from one to five, where one implies that variation in yield is almost exclusively due to "acts of nature" (potential for gaming is low) and five implies that yield variation is almost exclusively due to "acts of management" (potential for gaming is high). If multiple insurance products are offered, answer for each product.

1 very low	***2***	***3***	***4***	***5*** very high
			X	

60. To the extent that management affects yield loss risk exposure, how difficult is it to monitor the insured's behavior?

Extremely Difficult *Difficult* *Not too Difficult*

Explain: *The insured's behavior is difficult and expensive to monitor for several reasons. The clams are underwater at all times and must be visited by boat, which is relatively difficult and expensive compared with other commodities. In addition, because they are underwater, it is difficult and time-consuming to assess the condition of the clams. Bags can be randomly pulled up and assessed, or bottom plantings sampled, but assessors are generally dependent on growers taking them out to their lease sites and there have been concerns that growers could potentially choose to visit and select only sites that they know are in good condition. Growers do not like to pull up many bags because bags are typically attached to one another and must be cut apart and they also feel that it increases mortality to pull up bags and then put them back. This product is also very unique for the insurance companies to monitor and there have been a number of concerns that they are less familiar with this product than others and do not sufficiently understand appropriate management strategies and therefore cannot fully evaluate behaviors observed. The management practice that can be best monitored and would have an effect on yield/survival is probably stocking density.*

61. Quality variation can be caused by unavoidable "acts of nature" or avoidable "acts of management." In practical parlance, what is the potential for "gaming" the insurance product? Evaluate the potential for gaming the RMA-facilitated insurance product for this crop on a scale from one to five, where one implies that variation in quality is almost exclusively due to "acts of nature" (potential for gaming is low) and five implies that quality variation is almost exclusively due to "acts of management" (potential for gaming is high). If multiple insurance products are offered, answer for each product.

1 very low	***2***	***3***	***4***	***5*** very high
X				

The current insurance product does not cover quality variations, so there is no potential for gaming it. In addition, quality variations do not tend to be as much of an issue for calms as yield/survival.

62. To the extent that management affects quality loss risk exposure, how difficult is it to monitor the insured's behavior?

Extremely Difficult Difficult Not too Difficult

Explain: *Quality variation results from subtle changes in management and acts of nature. It would be extremely difficult for someone not well-trained in clam farming practices to monitor a grower's behavior with respect to quality variation.*

63. On a scale from one to five, where one is very large and five is very small, assess the extent of moral hazard problems with existing RMA-facilitated insurance products for this crop.

1 very large	***2***	***3***	***4***	***5*** very small
		X		

While there is some potential for gaming, there have been only 2 indemnities in this state – one each in 2003 and 2004 – and no evidence that moral hazard has caused higher crop insurance indemnities.

Problems Affecting Insurance Participation

64. Have *significant* problems occurred (either past or current) with policy provisions on existing RMA-facilitated insurance products for the crop? If multiple insurance products are offered, answer for each product.	***Yes***	*No*

65. If the answer to the previous question is no, go to next question. If yes, for each significant problem:

a. Briefly describe the problem.

1) *The 2007 evaluation of the program reported instances where growers with valid claims (in their opinion) had not received indemnities. Often, this is because they did not fully understand the policy provisions (e.g., survival factors, reporting requirements, stages) or disagreed with the adjusters' interpretation of policy provisions and/or their loss adjustment.*

2) *Many growers in the state plant clams significantly larger than 10mm and feel provisions do not adequately cover them because the payout by stage is based on the time since planting rather than size, i.e., their clams may already be the size of Stage 3 or even some Stage 4 clams when planted, but valued as Stage 2 for the first 6 months and Stage 3 for the next 6 months. They also think the survival factor for larger seed clams should be higher than for 10mm clams.*

b. What has been the impact of the problem (e.g., high loss ratios, reduced demand, etc.)?

1) *Reduced demand and shift towards catastrophic coverage.*

2) *Reduced demand.*

c. Have policy provisions since been changed to adequately address the problem?

1) *This is not a problem with the provisions as much as a difficulty in providing the insured with sufficient information about what the provisions are and ensuring that they are aware of and understand the policy provisions and special provisions.*

2) *No*.

d. If policy provisions have not been changed, what changes in policy provisions do you think would increase insurance demand for this crop?

The pilot is now in its 12th year. It has never been embraced by South Carolina clam growers. Many seem to be totally unaware of it. We do not think there is any change to the provisions that would have a significant impact on participation.

	Yes	No
66. In this region, do reinsured companies have sufficient incentives to aggressively market existing RMA-facilitated insurance products for the crop? If yes, go to next question. If no, explain. *Clam insurance is a unique product for which it is difficult and expensive to monitor insured behavior and adjust losses. There is also a small market for the insurance in South Carolina as there are not many growers. Therefore, it is difficult for companies to justify investments in marketing and servicing clam policies.*	*Yes*	***No***

67. In this region, do agents have sufficient incentives to aggressively market existing RMA-facilitated insurance products for the crop? If yes, go to next question. If no, explain. *For agents as well as the companies, clam insurance is a unique product. It requires more time for agents to learn about and with the small market for the insurance in South Carolina, agents are not likely to have strong incentives to develop the detailed knowledge of the clam industry and to effectively market the insurance product.*	*Yes*	***No***

68. List any perils that concern growers of this crop but are not covered by the existing RMA-facilitated insurance products (e.g., business interruption due to unavailability of irrigation water, disease quarantines, etc.). For each peril assess the extent of growers' concerns about this peril on a scale from one to five where one is minor concern and five is major concern.

List all:	***1*** minor concern	***2***	***3***	***4***	***5*** major concern
None known due to lack of industry feedback.					

69. Briefly describe the potential for insuring these currently uninsured perils? In answering this, consider the following questions:

Can hidden action/moral hazard and classification/adverse selection problems be avoided?

Can clearly stated policy provisions be developed and accurate premium rates established?

70. On a scale from one to five, where one is very high and five is very low, assess the likelihood that problems affecting participation can be adequately addressed by product or policy modifications.

1 very low	***2***	***3***	***4***	***5*** very high
	X			

Program Evaluation Diagnostic Questions

Region **Virginia – Pilot Counties (Accomack and Northampton)**

Crop **Hard clam (Marcenaria mercenaria)**

Market
(fresh, processed, sold for animal feed, etc.) **Fresh Live Market**

Background Information

Production Processes

~~Annuals~~ **Multi-year Crop**

1. Is the crop planted multiple times during a crop production year? If yes, explain: *Clams are typically planted multiple times during a year. The largest firms plant weekly from April through November. Small growers may plant 2 or 3 times.*	***<u>Yes</u>***	*No*
2. For a single planting, is the crop harvested multiple times during a crop production year? If yes, explain: *Harvest for market occurs throughout much of the year, with a slow period in the winter. Portions of a single planting are potentially harvested on multiple occasions to provide a steady supply of market clams. In addition, clams are marketed and priced by size. Some farmers sort and sell everything they harvest from the field, whereas others will replant smaller clams and harvest them at a later date to get a higher price.*	***<u>Yes</u>***	*No*

3. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as double crop, fallow, irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.

Leases used for clam production tend to be much larger in Virginia than in other states – as large as 200 acres. Leases may be in creeks, the Chesapeake Bay, and/or seaside, which increases interest in having multiple units for insurance purposes. Production in the bay is a result of all the creek leases being taken. Because the leases tend to be large, many growers rotate their clams between parts of the lease, leaving portions fallow. Most growers purchase seed clams from one of the commercial hatcheries in the region or have a contracting or subleasing arrangement with one of the larger wholesalers. The average crop cycle for final growout of seed clams to market size ranges from about 1.5 to 3 years, depending on water temperatures when seeded, size of seed clams (some growers in the state typically use larger seed clams of 16- 18mm or even larger), stocking *densities, and lease site productivity.*

Biennials		
4. Is the crop harvested multiple times during a crop production year?	*Yes*	*No*
5. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.		

Perennials		
6. Is the crop harvested multiple times during a crop production year? If yes, explain:	*Yes*	*No*
7. Is the crop alternate bearing?	*Yes*	*No*
8. Describe distinguishing characteristics of prevailing production system(s) for this crop (e.g., practices such as irrigation, regional differences in climate or soils, etc.). Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.		
9. What is the economic life of the capital stock (trees, vines, etc.)?	____*Years*	
10. Over its economic life, what is the likelihood that 10 percent or more of the capital stock would be lost due to natural causes? Describe:	_______*%* *(probability of loss)*	

11. If capital stock is lost, how long will it take to reestablish the capital stock to a point where it starts producing salable output? ____*Years*

12. If capital stock is lost, how long will it take to reestablish the capital stock to a point where it is at peak production? ____*Years*

Nursery

13. Describe distinguishing characteristics of prevailing production system(s) for nursery crops in this region. Discuss, particularly, features that are critical in assessing potential demand including potential issues with practices and types.

Marketing

14. Describe typical marketing channels and/or contracting structures for this crop.

The market for cultivated hard clams is primarily grocery chains and the main mode of consumption is probably steamed. Half-shell raw bars and other restaurants are also important. Molluscan shellfish harvesting and marketing is regulated by FDA. Growers can only sell to certified shellfish wholesalers or become wholesalers themselves by following State and Federal guidelines for operating a shellfish food production facility. There are several very large shellfish wholesalers in Virginia and they generally are also clam growers. Some of the largest are vertically integrated through the production chain, with hatcheries, nurseries, growout sites, and wholesale distribution. Some large producers contract with growers to produce market clams and pay contract growers based on the number harvested. One producer in particular requires contract growers working with them to have clam insurance and pays 60% of the premium. Other large operations have a number of subleasing agreements and encourage the purchase of clam insurance. These arrangements increase the number of participants in the insurance program and total liability as long as the large growers maintain interest in the program and are requiring or encouraging growers working with them to hold insurance.

15. In this region are there critical time periods (i.e., marketing windows) when producers hope to market this crop? If so, describe.

Peak marketing periods for cultivated clams are the summer months (particularly around Memorial Day, July 4th, and Labor Day) followed by a second, smaller peak during the Thanksgiving to New Year's Day holiday season.

16. Within the marketing channels and/or contracting structures mentioned above describe how quality variations are handled (e.g., off-grade apples in a fresh market system may be processed for juice).

The quality of cultivated hard clams centers on size, shelf-life, and breakage during handling and shucking. If one of these quality issues should diminish, the wholesale/retail purchaser generally provides feedback directly to the grower. Depending on the issue, growing and handling strategies can be implemented to rectify quality issues. Clams are sorted by size and growers are paid based on prevailing prices for each size, which go into different markets. Clams less than littleneck size (1 inch hinge) will be used in pastas and other products rather than sold on the half-shell and will receive lower prices per clam. Clams that are too large for the half-shell market (e.g., cherrystones and chowders) are chopped up for processed products such as clam chowder and also receive lower prices per clam.

17. In this region, do federal supply control marketing orders exist for production of this crop? Describe:	*Yes*	***<u>No</u>***
18. In this region, do state quality marketing orders exist for production of this crop? Describe:	*Yes*	***<u>No</u>***

RMA–Facilitated Insurance Products

19. In this region, what RMA-facilitated insurance products are currently available for this crop? List all:

1) Cultivated Clam Pilot Insurance Program (stock mortality insurance)

2) AGR-Lite (whole farm revenue insurance)

Yield Risk

20. In this region what are examples of crops with very ***low** relative* yield risk? Relative risk is used to adjust absolute magnitudes that vary across crops to a relative level to facilitate comparability (roughly, a measure of variation divided by the mean level).

Crops in the region that are relatively low risk include nursery and fresh market tomatoes, but clam growers do not generally also grow field crops.

21. In this region what are examples of crops with very ***high** relative* yield risk?

Crops with high relative yield risks include corn, cotton, soybeans and vegetables.

22. Is this crop exposed to catastrophic risks that would reduce yields by 50 percent or more?	***Yes***	*No*

23. If the answer to the previous question is yes, describe these risks. If no, proceed to the next question. Over 25 years (or crop cycles) approximately how often would you expect such catastrophic losses to occur?

Description	***Years (or crop cycles) out of 25***
Hurricanes and other storm-related wind and wave action	*1-2 years out of 25*
Salinity changes	*Location-dependent; seaside <1 year out of 25, bayside 1-3 years out of 25*
Low dissolved oxygen	*1 year out of 25*
Freeze/ice	*2 years out of 25*

24. Characterize yield risk for this crop *ignoring the catastrophic yield risk(s) described earlier*. On a scale from one to five, if the low relative yield risk crops identified earlier were one, and the high relative yield risk crops identified earlier were five, what number would you assign to the non-catastrophic yield risk associated with this crop in this region?

1 very low relative yield risk	***2***	***3***	***4***	***5*** very high relative yield risk
X				

25. In this region, do producers tend to experience multiple-year sequences of good yields or bad yields for this crop? If yes, describe what causes these multiple-year sequences.	*Yes*	***No***

26. On a scale from one to five, where one is very low yield risk and five is very high yield risk, provide an overall assessment of yield risk faced by producers of this crop in this region.

1 very low yield risk	***2***	***3***	***4***	***5*** very high yield risk
	X			

Quality Risk

27. In this region what are examples of crops with very **low** quality risk?

Grains, soybeans and nursery plants have very low quality risk.

28. In this region what are examples of crops with very **high** quality risk?

Tomatoes, green beans, and other vegetables have relatively high quality risk.

29. Is this crop exposed to catastrophic quality risks that would reduce the average price received by 20 percent or more? *In general, clams are marketable if alive and are not subject to catastrophic quality risk.*	*Yes*	***<u>No</u>***

30. If the answer to the previous question is yes, describe these risks. If no, proceed to the next question. Over 25 years (or crop cycles) approximately how often would you expect such catastrophic quality losses to occur?

Description	***Years (or crop cycles) out of 25***

31. We now want to characterize quality risk for this crop *ignoring the catastrophic quality risk(s) described earlier*. On a scale from one to five, if the crops with very low risk of quality problems identified earlier were one, and the crops with very high risk of quality problems identified earlier were five, what number would you assign to the quality risk associated with this crop in this region?

1 very low quality risk	***2***	***3***	***4***	***5*** very high quality risk
X				

32. On a scale from one to five, if one is very low quality risk and five is very high quality risk, provide an overall assessment of quality risk faced by producers of this crop in this region.

1 very low quality risk	***2***	***3***	***4***	***5*** very high quality risk
X				

Price Risk

33. In this region what are examples of crops with very ***low** relative* price risk *within the production cycle*? That is, variation in price between pre-plant for annuals (or equivalent for perennials) and sale. (Similar concept to IP and RA for crops with futures markets).

Corn, soybeans, nursery and poultry have low relative price risk in this region.

34. In this region what are examples of crops with very ***high** relative* price risk *within the production cycle*? That is, variation in price between pre-plant for annuals (or, equivalent for perennials) and sale. (Similar concept to IP and RA for crops with futures markets).

Tomatoes and vegetables produced in this region have relatively high price risk.

35. On a scale from one to five, if the low price risk crops identified earlier were one and the high price risk crops identified earlier were five, what number would you assign to the relative price risk (within the production cycle) associated with this crop in this region?

1 low price risk crop	***2***	***3***	***4***	***5*** high price risk crop
		X		

36. In this region, do producers tend to experience multiple-year sequences of high prices or low prices for this crop? If yes, describe.	*Yes*	***<u>No</u>***

37. On a scale from one to five, where one is very low price risk and five is very high price risk, provide an overall assessment of price risk (within the production cycle) faced by producers of this crop in this region.

1 very low price risk	***2***	***3***	***4***	***5*** very high price risk
		X		

Other Sources of Revenue Risk

38. For this region, describe other factors that affect revenue risk for this crop (e.g., prevented planting).

1) Inadequate seed availability from commercial hatcheries.
2) High mortality at the nursery stage for growers with nursery clams, leaving them with fewer clams to plant for growout.
3) Area closures by government agencies.
4) Delayed harvest due to major rainfall events or other causes.

39. On a scale from one to five, where one is very low risk and five is very high risk, provide an overall assessment of risk sources other than yield, quality, and price risks faced by producers of this crop in this region.

1 very low risk	*2*	*3*	*4*	*5* very high risk
	X			

Sufficient Non-Insurance Coping Mechanisms

40. On a scale from one to five, where one is very low and five is very high, assess the extent to which producers of this commodity in this region use risk-reducing inputs as a substitute for crop insurance.

1 very low	*2*	*3*	*4*	*5* very high
	X			

41. Are government crop programs (e.g., marketing loans and counter-cyclical payments) available for this crop? Describe:	*Yes*	***<u>No</u>***

42. In this region, is there a history of federal disaster payments for this crop? Describe: *There have been claims made by hard clam growers under the Non- Insured Crop Disaster Assistance Program in the past prior to the introduction of the Cultivated Clam Pilot Insurance Program.*	***Yes - limited***	*No*
43. Approximately what percentage of the total production of this crop is under production contract with a first handler or processor? *Describe contracts:* *There are contracts in place where large vertically integrated companies provide seed clams, technical expertise, and subsidize the purchase of insurance in some cases. There is limited information available about specific arrangements. In addition to the estimated share of clams produced under contract, there are a number of arrangements where smaller growers sublease from one of the extremely large growers (who tend to be vertically integrated) and other more informal structures where growers sell their clams to particular wholesalers.*	***30*** *%*	
a. Under the terms of a typical production contract for this crop, is the grower exposed to *production risk* (i.e., the grower must deliver on the contract even if production shortfalls occur)?	*Yes*	***No***
b. Under the terms of a typical production contract for this crop, is the grower exposed to *quality risk* (i.e., there are significant price penalties if the product does not meet the quality characteristics specified in the contract). *Growers are paid based on the market value of the clams so if they produce more clams that are smaller or larger than the primary market sizes, they would be receiving less per clam*	***Yes***	*No*
c. Under the terms of a typical production contract for this crop, is the grower exposed to *price risk* (i.e., prices for specific quality characteristics are not specified in the contract)? *The price is determined when the clams are ready to market, so the grower is subject to price risk over the course of the production cycle.*	***Yes***	*No*
44. In this region, approximately what percentage of the total production of this crop is priced prior to harvest (may or may not be tied to a production contract)? Describe:	***0*** *%*	

45. When corn farmers in the Midwest experience low (high) yields, they can often expect higher (lower) market prices (i.e., prices and yields are very negatively correlated). This moderates the revenue impacts of low yields. In contrast, for corn farmers in the Southeast there is very little relationship between their yields and market prices (i.e., prices and yields are independent). In this region the price and yield for this crop are (circle one):

Independent ***Somewhat Negatively Correlated*** *Highly Negatively Correlated*

Describe:

The regional price for hard clams is influenced by wild harvests as well as cultivated clam harvests from other regions, which reduces the correlation between yield (mortality) and price. There are limited data to quantitatively assess the correlation, but Virginia produces a large share of national cultivated clam production, and the size of the Virginia crop probably influences prices.

46. On a scale from one to five, where one is "strongly disagree" and five is "strongly agree," provide your reaction to the following statement:

"In this region, producers of this crop are financially able to self-insure against production losses."

1 strongly disagree	***2***	***3***	***4***	***5*** strongly agree
	X			

Describe:

47. For a typical grower of this crop, approximately what percentage of the total farm revenue would be attributable to this crop?

Oyster production is growing rapidly in Virginia, enabling clam growers to diversify to some degree, but most revenue is still from clams.

85 *%*

48. What other commodities would typically be produced on a farm that produces this commodity? What is the correlation between revenue from these other commodities and the revenue from this commodity? For correlation use a scale of one to five, where 1 is "strongly negatively correlated," 2 is "negatively correlated," 3 "independent," 4 is "positively correlated," and 5 is "strongly positively correlated."

List:	***Correlation*** *(assign a number between 1-5)*
Oyster	*4*

49. In this region, approximately what percentage of the total production of this crop is produced by part-time farmers who have full-time employment off the farm?	***15*** *%*

50. On a scale from one to five, where one is “strongly disagree“ and five is “strongly agree,“ provide your reaction to the following statement:

“In this region, producers of this crop attempt to manage production risk by spreading their production over several geographic locations.”

1 strongly disagree	***2***	***3***	***4***	***5*** strongly agree
			X	

Describe: *Growers are dependent on access to shellfish leases from the State or can potentially sublease from another grower that has a State lease. The available State creek leases have all been taken for years, but there is a market for subleasing. Many of the longer-term and larger growers have multiple lease sites and attempt to reduce production risk by having production on different creeks as well as on the seaside. They may plant near the head of a creek for more reliable protection from the weather, and near the mouth of the creek for protection from fresh water inflows. For newer growers forced to sublease from others, spatial diversification may be difficult to achieve. In addition, they are unlikely to be able to access the best sites in terms of risk/return tradeoff.*

51. In this region, what private-sector insurance products (if any) are currently available for this crop?

List all:

None identified

52. Characterize how agricultural lenders in this region view the available RMA-facilitated insurance products for this crop. “Unfavorable” implies that lenders actually discourage borrowers from purchasing the product while “favorable” implies that lenders strongly encourage and often require borrowers to purchase the product. If multiple insurance products are offered, answer for each product.

Unfavorable *Indifferent* ***Favorable***

Describe: *Lenders view the insurance coverage positively and growers and aquaculture specialists indicated that it has been valuable for growers seeking loans.*

53. On a scale from one to five, where one is very high and five is very low, assess the sufficiency of non-insurance coping mechanisms for producers of this crop in this region.

1 high availability	*2*	*3*	*4*	*5* low availability
		X		

Risk Classification

54. On a scale from one to five, where one is strongly disagree and five is strongly agree, provide your reaction to the following statement:

"In this region, no producers of this crop are really any more or less risky than any others. They all face about the same risk of loss."

1 strongly disagree	*2*	*3*	*4*	*5* strongly agree
	X			

Describe: *Risk in shellfish farming is generally thought to be on a "waterbody scale" in that a catastrophic situation probably will affect most growers within a specific area. In Virginia, risks differ depending on whether clams are in a creek, the bay, or seaside as well as depending on their specific location within those waterbodies. Risk is also dependent on the husbandry practices of the individual grower.*

55. In this region, *for those who are currently **not** insured*, would you say that premium rate on the existing RMA-facilitated insurance products for this crop are "much too low," "about right," or "much too high"? If more than one RMA insurance product is offered, answer for each product.

Much Too Low ***About Right*** *Much Too High*

If you answered that premium rates are "much too high," explain why (or how) you think this happened.

Rates are about right on average but should be reduced in Northampton County and increased in Accomack County, based on experience to date.

56. In this region, *for those who currently are insured,* would you say that premium rate on the existing RMA-facilitated insurance products for this crop are "much too low," "about right," or "much too high"? If more than one RMA insurance product is offered, answer for each product.

Much Too Low ***About Right*** *Much Too High*

If you answered that premium rates are "much too high," explain why (or how) you think this happened.

Rates are about right on average but should be reduced in Northampton County and increased in Accomack County, based on experience to date.

57. For this region, to what extent does the system used to establish the guarantee (e.g., APH yield or expected revenue) for this crop match the true value of the production at risk? An answer of one indicates that the system used to establish the guarantee does a very poor job of matching the true value of the production at risk. An answer of five indicates that the system used to establish the guarantee does a very good job of matching the true value of the production at risk.

1 very poor job	*2*	*3*	*4*	*5* very good job
		X		

58. On a scale from one to five, where one is very low and five is very high, assess the effectiveness of existing RMA-facilitated insurance products in accurately classifying potential policyholders according to their loss exposure (i.e., higher risk growers pay higher premiums while lower risk growers pay lower premiums).

1 very low	*2*	*3*	*4*	*5* very high
X				

All growers within a county pay the same premium for a given stage although there may be substantial differences in risk based on location and management practices.

Moral Hazard and Monitoring

59. Yield variation can be caused by unavoidable "*acts of nature*" or avoidable "*acts of management*." In practical parlance, what is the potential for "gaming" the insurance product? Evaluate the potential for gaming the RMA-facilitated crop insurance product for this crop on a scale from one to five, where one implies that variation in yield is almost exclusively due to "acts of nature" (potential for gaming is low) and five implies that yield variation is almost exclusively due to "acts of management" (potential for gaming is high). If multiple insurance products are offered, answer for each product.

1 very low	*2*	*3*	*4*	*5* very high
			X	

60. To the extent that management affects yield loss risk exposure, how difficult is it to monitor the insured's behavior?

<u>Extremely Difficult</u> *Difficult* *Not too Difficult*

Explain: *The insured's behavior is difficult and expensive to monitor for several reasons. The clams are underwater much of the time and must be visited by boat, which is relatively difficult and expensive compared with other commodities. There are significant time constraints for inspections due to the tides, which may necessitate multiple days for inspections of growers with large/multiple sites. Growers typically only work their beds at low tides, when the clam beds are not under water. Even when the beds are exposed, the clams are still not visible unless they are dead because live clams keep themselves buried under the substrate in which they are growing. Thus, inspectors can more easily inspect the condition of the lease site and cover nets than the clams directly. The clams can be sampled and dug up to assess their condition, but this is a time-consuming process. Lease sites are very spread out and many are located deep within creeks and assessors are generally dependent on growers taking them out to their lease sites. There have been concerns that growers could potentially choose to take the assessor (or loss adjuster) to the wrong site or only to portions of the lease(s) that they know are in good condition. This product is also very unique for the insurance companies to monitor and there* *have been a number of concerns that they are less familiar with this product than others and do not sufficiently understand appropriate management strategies and therefore cannot fully evaluate behaviors observed. The management practice that can be best monitored and has an effect on yield/survival is probably stocking density.*

61. Quality variation can be caused by unavoidable "acts of nature" or avoidable "acts of management." In practical parlance, what is the potential for "gaming" the insurance product? Evaluate the potential for gaming the RMA-facilitated insurance product for this crop on a scale from one to five, where one implies that variation in quality is almost exclusively due to "acts of nature" (potential for gaming is low) and five implies that quality variation is almost exclusively due to "acts of management" (potential for gaming is high). If multiple insurance products are offered, answer for each product.

1 very low	***2***	***3***	***4***	***5*** very high
X				

The current insurance product does not cover quality variations, so there is no potential for gaming it. In addition, quality variations do not tend to be as much of an issue for calms as yield/survival.

62. To the extent that management affects quality loss risk exposure, how difficult is it to monitor the insured's behavior?

Extremely Difficult Difficult Not too Difficult

Explain: *Quality variation results from subtle changes in management and acts of nature. It would be extremely difficult for someone not well-trained in clam farming practices to monitor a grower's behavior with respect to quality variation.*

63. On a scale from one to five, where one is very large and five is very small, assess the extent of moral hazard problems with existing RMA-facilitated insurance products for this crop.

1 very large	***2***	***3***	***4***	***5*** very small
	X			

Problems Affecting Insurance Participation

64. Have *significant* problems occurred (either past or current) with policy provisions on existing RMA-facilitated insurance products for the crop? If multiple insurance products are offered, answer for each product.	*Yes*	*No*

65. If the answer to the previous question is no, go to next question. If yes, for each significant problem:

a. Briefly describe the problem.

1) *Growers are very sensitive to unit definitions in Virginia and most are interested in as many units as possible because they feel that different leases have been separated for a reason (e.g., channel between them, etc.) and may be impacted differently by a given weather event. Changes to the unit definition in the 2005 crop year that combined all of a producer's units on the bayside into a single unit led to reductions in participation and switching from buy-up to catastrophic coverage. This was modified to allow separate units on bayside in the 2006 crop year for leases in each separately named creek and on seaside for leases that are separated by a minimum of one mile at their most proximal point.*

b. What has been the impact of the problem (e.g., high loss ratios, reduced demand, etc.)?

1) *Reduced demand.*

c. Have policy provisions since been changed to adequately address the problem?

1) *Improved. After reductions in participation due to the changes in 2005, units were redefined in 2006 to allow multiple units for separately-named creeks on the bayside and for leases at least 1 mile apart on seaside. Many growers are very interested in further disaggregation of units based on separate leases and/or by number of clams (e.g., unit for every 5 million clams) and this would likely increase participation, but this may lead to higher losses and induce planting on risky sites that could be defined as separate units.*

d. If policy provisions have not been changed, what changes in policy provisions do you think would increase insurance demand for this crop?

1) *Demand could likely be increased with further disaggregation of units, but as long as they are allowed to separate units by creek and on seaside for those far enough apart, it appears likely that most growers will choose to participate and defining in this way avoids increasing potential for planting on sites currently too risky to plant on if they could be treated as separate units. If there were better information for classifying sites by risk and adjusting premiums accordingly by unit, then it may be worth exploring further disaggregation of units, but not with current information.*

66. In this region, do reinsured companies have sufficient incentives to aggressively market existing RMA-facilitated insurance products for the crop? If yes, go to next question. If no, explain. *Clam insurance is a unique product for which it is difficult and expensive to monitor insured behavior and adjust losses. Therefore, it is difficult for companies to justify investments in marketing and servicing clam policies. The market in Virginia is the largest in terms of liability and premium paid and companies have the opportunity to work with fewer, larger operations, which they tend to prefer. There are two companies servicing clam growers in Virginia.*	*Yes*	***No***
67. In this region, do agents have sufficient incentives to aggressively market existing RMA-facilitated insurance products for the crop? If yes, go to next question. If no, explain.	***Yes***	*No*

68. List any perils that concern growers of this crop but are not covered by the existing RMA-facilitated insurance products (e.g., business interruption due to unavailability of irrigation water, disease quarantines, etc.). For each peril assess the extent of growers' concerns about this peril on a scale from one to five where one is minor concern and five is major concern.

List all:	***1*** minor concern	***2***	***3***	***4***	***5*** major concern
Inability to plant due to low seed availability			**X**		
Low market prices			**X**		

69. Briefly describe the potential for insuring these currently uninsured perils? In answering this, consider the following questions:

    Can hidden action/moral hazard and classification/adverse selection problems be avoided?

    Can clearly stated policy provisions be developed and accurate premium rates established?

There is little potential to cover inability to plant due to the high potential for hidden action/moral hazard and classification/adverse selection problems. Low market prices could potentially be covered, although that would require development of a revenue insurance product rather than the current stock mortality insurance.

70. On a scale from one to five, where one is very high and five is very low, assess the likelihood that problems affecting participation can be adequately addressed by product or policy modifications.

1 very low	***2***	***3***	***4***	***5*** very high
	X			

Evaluation of Clams Plans of Insurance
Appendix C
Table of Contents

Evaluation of Clams Plans of Insurance
Table 1.1
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	335	91	415	101	36,120,805	1,125,781	497,917	0	2,069,575	1.84	0.057	0.031
2001	377	112	565	125	41,215,268	1,400,606	532,135	868,471	2,880,698	2.06	0.070	0.034
2002	472	134	793	155	59,952,613	2,180,703	849,518	1,331,185	4,019,248	1.84	0.067	0.036
2003	417	95	706	106	51,177,323	1,860,398	719,508	1,140,890	2,774,520	1.49	0.054	0.036
2004	293	111	555	138	27,701,342	969,181	334,833	634,348	2,182,402	2.25	0.079	0.035
2005	202	17	331	20	18,159,613	625,660	186,416	439,244	624,453	1.00	0.034	0.034
2006	164	16	185	17	26,119,310	931,521	326,234	605,287	677,213	0.73	0.026	0.036
2007	144	19	163	19	26,780,211	973,063	341,538	631,525	502,020	0.52	0.019	0.036
2008	111	11	136	11	30,842,822	1,050,795	368,019	682,776	407,045	0.39	0.013	0.034
2009	107	21	109	21	27,880,494	674,394	221,450	452,944	1,556,513	2.31	0.056	0.024
2010	61	5	65	8	22,129,619	426,246	142,806	283,440	126,090	0.30	0.006	0.019
Total	2,683	632	4,023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.048	0.033
2000-2003	1,601	432	2,479	487	188,466,009	6,567,488	2,599,078	3,340,546	11,744,041	1.79	0.062	0.035
2004-2010	1,082	200	1,544	234	179,613,411	5,650,860	1,921,296	3,729,564	6,075,736	1.08	0.034	0.031

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year and County
Table 1.2
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	Florida	Brevard	14	5	14	5	580,401	22,808	10,438	0	131,603	5.77	0.23	0.04
2000	Florida	Dixie	50	30	67	37	2,382,796	92,623	42,206	0	697,557	7.53	0.29	0.04
2000	Florida	Indian River	16	7	20	8	1,976,161	86,493	41,702	0	260,557	3.01	0.13	0.04
2000	Florida	Levy	151	38	191	40	12,642,770	533,795	258,378	0	872,052	1.63	0.07	0.04
2000	Massachusetts	Barnstable	45	11	58	11	3,213,602	84,345	36,170	0	107,806	1.28	0.03	0.03
2000	South Carolina	Beaufort	1	0	1	0	1,188,101	36,356	17,778	0	0	0.00	0.00	0.03
2000	South Carolina	Charleston	4	0	8	0	209,475	5,402	1,884	0	0	0.00	0.00	0.03
2000	Virginia	Accomack	14	0	14	0	1,358,400	25,673	8,660	0	0	0.00	0.00	0.02
2000	Virginia	Northampton	40	0	42	0	12,569,099	238,286	80,701	0	0	0.00	0.00	0.02
2001	Florida	Brevard	31	22	36	22	1,426,432	78,941	32,278	46,663	520,076	6.59	0.36	0.06
2001	Florida	Dixie	54	20	71	20	2,254,998	109,372	45,127	64,245	116,184	1.06	0.05	0.05
2001	Florida	Indian River	32	14	43	18	1,669,518	95,888	39,303	56,585	360,290	3.76	0.22	0.06
2001	Florida	Levy	147	53	214	61	12,944,881	637,822	257,877	379,945	1,529,762	2.40	0.12	0.05
2001	Massachusetts	Barnstable	38	1	38	1	2,521,563	60,571	15,669	44,902	150,000	2.48	0.06	0.02
2001	South Carolina	Charleston	5	0	10	0	404,495	8,739	2,780	5,959	0	0.00	0.00	0.02
2001	Virginia	Accomack	18	0	53	0	3,656,503	86,770	31,292	55,478	0	0.00	0.00	0.02
2001	Virginia	Northampton	52	2	100	3	16,336,878	322,503	107,809	214,694	204,386	0.63	0.01	0.02
2002	Florida	Brevard	26	8	27	8	1,286,458	74,752	31,557	43,195	274,015	3.67	0.21	0.06
2002	Florida	Dixie	75	24	113	26	3,176,030	149,997	61,188	88,809	158,720	1.06	0.05	0.05
2002	Florida	Indian River	39	4	53	5	2,058,561	132,004	56,359	75,645	133,750	1.01	0.06	0.06
2002	Florida	Levy	222	95	360	113	19,867,220	1,053,549	436,495	617,054	3,358,347	3.19	0.17	0.05
2002	Massachusetts	Barnstable	31	0	32	0	2,710,459	68,960	21,344	47,616	0	0.00	0.00	0.03
2002	South Carolina	Beaufort	1	0	1	0	151,778	2,869	947	1,922	0	0.00	0.00	0.02
2002	South Carolina	Charleston	7	0	18	0	1,091,084	27,509	9,886	17,623	0	0.00	0.00	0.03
2002	Virginia	Accomack	16	0	21	0	8,970,077	201,144	70,798	130,346	0	0.00	0.00	0.02
2002	Virginia	Northampton	55	3	168	3	20,640,946	469,919	160,944	308,975	94,416	0.20	0.00	0.02
2003	Florida	Brevard	17	4	19	4	595,065	33,812	14,292	19,520	212,980	6.30	0.36	0.06
2003	Florida	Dixie	70	20	98	22	2,769,756	153,273	63,249	90,024	276,156	1.80	0.10	0.06
2003	Florida	Indian River	30	5	45	5	1,461,690	98,419	42,287	56,132	86,920	0.88	0.06	0.07
2003	Florida	Levy	192	48	311	55	15,529,702	894,138	373,500	520,638	1,380,730	1.54	0.09	0.06
2003	Massachusetts	Barnstable	30	7	32	7	2,810,694	66,634	18,598	48,036	189,520	2.84	0.07	0.02
2003	South Carolina	Beaufort	4	0	7	0	348,590	15,014	6,157	8,857	0	0.00	0.00	0.04
2003	South Carolina	Charleston	11	1	16	1	1,279,493	32,857	11,877	20,980	77,599	2.36	0.06	0.03
2003	Virginia	Accomack	16	4	51	4	8,511,341	187,704	63,489	124,215	275,435	1.47	0.03	0.02
2003	Virginia	Northampton	47	6	127	8	17,870,992	378,547	126,059	252,488	275,180	0.73	0.02	0.02
2004	Florida	Brevard	8	7	8	7	124,537	12,510	5,312	7,198	60,208	4.81	0.48	0.10
2004	Florida	Dixie	42	19	55	28	702,659	69,838	27,386	42,452	126,368	1.81	0.18	0.10
2004	Florida	Indian River	18	11	29	15	447,830	51,214	21,853	29,361	177,515	3.47	0.40	0.11
2004	Florida	Levy	124	49	162	58	4,063,989	391,262	145,346	245,916	686,482	1.75	0.17	0.10
2004	Massachusetts	Barnstable	26	3	42	4	2,120,979	48,820	14,698	34,122	77,958	1.60	0.04	0.02
2004	South Carolina	Beaufort	4	0	6	0	227,527	5,583	2,090	3,493	0	0.00	0.00	0.02
2004	South Carolina	Charleston	4	1	4	1	609,049	13,512	4,479	9,033	31,938	2.36	0.05	0.02
2004	Virginia	Accomack	19	11	57	11	4,309,291	84,924	15,349	69,575	687,082	8.09	0.16	0.02
2004	Virginia	Northampton	48	10	192	14	15,095,481	291,518	98,320	193,198	334,851	1.15	0.02	0.02
2005	Florida	Brevard	3	0	3	0	75,314	5,877	2,426	3,451	0	0.00	0.00	0.08
2005	Florida	Dixie	20	4	27	5	293,619	24,221	9,354	14,867	56,560	2.34	0.19	0.08
2005	Florida	Indian River	14	0	16	0	175,308	14,698	6,128	8,570	0	0.00	0.00	0.08
2005	Florida	Levy	85	9	127	9	4,023,852	310,911	109,304	201,607	179,860	0.58	0.04	0.08
2005	Massachusetts	Barnstable	20	4	39	6	1,824,752	41,533	12,775	28,758	388,033	9.34	0.21	0.02
2005	Massachusetts	Plymouth	1	0	1	0	222,858	3,732	1,232	2,500	0	0.00	0.00	0.02
2005	South Carolina	Beaufort	1	0	1	0	115,500	1,767	0	1,767	0	0.00	0.00	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year and County
Table 1.2
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2005	South Carolina	Charleston	2	0	3	0	482,424	8,917	2,300	6,617	0	0.00	0.00	0.02
2005	Virginia	Accomack	20	0	21	0	622,324	18,695	7,389	11,306	0	0.00	0.00	0.03
2005	Virginia	Northampton	36	0	93	0	10,323,662	195,309	35,508	159,801	0	0.00	0.00	0.02
2006	Florida	Brevard	2	0	2	0	17,325	1,991	861	1,130	0	0.00	0.00	0.11
2006	Florida	Dixie	8	0	8	0	160,876	14,410	5,141	9,269	0	0.00	0.00	0.09
2006	Florida	Indian River	9	0	9	0	193,382	17,711	7,231	10,480	0	0.00	0.00	0.09
2006	Florida	Levy	70	9	73	10	5,657,475	470,401	170,473	299,928	441,863	0.94	0.08	0.08
2006	Massachusetts	Barnstable	22	4	29	4	1,673,313	41,520	11,305	30,215	123,033	2.96	0.07	0.02
2006	Massachusetts	Plymouth	1	0	1	0	291,600	5,249	1,732	3,517	0	0.00	0.00	0.02
2006	South Carolina	Beaufort	1	0	1	0	115,500	1,975	0	1,975	0	0.00	0.00	0.02
2006	South Carolina	Charleston	2	0	2	0	385,030	7,509	1,793	5,716	0	0.00	0.00	0.02
2006	Virginia	Accomack	14	0	14	0	976,202	31,056	12,365	18,691	0	0.00	0.00	0.03
2006	Virginia	Northampton	35	3	46	3	16,648,607	339,699	115,333	224,366	112,317	0.33	0.01	0.02
2007	Florida	Brevard	3	0	3	0	30,695	2,413	1,034	1,379	0	0.00	0.00	0.08
2007	Florida	Indian River	7	0	7	0	148,896	14,023	5,614	8,409	0	0.00	0.00	0.09
2007	Florida	Levy	60	12	71	12	6,116,818	501,593	179,104	322,489	371,013	0.74	0.06	0.08
2007	Massachusetts	Barnstable	19	5	23	5	1,561,907	37,046	11,542	25,504	86,518	2.34	0.06	0.02
2007	Massachusetts	Plymouth	1	0	1	0	256,500	4,641	1,531	3,110	0	0.00	0.00	0.02
2007	South Carolina	Charleston	2	0	2	0	282,675	5,554	1,190	4,364	0	0.00	0.00	0.02
2007	Virginia	Accomack	14	2	14	2	1,386,265	44,520	17,984	26,536	44,489	1.00	0.03	0.03
2007	Virginia	Northampton	38	0	42	0	16,996,455	363,273	123,539	239,734	0	0.00	0.00	0.02
2008	Florida	Brevard	1	1	1	1	75,724	6,764	2,773	3,991	34,290	5.07	0.45	0.09
2008	Florida	Indian River	4	1	4	1	149,520	15,491	6,882	8,609	7,461	0.48	0.05	0.10
2008	Florida	Levy	41	7	59	7	4,494,398	420,259	146,070	274,189	304,269	0.72	0.07	0.09
2008	Massachusetts	Barnstable	16	2	16	2	1,583,944	48,742	17,096	31,646	61,025	1.25	0.04	0.03
2008	Virginia	Accomack	14	0	14	0	2,199,880	66,829	26,985	39,844	0	0.00	0.00	0.03
2008	Virginia	Northampton	35	0	42	0	22,339,356	492,710	168,213	324,497	0	0.00	0.00	0.02
2009	Florida	Brevard	1	0	1	0	3,538	366	150	216	0	0.00	0.00	0.10
2009	Florida	Indian River	3	0	3	0	56,070	4,664	2,071	2,593	0	0.00	0.00	0.08
2009	Florida	Levy	44	19	44	19	4,292,364	221,843	60,972	160,871	1,328,425	5.99	0.31	0.05
2009	Massachusetts	Barnstable	9	0	9	0	1,462,379	37,397	14,554	22,843	0	0.00	0.00	0.03
2009	Virginia	Accomack	15	2	15	2	2,529,207	65,708	26,730	38,978	228,088	3.47	0.09	0.03
2009	Virginia	Northampton	35	0	37	0	19,536,936	344,416	116,973	227,443	0	0.00	0.00	0.02
2010	Florida	Brevard	1	1	1	1	4,571	378	155	223	4,571	12.09	1.00	0.08
2010	Florida	Levy	2	1	6	4	220,456	17,143	6,116	11,027	49,790	2.90	0.23	0.08
2010	Massachusetts	Barnstable	12	1	12	1	1,386,254	40,033	15,993	24,040	18,658	0.47	0.01	0.03
2010	South Carolina	Charleston	1	0	1	0	18,710	393	141	252	0	0.00	0.00	0.02
2010	Virginia	Accomack	13	2	13	2	2,270,508	52,196	21,248	30,948	53,071	1.02	0.02	0.02
2010	Virginia	Northampton	32	0	32	0	18,229,120	316,103	99,153	216,950	0	0.00	0.00	0.02
		Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Coverage Flag
Table 1.3
Clams
Florida, Massachusetts, South Carolina, Virginia

Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
A	2264	597	3483	686	324,941,266	11,165,410	4,367,449	6,469,441	17,097,200	1.53	0.05	0.03
C	273	18	357	18	23,022,036	621,717	0	600,669	541,942	0.87	0.02	0.03
L	146	17	183	17	20,116,118	431,221	152,925	0	180,635	0.42	0.01	0.02
Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year and Coverage Flag
Table 1.4
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	A	164	72	207	82	14,980,909	673,512	344,992	0	1,879,113	2.79	0.13	0.04
2000	C	25	2	25	2	1,023,778	21,048	0	0	9,827	0.47	0.01	0.02
2000	L	146	17	183	17	20,116,118	431,221	152,925	0	180,635	0.42	0.01	0.02
2001	A	351	111	539	124	39,830,311	1,374,195	532,135	842,060	2,730,698	1.99	0.07	0.03
2001	C	26	1	26	1	1,384,957	26,411	0	26,411	150,000	5.68	0.11	0.02
2002	A	455	133	776	154	59,091,879	2,164,965	849,518	1,315,447	4,017,352	1.86	0.07	0.04
2002	C	17	1	17	1	860,734	15,738	0	15,738	1,896	0.12	0.00	0.02
2003	A	400	94	689	105	50,092,581	1,840,594	719,508	1,121,086	2,769,307	1.50	0.06	0.04
2003	C	17	1	17	1	1,084,742	19,804	0	19,804	5,213	0.26	0.00	0.02
2004	A	254	106	495	133	24,218,171	889,131	334,833	554,298	2,142,917	2.41	0.09	0.04
2004	C	39	5	60	5	3,483,171	80,050	0	80,050	39,485	0.49	0.01	0.02
2005	A	153	16	220	19	11,063,669	471,788	186,416	285,372	515,517	1.09	0.05	0.04
2005	C	49	1	111	1	7,095,944	153,872	0	153,872	108,936	0.71	0.02	0.02
2006	A	128	16	149	17	24,092,978	854,107	326,234	527,873	677,213	0.79	0.03	0.04
2006	C	36	0	36	0	2,026,332	77,414	0	77,414	0	0.00	0.00	0.04
2007	A	119	17	138	17	25,164,966	904,898	341,538	563,360	449,004	0.50	0.02	0.04
2007	C	25	2	25	2	1,615,245	68,165	0	68,165	53,016	0.78	0.03	0.04
2008	A	95	10	120	10	29,707,503	989,192	368,019	621,173	384,956	0.39	0.01	0.03
2008	C	16	1	16	1	1,135,319	61,603	0	61,603	22,089	0.36	0.02	0.05
2009	A	87	17	89	17	26,427,271	606,014	221,450	384,564	1,405,033	2.32	0.05	0.02
2009	C	20	4	20	4	1,453,223	68,380	0	68,380	151,480	2.22	0.10	0.05
2010	A	58	5	61	8	20,271,028	397,014	142,806	254,208	126,090	0.32	0.01	0.02
2010	C	3	0	4	0	1,858,591	29,232	0	29,232	0	0.00	0.00	0.02
	Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year and Type Code
Table 1.4a
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Type Code	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	80	77	9	92	12	8,980,513	202,552	75,240	0	415,729	2.05	0.05	0.02
2000	82	258	82	323	89	27,140,292	923,229	422,677	0	1,653,846	1.79	0.06	0.03
2001	80	114	25	177	31	13,446,673	328,285	116,801	211,484	421,238	1.28	0.03	0.02
2001	82	263	87	388	94	27,768,595	1,072,321	415,334	656,987	2,459,460	2.29	0.09	0.04
2002	80	157	36	247	42	18,168,245	489,564	179,931	309,633	705,429	1.44	0.04	0.03
2002	82	315	98	546	113	41,784,368	1,691,139	669,587	1,021,552	3,313,819	1.96	0.08	0.04
2003	80	104	14	186	15	15,283,109	368,578	126,092	242,486	301,848	0.82	0.02	0.02
2003	82	313	81	520	91	35,894,214	1,491,820	593,416	898,404	2,472,672	1.66	0.07	0.04
2004	84	129	51	197	65	7,692,842	302,094	108,479	193,615	1,067,299	3.53	0.14	0.04
2004	85	158	55	351	68	19,722,294	648,248	218,733	429,515	1,085,585	1.67	0.06	0.03
2004	86	6	5	7	5	286,206	18,839	7,621	11,218	29,518	1.57	0.10	0.07
2005	84	82	5	99	5	3,354,784	110,383	30,595	79,788	175,284	1.59	0.05	0.03
2005	85	45	5	119	8	10,923,154	257,557	58,149	199,408	323,007	1.25	0.03	0.02
2005	86	75	7	113	7	3,881,675	257,720	97,672	160,048	126,162	0.49	0.03	0.07
2006	84	72	3	82	3	5,656,064	164,398	58,699	105,699	42,848	0.26	0.01	0.03
2006	85	24	5	33	5	14,489,682	315,320	104,774	210,546	228,572	0.72	0.02	0.02
2006	86	68	8	70	9	5,973,564	451,803	162,761	289,042	405,793	0.90	0.07	0.08
2007	84	66	2	73	2	5,789,011	156,446	54,170	102,276	31,881	0.20	0.01	0.03
2007	85	26	9	30	9	15,548,787	392,806	137,299	255,507	146,397	0.37	0.01	0.03
2007	86	52	8	60	8	5,442,413	423,811	150,069	273,742	323,742	0.76	0.06	0.08
2008	84	17	2	24	2	6,726,786	234,502	85,524	148,978	59,276	0.25	0.01	0.03
2008	85	73	3	85	3	21,846,020	638,826	216,600	422,226	129,531	0.20	0.01	0.03
2008	86	21	6	27	6	2,270,016	177,467	65,895	111,572	218,238	1.23	0.10	0.08
2009	84	63	4	65	4	5,828,485	137,392	45,094	92,298	442,156	3.22	0.08	0.02
2009	85	18	5	18	5	19,703,036	412,383	139,321	273,062	230,935	0.56	0.01	0.02
2009	86	26	12	26	12	2,348,973	124,619	37,035	87,584	883,422	7.09	0.38	0.05
2010	84	44	1	44	1	3,077,565	62,576	22,275	40,301	38,659	0.62	0.01	0.02
2010	85	14	2	15	3	18,840,970	347,766	114,979	232,787	43,201	0.12	0.00	0.02
2010	86	3	2	6	4	211,084	15,904	5,552	10,352	44,230	2.78	0.21	0.08
	Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, Practice Code, and Coverage Flag
Table 1.4b
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Practice Code	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	22	A	23	7	32	10	1,118,207	50,341	25,044	0	408,200	8.11	0.37	0.05
2000	22	C	6	0	6	0	44,516	1,163	0	0	0	0.00	0.00	0.03
2000	22	L	7	2	13	2	303,323	8,474	3,009	0	7,529	0.89	0.02	0.03
2000	23	A	113	56	144	63	11,102,041	534,966	275,728	0	1,376,929	2.57	0.12	0.05
2000	23	C	6	2	6	2	271,427	7,084	0	0	9,827	1.39	0.04	0.03
2000	23	L	75	13	90	13	4,675,014	130,771	47,515	0	159,284	1.22	0.03	0.03
2000	24	A	28	9	31	9	2,760,661	88,205	44,220	0	93,984	1.07	0.03	0.03
2000	24	C	13	0	13	0	707,835	12,801	0	0	0	0.00	0.00	0.02
2000	24	L	64	2	80	2	15,137,781	291,976	102,401	0	13,822	0.05	0.00	0.02
2001	22	A	50	24	80	29	1,194,395	67,846	28,579	39,267	296,052	4.36	0.25	0.06
2001	22	C	0	0	0	0	4,103	107	0	107	0	0.00	0.00	0.03
2001	23	A	209	84	279	91	16,826,282	843,240	343,445	499,795	2,198,414	2.61	0.13	0.05
2001	23	C	4	0	4	0	175,499	4,581	0	4,581	0	0.00	0.00	0.03
2001	24	A	92	3	180	4	21,809,634	463,109	160,111	302,998	236,232	0.51	0.01	0.02
2001	24	C	22	1	22	1	1,205,355	21,723	0	21,723	150,000	6.91	0.12	0.02
2002	22	A	87	34	146	40	1,934,398	110,125	46,737	63,388	667,833	6.06	0.35	0.06
2002	22	C	1	1	1	1	3,575	93	0	93	1,896	20.39	0.53	0.03
2002	23	A	279	96	422	111	25,610,995	1,328,301	549,351	778,950	3,255,103	2.45	0.13	0.05
2002	23	C	2	0	2	0	54,863	1,203	0	1,203	0	0.00	0.00	0.02
2002	24	A	89	3	208	3	31,546,486	726,539	253,430	473,109	94,416	0.13	0.00	0.02
2002	24	C	14	0	14	0	802,296	14,442	0	14,442	0	0.00	0.00	0.02
2003	22	A	48	7	92	8	780,154	44,654	18,749	25,905	100,968	2.26	0.13	0.06
2003	22	C	1	0	1	0	9,306	243	0	243	0	0.00	0.00	0.03
2003	23	A	271	71	399	79	21,095,313	1,179,832	492,029	687,803	1,933,417	1.64	0.09	0.06
2003	23	C	3	0	3	0	53,323	1,162	0	1,162	0	0.00	0.00	0.02
2003	24	A	81	16	198	18	28,217,114	616,108	208,730	407,378	734,922	1.19	0.03	0.02
2003	24	C	13	1	13	1	1,022,113	18,399	0	18,399	5,213	0.28	0.01	0.02
2004	23	A	177	81	241	103	5,688,919	516,080	206,292	309,788	1,035,181	2.01	0.18	0.09
2004	23	C	20	5	20	5	417,171	26,240	0	26,240	39,485	1.50	0.09	0.06
2004	24	A	77	25	254	30	18,529,252	373,051	128,541	244,510	1,107,736	2.97	0.06	0.02
2004	24	C	19	0	40	0	3,066,000	53,810	0	53,810	0	0.00	0.00	0.02
2005	23	A	102	13	139	14	4,156,288	316,096	129,282	186,814	236,420	0.75	0.06	0.08
2005	23	C	22	0	36	0	1,000,279	49,657	0	49,657	0	0.00	0.00	0.05
2005	24	A	51	3	81	5	6,907,381	155,692	57,134	98,558	279,097	1.79	0.04	0.02
2005	24	C	27	1	75	1	6,095,665	104,215	0	104,215	108,936	1.05	0.02	0.02
2006	23	A	68	9	71	10	5,225,948	449,793	185,499	264,294	441,863	0.98	0.08	0.09
2006	23	C	24	0	24	0	1,303,640	64,204	0	64,204	0	0.00	0.00	0.05
2006	24	A	60	7	78	7	18,867,030	404,314	140,735	263,579	235,350	0.58	0.01	0.02
2006	24	C	12	0	12	0	722,692	13,210	0	13,210	0	0.00	0.00	0.02
2007	23	A	56	12	67	12	5,468,041	464,631	186,942	277,689	371,013	0.80	0.07	0.08
2007	23	C	16	0	16	0	1,111,043	58,952	0	58,952	0	0.00	0.00	0.05
2007	24	A	63	5	71	5	19,696,925	440,267	154,596	285,671	77,991	0.18	0.00	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, Practice Code, and Coverage Flag
Table 1.4b
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Practice Code	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2007	24	C	9	2	9	2	504,202	9,213	0	9,213	53,016	5.75	0.11	0.02
2008	23	A	34	8	52	8	3,806,126	380,028	152,983	227,045	311,730	0.82	0.08	0.10
2008	23	C	11	0	11	0	838,369	55,797	0	55,797	0	0.00	0.00	0.07
2008	24	A	61	2	68	2	25,901,377	609,164	215,036	394,128	73,226	0.12	0.00	0.02
2008	24	C	5	1	5	1	296,950	5,806	0	5,806	22,089	3.80	0.07	0.02
2009	23	A	28	15	28	15	3,020,215	159,975	63,043	96,932	1,176,945	7.36	0.39	0.05
2009	23	C	19	4	19	4	1,328,219	66,532	0	66,532	151,480	2.28	0.11	0.05
2009	24	A	59	2	61	2	23,407,056	446,039	158,407	287,632	228,088	0.51	0.01	0.02
2009	24	C	1	0	1	0	125,004	1,848	0	1,848	0	0.00	0.00	0.01
2010	23	A	1	1	4	4	141,531	13,591	6,116	7,475	49,790	3.66	0.35	0.10
2010	23	C	1	0	2	0	78,925	3,552	0	3,552	0	0.00	0.00	0.05
2010	24	A	57	4	57	4	20,129,497	383,423	136,690	246,733	76,300	0.20	0.00	0.02
2010	24	C	2	0	2	0	1,779,666	25,680	0	25,680	0	0.00	0.00	0.01
		Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County and Coverage Flag
Table 1.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	Florida	Brevard	A	10	5	10	5	439,171	19,009	9,305	0	131,603	6.92	0.30	0.04
2000	Florida	Brevard	C	1	0	1	0	24,750	646	0	0	0	0.00	0.00	0.03
2000	Florida	Brevard	L	3	0	3	0	116,480	3,153	1,133	0	0	0.00	0.00	0.03
2000	Florida	Dixie	A	26	20	42	27	1,594,845	71,572	34,984	0	608,424	8.50	0.38	0.04
2000	Florida	Dixie	C	3	1	3	1	14,311	374	0	0	78	0.21	0.01	0.03
2000	Florida	Dixie	L	21	9	22	9	773,640	20,677	7,222	0	89,055	4.31	0.12	0.03
2000	Florida	Indian River	A	14	6	18	7	1,891,955	84,134	41,140	0	250,808	2.98	0.13	0.04
2000	Florida	Indian River	C	1	1	1	1	39,243	1,024	0	0	9,749	9.52	0.25	0.03
2000	Florida	Indian River	L	1	0	1	0	44,963	1,335	562	0	0	0.00	0.00	0.03
2000	Florida	Levy	A	87	32	107	34	8,361,877	413,512	216,771	0	794,294	1.92	0.09	0.05
2000	Florida	Levy	C	7	0	7	0	237,639	6,203	0	0	0	0.00	0.00	0.03
2000	Florida	Levy	L	57	6	77	6	4,043,254	114,080	41,607	0	77,758	0.68	0.02	0.03
2000	Massachusetts	Barnstable	A	24	9	25	9	1,347,010	43,771	22,493	0	93,984	2.15	0.07	0.03
2000	Massachusetts	Barnstable	C	11	0	11	0	640,460	11,528	0	0	0	0.00	0.00	0.02
2000	Massachusetts	Barnstable	L	10	2	22	2	1,226,132	29,046	13,677	0	13,822	0.48	0.01	0.02
2000	Massachusetts	Plymouth	A	0	0	0	0	0	0	0	0	0			
2000	South Carolina	Beaufort	A	1	0	1	0	1,188,101	36,356	17,778	0	0	0.00	0.00	0.03
2000	South Carolina	Beaufort	C	0	0	0	0	0	0	0	0	0			
2000	South Carolina	Charleston	A	1	0	3	0	95,550	3,249	1,587	0	0	0.00	0.00	0.03
2000	South Carolina	Charleston	C	2	0	2	0	67,375	1,273	0	0	0	0.00	0.00	0.02
2000	South Carolina	Charleston	L	1	0	3	0	46,550	880	297	0	0	0.00	0.00	0.02
2000	Virginia	Accomack	A	0	0	0	0	0	0	0	0	0			
2000	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2000	Virginia	Accomack	L	14	0	14	0	1,358,400	25,673	8,660	0	0	0.00	0.00	0.02
2000	Virginia	Northampton	A	1	0	1	0	62,400	1,909	934	0	0	0.00	0.00	0.03
2000	Virginia	Northampton	C	0	0	0	0	0	0	0	0	0			
2000	Virginia	Northampton	L	39	0	41	0	12,506,699	236,377	79,767	0	0	0.00	0.00	0.02
2001	Florida	Brevard	A	31	22	36	22	1,426,432	78,941	32,278	46,663	520,076	6.59	0.36	0.06
2001	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2001	Florida	Dixie	A	54	20	71	20	2,254,998	109,372	45,127	64,245	116,184	1.06	0.05	0.05
2001	Florida	Dixie	C	0	0	0	0	0	0	0	0	0			
2001	Florida	Indian River	A	32	14	43	18	1,669,518	95,888	39,303	56,585	360,290	3.76	0.22	0.06
2001	Florida	Indian River	C	0	0	0	0	0	0	0	0	0			
2001	Florida	Levy	A	143	53	210	61	12,765,279	633,134	257,877	375,257	1,529,762	2.42	0.12	0.05
2001	Florida	Levy	C	4	0	4	0	179,602	4,688	0	4,688	0	0.00	0.00	0.03
2001	Massachusetts	Barnstable	A	18	0	18	0	1,345,853	39,409	15,669	23,740	0	0.00	0.00	0.03
2001	Massachusetts	Barnstable	C	20	1	20	1	1,175,710	21,162	0	21,162	150,000	7.09	0.13	0.02
2001	Massachusetts	Plymouth	A	0	0	0	0	0	0	0	0	0			
2001	South Carolina	Beaufort	A	0	0	0	0	0	0	0	0	0			
2001	South Carolina	Beaufort	C	0	0	0	0	0	0	0	0	0			
2001	South Carolina	Charleston	A	3	0	8	0	374,850	8,178	2,780	5,398	0	0.00	0.00	0.02
2001	South Carolina	Charleston	C	2	0	2	0	29,645	561	0	561	0	0.00	0.00	0.02
2001	Virginia	Accomack	A	18	0	53	0	3,656,503	86,770	31,292	55,478	0	0.00	0.00	0.02
2001	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2001	Virginia	Northampton	A	52	2	100	3	16,336,878	322,503	107,809	214,694	204,386	0.63	0.01	0.02
2001	Virginia	Northampton	C	0	0	0	0	0	0	0	0	0			
2002	Florida	Brevard	A	26	8	27	8	1,286,458	74,752	31,557	43,195	274,015	3.67	0.21	0.06

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County and Coverage Flag
Table 1.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2002	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2002	Florida	Dixie	A	75	24	113	26	3,176,030	149,997	61,188	88,809	158,720	1.06	0.05	0.05
2002	Florida	Dixie	C	0	0	0	0	0	0	0	0	0			
2002	Florida	Indian River	A	39	4	53	5	2,058,561	132,004	56,359	75,645	133,750	1.01	0.06	0.06
2002	Florida	Indian River	C	0	0	0	0	0	0	0	0	0			
2002	Florida	Levy	A	221	94	359	112	19,840,545	1,052,853	436,495	616,358	3,356,451	3.19	0.17	0.05
2002	Florida	Levy	C	1	1	1	1	26,675	696	0	696	1,896	2.72	0.07	0.03
2002	Massachusetts	Barnstable	A	17	0	18	0	1,908,163	54,518	21,344	33,174	0	0.00	0.00	0.03
2002	Massachusetts	Barnstable	C	14	0	14	0	802,296	14,442	0	14,442	0	0.00	0.00	0.02
2002	Massachusetts	Plymouth	A	0	0	0	0	0	0	0	0	0			
2002	South Carolina	Beaufort	A	1	0	1	0	151,778	2,869	947	1,922	0	0.00	0.00	0.02
2002	South Carolina	Beaufort	C	0	0	0	0	0	0	0	0	0			
2002	South Carolina	Charleston	A	5	0	16	0	1,059,321	26,909	9,886	17,023	0	0.00	0.00	0.03
2002	South Carolina	Charleston	C	2	0	2	0	31,763	600	0	600	0	0.00	0.00	0.02
2002	Virginia	Accomack	A	16	0	21	0	8,970,077	201,144	70,798	130,346	0	0.00	0.00	0.02
2002	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2002	Virginia	Northampton	A	55	3	168	3	20,640,946	469,919	160,944	308,975	94,416	0.20	0.00	0.02
2002	Virginia	Northampton	C	0	0	0	0	0	0	0	0	0			
2003	Florida	Brevard	A	17	4	19	4	595,065	33,812	14,292	19,520	212,980	6.30	0.36	0.06
2003	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2003	Florida	Dixie	A	70	20	98	22	2,769,756	153,273	63,249	90,024	276,156	1.80	0.10	0.06
2003	Florida	Dixie	C	0	0	0	0	0	0	0	0	0			
2003	Florida	Indian River	A	30	5	45	5	1,461,690	98,419	42,287	56,132	86,920	0.88	0.06	0.07
2003	Florida	Indian River	C	0	0	0	0	0	0	0	0	0			
2003	Florida	Levy	A	190	48	309	55	15,498,836	893,333	373,500	519,833	1,380,730	1.55	0.09	0.06
2003	Florida	Levy	C	2	0	2	0	30,866	805	0	805	0	0.00	0.00	0.03
2003	Massachusetts	Barnstable	A	17	6	19	6	1,788,581	48,235	18,598	29,637	184,307	3.82	0.10	0.03
2003	Massachusetts	Barnstable	C	13	1	13	1	1,022,113	18,399	0	18,399	5,213	0.28	0.01	0.02
2003	Massachusetts	Plymouth	A	0	0	0	0	0	0	0	0	0			
2003	South Carolina	Beaufort	A	4	0	7	0	348,590	15,014	6,157	8,857	0	0.00	0.00	0.04
2003	South Carolina	Beaufort	C	0	0	0	0	0	0	0	0	0			
2003	South Carolina	Charleston	A	9	1	14	1	1,247,730	32,257	11,877	20,380	77,599	2.41	0.06	0.03
2003	South Carolina	Charleston	C	2	0	2	0	31,763	600	0	600	0	0.00	0.00	0.02
2003	Virginia	Accomack	A	16	4	51	4	8,511,341	187,704	63,489	124,215	275,435	1.47	0.03	0.02
2003	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2003	Virginia	Northampton	A	47	6	127	8	17,870,992	378,547	126,059	252,488	275,180	0.73	0.02	0.02
2003	Virginia	Northampton	C	0	0	0	0	0	0	0	0	0			
2004	Florida	Brevard	A	8	7	8	7	124,537	12,510	5,312	7,198	60,208	4.81	0.48	0.10
2004	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2004	Florida	Dixie	A	38	19	51	28	657,542	67,052	27,386	39,666	126,368	1.88	0.19	0.10
2004	Florida	Dixie	C	4	0	4	0	45,117	2,786	0	2,786	0	0.00	0.00	0.06
2004	Florida	Indian River	A	18	11	29	15	447,830	51,214	21,853	29,361	177,515	3.47	0.40	0.11
2004	Florida	Indian River	C	0	0	0	0	0	0	0	0	0			
2004	Florida	Levy	A	108	44	146	53	3,691,935	367,808	145,346	222,462	646,997	1.76	0.18	0.10
2004	Florida	Levy	C	16	5	16	5	372,054	23,454	0	23,454	39,485	1.68	0.11	0.06
2004	Massachusetts	Barnstable	A	14	3	30	4	1,505,281	38,659	14,698	23,961	77,958	2.02	0.05	0.03
2004	Massachusetts	Barnstable	C	12	0	12	0	615,698	10,161	0	10,161	0	0.00	0.00	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County and Coverage Flag
Table 1.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2004	Massachusetts	Plymouth	A	0	0	0	0	0	0	0	0	0			
2004	South Carolina	Beaufort	A	4	0	6	0	227,527	5,583	2,090	3,493	0	0.00	0.00	0.02
2004	South Carolina	Beaufort	C	0	0	0	0	0	0	0	0	0			
2004	South Carolina	Charleston	A	2	1	2	1	547,945	12,442	4,479	7,963	31,938	2.57	0.06	0.02
2004	South Carolina	Charleston	C	2	0	2	0	61,104	1,070	0	1,070	0	0.00	0.00	0.02
2004	Virginia	Accomack	A	16	11	33	11	1,983,156	43,444	15,349	28,095	687,082	15.82	0.35	0.02
2004	Virginia	Accomack	C	3	0	24	0	2,326,135	41,480	0	41,480	0	0.00	0.00	0.02
2004	Virginia	Northampton	A	46	10	190	14	15,032,418	290,419	98,320	192,099	334,851	1.15	0.02	0.02
2004	Virginia	Northampton	C	2	0	2	0	63,063	1,099	0	1,099	0	0.00	0.00	0.02
2005	Florida	Brevard	A	3	0	3	0	75,314	5,877	2,426	3,451	0	0.00	0.00	0.08
2005	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2005	Florida	Dixie	A	19	4	24	5	268,242	22,685	9,354	13,331	56,560	2.49	0.21	0.08
2005	Florida	Dixie	C	1	0	3	0	25,377	1,536	0	1,536	0	0.00	0.00	0.06
2005	Florida	Indian River	A	14	0	16	0	175,308	14,698	6,128	8,570	0	0.00	0.00	0.08
2005	Florida	Indian River	C	0	0	0	0	0	0	0	0	0			
2005	Florida	Levy	A	66	9	97	9	3,321,712	267,086	109,304	157,782	179,860	0.67	0.05	0.08
2005	Florida	Levy	C	19	0	30	0	702,140	43,825	0	43,825	0	0.00	0.00	0.06
2005	Massachusetts	Barnstable	A	10	3	23	5	1,276,859	32,475	12,775	19,700	279,097	8.59	0.22	0.03
2005	Massachusetts	Barnstable	C	10	1	16	1	547,893	9,058	0	9,058	108,936	12.03	0.20	0.02
2005	Massachusetts	Plymouth	A	1	0	1	0	222,858	3,732	1,232	2,500	0	0.00	0.00	0.02
2005	South Carolina	Beaufort	A	0	0	0	0	0	0	0	0	0			
2005	South Carolina	Beaufort	C	1	0	1	0	115,500	1,767	0	1,767	0	0.00	0.00	0.02
2005	South Carolina	Charleston	A	1	0	1	0	325,162	6,388	2,300	4,088	0	0.00	0.00	0.02
2005	South Carolina	Charleston	C	1	0	2	0	157,262	2,529	0	2,529	0	0.00	0.00	0.02
2005	Virginia	Accomack	A	20	0	21	0	622,324	18,695	7,389	11,306	0	0.00	0.00	0.03
2005	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2005	Virginia	Northampton	A	19	0	34	0	4,775,890	100,152	35,508	64,644	0	0.00	0.00	0.02
2005	Virginia	Northampton	C	17	0	59	0	5,547,772	95,157	0	95,157	0	0.00	0.00	0.02
2006	Florida	Brevard	A	2	0	2	0	17,325	1,991	861	1,130	0	0.00	0.00	0.11
2006	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2006	Florida	Dixie	A	7	0	7	0	130,776	12,299	5,141	7,158	0	0.00	0.00	0.09
2006	Florida	Dixie	C	1	0	1	0	30,100	2,111	0	2,111	0	0.00	0.00	0.07
2006	Florida	Indian River	A	8	0	8	0	170,975	16,800	7,231	9,569	0	0.00	0.00	0.10
2006	Florida	Indian River	C	1	0	1	0	22,407	911	0	911	0	0.00	0.00	0.04
2006	Florida	Levy	A	50	9	53	10	4,669,682	413,722	170,473	243,249	441,863	1.07	0.09	0.09
2006	Florida	Levy	C	20	0	20	0	987,793	56,679	0	56,679	0	0.00	0.00	0.06
2006	Massachusetts	Barnstable	A	11	4	18	4	1,022,807	29,673	11,305	18,368	123,033	4.15	0.12	0.03
2006	Massachusetts	Barnstable	C	11	0	11	0	650,506	11,847	0	11,847	0	0.00	0.00	0.02
2006	Massachusetts	Plymouth	A	1	0	1	0	291,600	5,249	1,732	3,517	0	0.00	0.00	0.02
2006	South Carolina	Beaufort	A	0	0	0	0	0	0	0	0	0			
2006	South Carolina	Beaufort	C	1	0	1	0	115,500	1,975	0	1,975	0	0.00	0.00	0.02
2006	South Carolina	Charleston	A	1	0	1	0	237,190	4,981	1,793	3,188	0	0.00	0.00	0.02
2006	South Carolina	Charleston	C	1	0	1	0	147,840	2,528	0	2,528	0	0.00	0.00	0.02
2006	Virginia	Accomack	A	14	0	14	0	976,202	31,056	12,365	18,691	0	0.00	0.00	0.03
2006	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2006	Virginia	Northampton	A	34	3	45	3	16,576,421	338,336	115,333	223,003	112,317	0.33	0.01	0.02
2006	Virginia	Northampton	C	1	0	1	0	72,186	1,363	0	1,363	0	0.00	0.00	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County and Coverage Flag
Table 1.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2007	Florida	Brevard	A	3	0	3	0	30,695	2,413	1,034	1,379	0	0.00	0.00	0.08
2007	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2007	Florida	Dixie	A	0	0	0	0	0	0	0	0	0			
2007	Florida	Dixie	C	0	0	0	0	0	0	0	0	0			
2007	Florida	Indian River	A	6	0	6	0	126,142	12,753	5,614	7,139	0	0.00	0.00	0.10
2007	Florida	Indian River	C	1	0	1	0	22,754	1,270	0	1,270	0	0.00	0.00	0.06
2007	Florida	Levy	A	46	12	57	12	5,153,732	446,158	179,104	267,054	371,013	0.83	0.07	0.09
2007	Florida	Levy	C	14	0	14	0	963,086	55,435	0	55,435	0	0.00	0.00	0.06
2007	Massachusetts	Barnstable	A	12	3	16	3	1,222,087	30,854	11,542	19,312	33,502	1.09	0.03	0.03
2007	Massachusetts	Barnstable	C	7	2	7	2	339,820	6,192	0	6,192	53,016	8.56	0.16	0.02
2007	Massachusetts	Plymouth	A	1	0	1	0	256,500	4,641	1,531	3,110	0	0.00	0.00	0.02
2007	South Carolina	Beaufort	A	0	0	0	0	0	0	0	0	0			
2007	South Carolina	Beaufort	C	0	0	0	0	0	0	0	0	0			
2007	South Carolina	Charleston	A	1	0	1	0	157,472	3,307	1,190	2,117	0	0.00	0.00	0.02
2007	South Carolina	Charleston	C	1	0	1	0	125,203	2,247	0	2,247	0	0.00	0.00	0.02
2007	Virginia	Accomack	A	14	2	14	2	1,386,265	44,520	17,984	26,536	44,489	1.00	0.03	0.03
2007	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2007	Virginia	Northampton	A	36	0	40	0	16,832,073	360,252	123,539	236,713	0	0.00	0.00	0.02
2007	Virginia	Northampton	C	2	0	2	0	164,382	3,021	0	3,021	0	0.00	0.00	0.02
2008	Florida	Brevard	A	1	1	1	1	75,724	6,764	2,773	3,991	34,290	5.07	0.45	0.09
2008	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2008	Florida	Dixie	A	0	0	0	0	0	0	0	0	0			
2008	Florida	Dixie	C	0	0	0	0	0	0	0	0	0			
2008	Florida	Indian River	A	4	1	4	1	149,520	15,491	6,882	8,609	7,461	0.48	0.05	0.10
2008	Florida	Indian River	C	0	0	0	0	0	0	0	0	0			
2008	Florida	Levy	A	30	7	48	7	3,656,029	364,462	146,070	218,392	304,269	0.83	0.08	0.10
2008	Florida	Levy	C	11	0	11	0	838,369	55,797	0	55,797	0	0.00	0.00	0.07
2008	Massachusetts	Barnstable	A	12	1	12	1	1,359,216	44,284	17,096	27,188	38,936	0.88	0.03	0.03
2008	Massachusetts	Barnstable	C	4	1	4	1	224,728	4,458	0	4,458	22,089	4.95	0.10	0.02
2008	Massachusetts	Plymouth	A	0	0	0	0	0	0	0	0	0			
2008	South Carolina	Beaufort	A	0	0	0	0	0	0	0	0	0			
2008	South Carolina	Beaufort	C	0	0	0	0	0	0	0	0	0			
2008	South Carolina	Charleston	A	0	0	0	0	0	0	0	0	0			
2008	South Carolina	Charleston	C	0	0	0	0	0	0	0	0	0			
2008	Virginia	Accomack	A	14	0	14	0	2,199,880	66,829	26,985	39,844	0	0.00	0.00	0.03
2008	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2008	Virginia	Northampton	A	34	0	41	0	22,267,134	491,362	168,213	323,149	0	0.00	0.00	0.02
2008	Virginia	Northampton	C	1	0	1	0	72,222	1,348	0	1,348	0	0.00	0.00	0.02
2009	Florida	Brevard	A	1	0	1	0	3,538	366	150	216	0	0.00	0.00	0.10
2009	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2009	Florida	Dixie	A	0	0	0	0	0	0	0	0	0			
2009	Florida	Dixie	C	0	0	0	0	0	0	0	0	0			
2009	Florida	Indian River	A	3	0	3	0	56,070	4,664	2,071	2,593	0	0.00	0.00	0.08
2009	Florida	Indian River	C	0	0	0	0	0	0	0	0	0			
2009	Florida	Levy	A	25	15	25	15	2,964,145	155,311	60,972	94,339	1,176,945	7.58	0.40	0.05
2009	Florida	Levy	C	19	4	19	4	1,328,219	66,532	0	66,532	151,480	2.28	0.11	0.05
2009	Massachusetts	Barnstable	A	9	0	9	0	1,462,379	37,397	14,554	22,843	0	0.00	0.00	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County and Coverage Flag
Table 1.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2009	Massachusetts	Barnstable	C	0	0	0	0	0	0	0	0	0			
2009	Massachusetts	Plymouth	A	0	0	0	0	0	0	0	0	0			
2009	South Carolina	Beaufort	A	0	0	0	0	0	0	0	0	0			
2009	South Carolina	Beaufort	C	0	0	0	0	0	0	0	0	0			
2009	South Carolina	Charleston	A	0	0	0	0	0	0	0	0	0			
2009	South Carolina	Charleston	C	0	0	0	0	0	0	0	0	0			
2009	Virginia	Accomack	A	15	2	15	2	2,529,207	65,708	26,730	38,978	228,088	3.47	0.09	0.03
2009	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2009	Virginia	Northampton	A	34	0	36	0	19,411,932	342,568	116,973	225,595	0	0.00	0.00	0.02
2009	Virginia	Northampton	C	1	0	1	0	125,004	1,848	0	1,848	0	0.00	0.00	0.01
2010	Florida	Brevard	A	1	1	1	1	4,571	378	155	223	4,571	12.09	1.00	0.08
2010	Florida	Brevard	C	0	0	0	0	0	0	0	0	0			
2010	Florida	Dixie	A	0	0	0	0	0	0	0	0	0			
2010	Florida	Dixie	C	0	0	0	0	0	0	0	0	0			
2010	Florida	Indian River	A	0	0	0	0	0	0	0	0	0			
2010	Florida	Indian River	C	0	0	0	0	0	0	0	0	0			
2010	Florida	Levy	A	1	1	4	4	141,531	13,591	6,116	7,475	49,790	3.66	0.35	0.10
2010	Florida	Levy	C	1	0	2	0	78,925	3,552	0	3,552	0	0.00	0.00	0.05
2010	Massachusetts	Barnstable	A	12	1	12	1	1,386,254	40,033	15,993	24,040	18,658	0.47	0.01	0.03
2010	Massachusetts	Barnstable	C	0	0	0	0	0	0	0	0	0			
2010	Massachusetts	Plymouth	A	0	0	0	0	0	0	0	0	0			
2010	South Carolina	Beaufort	A	0	0	0	0	0	0	0	0	0			
2010	South Carolina	Beaufort	C	0	0	0	0	0	0	0	0	0			
2010	South Carolina	Charleston	A	1	0	1	0	18,710	393	141	252	0	0.00	0.00	0.02
2010	South Carolina	Charleston	C	0	0	0	0	0	0	0	0	0			
2010	Virginia	Accomack	A	13	2	13	2	2,270,508	52,196	21,248	30,948	53,071	1.02	0.02	0.02
2010	Virginia	Accomack	C	0	0	0	0	0	0	0	0	0			
2010	Virginia	Northampton	A	30	0	30	0	16,449,454	290,423	99,153	191,270	0	0.00	0.00	0.02
2010	Virginia	Northampton	C	2	0	2	0	1,779,666	25,680	0	25,680	0	0.00	0.00	0.01
			Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Coverage Level Percentage
Table 1.6
Clams
Florida, Massachusetts, South Carolina, Virginia

Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
50%	A	531	54	1072	62	152,213,772	3,046,963	1,005,483	2,041,480	2,004,466	0.66	0.01	0.02
50%	C	273	18	357	18	23,022,036	621,717	0	600,669	541,942	0.87	0.02	0.03
50%	L	124	13	144	13	18,169,316	375,989	126,872	0	117,231	0.31	0.01	0.02
55%	A	28	4	37	4	3,007,057	79,267	28,533	50,734	196,983	2.49	0.07	0.03
55%	L	10	1	13	1	610,551	17,095	7,208	0	7,742	0.45	0.01	0.03
60%	A	171	20	251	25	56,881,025	1,634,363	588,382	1,045,981	805,617	0.49	0.01	0.03
60%	L	12	3	26	3	1,336,251	38,137	18,845	0	55,662	1.46	0.04	0.03
65%	A	773	247	1098	289	64,241,702	3,007,964	1,276,016	1,455,049	6,202,082	2.06	0.10	0.05
70%	A	477	148	668	168	32,314,824	2,034,362	837,886	1,185,584	3,964,864	1.95	0.12	0.06
75%	A	284	124	357	138	16,282,886	1,362,491	631,149	690,613	3,923,188	2.88	0.24	0.08
	Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, Coverage Level Percentage
Table 1.7
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	50%	A	0	0	0	0	0	0	0	0	0			
2000	50%	C	25	2	25	2	1,023,778	21,048	0	0	9,827	0.47	0.01	0.02
2000	50%	L	124	13	144	13	18,169,316	375,989	126,872	0	117,231	0.31	0.01	0.02
2000	55%	A	0	0	0	0	0	0	0	0	0			
2000	55%	L	10	1	13	1	610,551	17,095	7,208	0	7,742	0.45	0.01	0.03
2000	60%	A	0	0	0	0	0	0	0	0	0			
2000	60%	L	12	3	26	3	1,336,251	38,137	18,845	0	55,662	1.46	0.04	0.03
2000	65%	A	148	61	187	70	13,030,187	541,789	264,890	0	1,665,145	3.07	0.13	0.04
2000	70%	A	5	3	7	3	538,824	24,899	14,007	0	35,863	1.44	0.07	0.05
2000	75%	A	11	8	13	9	1,411,898	106,824	66,095	0	178,105	1.67	0.13	0.08
2001	50%	A	88	10	157	12	20,179,930	403,302	133,102	270,200	233,591	0.58	0.01	0.02
2001	50%	C	26	1	26	1	1,384,957	26,411	0	26,411	150,000	5.68	0.11	0.02
2001	55%	A	5	0	5	0	396,044	9,912	3,570	6,342	0	0.00	0.00	0.03
2001	60%	A	19	2	28	2	1,457,615	45,230	16,287	28,943	71,297	1.58	0.05	0.03
2001	65%	A	128	39	190	45	9,148,405	388,533	159,299	229,234	844,251	2.17	0.09	0.04
2001	70%	A	84	44	119	49	7,453,494	434,175	178,009	256,166	1,384,188	3.19	0.19	0.06
2001	75%	A	27	16	40	16	1,194,823	93,043	41,868	51,175	197,371	2.12	0.17	0.08
2002	50%	A	74	3	209	3	24,470,646	507,113	167,340	339,773	67,928	0.13	0.00	0.02
2002	50%	C	17	1	17	1	860,734	15,738	0	15,738	1,896	0.12	0.00	0.02
2002	55%	A	4	0	9	0	613,328	16,328	5,878	10,450	0	0.00	0.00	0.03
2002	60%	A	18	2	31	2	6,039,740	174,886	62,961	111,925	65,094	0.37	0.01	0.03
2002	65%	A	199	75	306	85	15,666,586	679,921	278,768	401,153	1,856,640	2.73	0.12	0.04
2002	70%	A	93	26	138	32	8,382,366	486,400	199,428	286,972	1,125,802	2.31	0.13	0.06
2002	75%	A	67	27	83	32	3,919,213	300,317	135,143	165,174	901,888	3.00	0.23	0.08
2003	50%	A	71	11	194	13	24,793,471	518,320	171,035	347,285	619,759	1.20	0.02	0.02
2003	50%	C	17	1	17	1	1,084,742	19,804	0	19,804	5,213	0.26	0.00	0.02
2003	55%	A	6	0	7	0	733,097	16,322	5,876	10,446	0	0.00	0.00	0.02
2003	60%	A	15	2	24	2	3,671,701	104,167	37,503	66,664	21,077	0.20	0.01	0.03
2003	65%	A	104	26	164	32	7,040,685	308,693	126,559	182,134	559,959	1.81	0.08	0.04
2003	70%	A	139	28	212	30	9,926,710	583,834	239,367	344,467	633,898	1.09	0.06	0.06
2003	75%	A	65	27	88	28	3,926,917	309,258	139,168	170,090	934,614	3.02	0.24	0.08
2004	50%	A	87	20	259	24	14,381,638	329,942	108,877	221,065	652,484	1.98	0.05	0.02
2004	50%	C	39	5	60	5	3,483,171	80,050	0	80,050	39,485	0.49	0.01	0.02
2004	55%	A	8	4	10	4	663,910	14,311	5,148	9,163	196,983	13.76	0.30	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, Coverage Level Percentage
Table 1.7
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2004	60%	A	21	7	43	12	5,036,425	141,868	51,072	90,796	352,556	2.49	0.07	0.03
2004	65%	A	52	22	69	31	1,892,881	155,123	63,600	91,523	349,875	2.26	0.18	0.08
2004	70%	A	51	26	72	31	1,343,025	135,391	55,513	79,878	198,078	1.46	0.15	0.10
2004	75%	A	35	27	42	31	900,292	112,496	50,623	61,873	392,941	3.49	0.44	0.12
2005	50%	A	27	1	45	1	2,133,409	52,246	17,244	35,002	19,570	0.37	0.01	0.02
2005	50%	C	49	1	111	1	7,095,944	153,872	0	153,872	108,936	0.71	0.02	0.02
2005	55%	A	1	0	1	0	96,985	5,674	2,043	3,631	0	0.00	0.00	0.06
2005	60%	A	18	0	27	0	4,508,282	113,772	40,958	72,814	0	0.00	0.00	0.03
2005	65%	A	43	6	63	7	2,631,133	144,619	59,296	85,323	291,196	2.01	0.11	0.05
2005	70%	A	38	4	52	6	903,946	77,201	31,651	45,550	45,163	0.59	0.05	0.09
2005	75%	A	26	5	32	5	789,914	78,276	35,224	43,052	159,588	2.04	0.20	0.10
2006	50%	A	37	3	45	3	12,331,103	234,932	77,524	157,408	112,317	0.48	0.01	0.02
2006	50%	C	36	0	36	0	2,026,332	77,414	0	77,414	0	0.00	0.00	0.04
2006	55%	A	1	0	1	0	237,190	4,981	1,793	3,188	0	0.00	0.00	0.02
2006	60%	A	19	2	26	2	6,024,761	171,748	61,830	109,918	109,025	0.63	0.02	0.03
2006	65%	A	34	6	40	7	3,805,809	280,567	115,029	165,538	218,238	0.78	0.06	0.07
2006	70%	A	18	2	18	2	818,362	69,716	28,583	41,133	89,869	1.29	0.11	0.09
2006	75%	A	19	3	19	3	875,753	92,163	41,475	50,688	147,764	1.60	0.17	0.11
2007	50%	A	41	1	47	1	12,150,984	235,491	77,710	157,781	22,412	0.10	0.00	0.02
2007	50%	C	25	2	25	2	1,615,245	68,165	0	68,165	53,016	0.78	0.03	0.04
2007	55%	A	1	0	1	0	157,472	3,307	1,190	2,117	0	0.00	0.00	0.02
2007	60%	A	20	3	24	3	7,561,134	265,886	95,721	170,165	14,430	0.05	0.00	0.04
2007	65%	A	27	5	34	5	3,218,472	210,666	86,368	124,298	81,147	0.39	0.03	0.07
2007	70%	A	18	6	19	6	1,347,030	118,801	48,712	70,089	161,547	1.36	0.12	0.09
2007	75%	A	12	2	13	2	729,874	70,747	31,837	38,910	169,468	2.40	0.23	0.10
2008	50%	A	36	0	44	0	14,864,670	305,662	100,867	204,795	0	0.00	0.00	0.02
2008	50%	C	16	1	16	1	1,135,319	61,603	0	61,603	22,089	0.36	0.02	0.05
2008	55%	A	1	0	2	0	90,321	8,039	2,894	5,145	0	0.00	0.00	0.09
2008	60%	A	18	0	25	0	9,881,099	337,940	121,657	216,283	0	0.00	0.00	0.03
2008	65%	A	16	3	23	3	2,825,106	172,778	70,841	101,937	84,314	0.49	0.03	0.06
2008	70%	A	14	4	14	4	816,045	59,664	24,460	35,204	108,454	1.82	0.13	0.07
2008	75%	A	10	3	12	3	1,230,262	105,109	47,300	57,809	192,188	1.83	0.16	0.09
2009	50%	A	43	5	45	5	15,192,351	275,419	90,883	184,536	276,405	1.00	0.02	0.02
2009	50%	C	20	4	20	4	1,453,223	68,380	0	68,380	151,480	2.22	0.10	0.05

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, Coverage Level Percentage
Table 1.7
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2009	55%	A	0	0	0	0	0	0	0	0	0			
2009	60%	A	11	1	11	1	7,202,493	155,764	56,072	99,692	147,838	0.95	0.02	0.02
2009	65%	A	11	2	11	2	2,490,334	66,282	27,177	39,105	228,088	3.44	0.09	0.03
2009	70%	A	13	4	13	4	602,952	38,211	15,666	22,545	153,231	4.01	0.25	0.06
2009	75%	A	9	5	9	5	939,141	70,338	31,652	38,686	599,471	8.52	0.64	0.07
2010	50%	A	27	0	27	0	11,715,570	184,536	60,901	123,635	0	0.00	0.00	0.02
2010	50%	C	3	0	4	0	1,858,591	29,232	0	29,232	0	0.00	0.00	0.02
2010	55%	A	1	0	1	0	18,710	393	141	252	0	0.00	0.00	0.02
2010	60%	A	12	1	12	1	5,497,775	123,102	44,321	78,781	24,300	0.20	0.00	0.02
2010	65%	A	11	2	11	2	2,492,104	58,993	24,189	34,804	23,229	0.39	0.01	0.02
2010	70%	A	4	1	4	1	182,070	6,070	2,490	3,580	28,771	4.74	0.16	0.03
2010	75%	A	3	1	6	4	364,799	23,920	10,764	13,156	49,790	2.08	0.14	0.07
		Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Coverage Level Percentage
Table 1.8
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	Florida	Brevard	50%	C	1	0	1	0	24,750	646	0	0	0	0.00	0.00	0.03
2000	Florida	Brevard	50%	L	2	0	2	0	104,000	2,715	916	0	0	0.00	0.00	0.03
2000	Florida	Brevard	60%	L	1	0	1	0	12,480	438	217	0	0	0.00	0.00	0.04
2000	Florida	Brevard	65%	A	9	4	9	4	436,477	18,856	9,219	0	130,704	6.93	0.30	0.04
2000	Florida	Brevard	70%	A	1	1	1	1	2,694	153	86	0	899	5.88	0.33	0.06
2000	Florida	Dixie	50%	C	3	1	3	1	14,311	374	0	0	78	0.21	0.01	0.03
2000	Florida	Dixie	50%	L	19	8	20	8	676,950	17,806	6,011	0	81,313	4.57	0.12	0.03
2000	Florida	Dixie	55%	L	2	1	2	1	96,690	2,871	1,211	0	7,742	2.70	0.08	0.03
2000	Florida	Dixie	65%	A	26	20	42	27	1,594,845	71,572	34,984	0	608,424	8.50	0.38	0.04
2000	Florida	Indian River	50%	C	1	1	1	1	39,243	1,024	0	0	9,749	9.52	0.25	0.03
2000	Florida	Indian River	55%	L	1	0	1	0	44,963	1,335	562	0	0	0.00	0.00	0.03
2000	Florida	Indian River	65%	A	14	6	18	7	1,891,955	84,134	41,140	0	250,808	2.98	0.13	0.04
2000	Florida	Levy	50%	C	7	0	7	0	237,639	6,203	0	0	0	0.00	0.00	0.03
2000	Florida	Levy	50%	L	45	5	60	5	3,307,047	89,485	30,191	0	35,918	0.40	0.01	0.03
2000	Florida	Levy	55%	L	6	0	9	0	337,327	10,165	4,285	0	0	0.00	0.00	0.03
2000	Florida	Levy	60%	L	6	1	8	1	398,880	14,430	7,131	0	41,840	2.90	0.10	0.04
2000	Florida	Levy	65%	A	75	23	91	24	6,785,639	296,443	144,937	0	589,217	1.99	0.09	0.04
2000	Florida	Levy	70%	A	3	2	5	2	173,250	10,703	6,022	0	34,964	3.27	0.20	0.06
2000	Florida	Levy	75%	A	9	7	11	8	1,402,988	106,366	65,812	0	170,113	1.60	0.12	0.08
2000	Massachusetts	Barnstable	50%	C	11	0	11	0	640,460	11,528	0	0	0	0.00	0.00	0.02
2000	Massachusetts	Barnstable	50%	L	4	0	4	0	169,670	3,053	1,030	0	0	0.00	0.00	0.02
2000	Massachusetts	Barnstable	55%	L	1	0	1	0	131,571	2,724	1,150	0	0	0.00	0.00	0.02
2000	Massachusetts	Barnstable	60%	L	5	2	17	2	924,891	23,269	11,497	0	13,822	0.59	0.01	0.03
2000	Massachusetts	Barnstable	65%	A	21	8	22	8	975,220	29,270	14,311	0	85,992	2.94	0.09	0.03
2000	Massachusetts	Barnstable	70%	A	1	0	1	0	362,880	14,043	7,899	0	0	0.00	0.00	0.04
2000	Massachusetts	Barnstable	75%	A	2	1	2	1	8,910	458	283	0	7,992	17.45	0.90	0.05
2000	South Carolina	Beaufort	65%	A	1	0	1	0	1,188,101	36,356	17,778	0	0	0.00	0.00	0.03
2000	South Carolina	Charleston	50%	C	2	0	2	0	67,375	1,273	0	0	0	0.00	0.00	0.02
2000	South Carolina	Charleston	50%	L	1	0	3	0	46,550	880	297	0	0	0.00	0.00	0.02
2000	South Carolina	Charleston	65%	A	1	0	3	0	95,550	3,249	1,587	0	0	0.00	0.00	0.03
2000	Virginia	Accomack	50%	L	14	0	14	0	1,358,400	25,673	8,660	0	0	0.00	0.00	0.02
2000	Virginia	Northampton	50%	L	39	0	41	0	12,506,699	236,377	79,767	0	0	0.00	0.00	0.02
2000	Virginia	Northampton	65%	A	1	0	1	0	62,400	1,909	934	0	0	0.00	0.00	0.03
2001	Florida	Brevard	60%	A	3	0	4	0	114,270	4,330	1,559	2,771	0	0.00	0.00	0.04
2001	Florida	Brevard	65%	A	5	3	5	3	134,296	5,802	2,379	3,423	35,070	6.04	0.26	0.04
2001	Florida	Brevard	70%	A	21	17	25	17	1,133,991	65,532	26,866	38,666	464,777	7.09	0.41	0.06
2001	Florida	Brevard	75%	A	2	2	2	2	43,875	3,277	1,474	1,803	20,229	6.17	0.46	0.07
2001	Florida	Dixie	50%	A	11	6	11	6	174,661	4,558	1,506	3,052	33,187	7.28	0.19	0.03
2001	Florida	Dixie	60%	A	2	0	2	0	81,060	2,845	1,025	1,820	0	0.00	0.00	0.04
2001	Florida	Dixie	65%	A	31	10	41	10	1,499,829	66,325	27,193	39,132	51,215	0.77	0.03	0.04
2001	Florida	Dixie	70%	A	5	1	9	1	258,923	15,905	6,521	9,384	19,904	1.25	0.08	0.06
2001	Florida	Dixie	75%	A	5	3	8	3	240,525	19,739	8,882	10,857	11,878	0.60	0.05	0.08
2001	Florida	Indian River	50%	A	1	0	2	0	22,750	660	218	442	0	0.00	0.00	0.03
2001	Florida	Indian River	65%	A	6	1	8	1	137,061	6,348	2,603	3,745	10,726	1.69	0.08	0.05
2001	Florida	Indian River	70%	A	22	11	30	15	1,494,584	87,751	35,974	51,777	339,932	3.87	0.23	0.06
2001	Florida	Indian River	75%	A	3	2	3	2	15,123	1,129	508	621	9,632	8.53	0.64	0.07
2001	Florida	Levy	50%	A	19	3	23	4	1,299,415	35,318	11,658	23,660	49,204	1.39	0.04	0.03
2001	Florida	Levy	50%	C	4	0	4	0	179,602	4,688	0	4,688	0	0.00	0.00	0.03
2001	Florida	Levy	55%	A	3	0	3	0	190,520	5,658	2,038	3,620	0	0.00	0.00	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Coverage Level Percentage
Table 1.8
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2001	Florida	Levy	60%	A	6	1	8	1	601,980	21,522	7,750	13,772	18,111	0.84	0.03	0.04
2001	Florida	Levy	65%	A	67	25	100	31	5,710,068	258,062	105,805	152,257	747,240	2.90	0.13	0.05
2001	Florida	Levy	70%	A	34	15	53	16	4,204,796	250,942	102,890	148,052	559,575	2.23	0.13	0.06
2001	Florida	Levy	75%	A	14	9	23	9	758,500	61,632	27,736	33,896	155,632	2.53	0.21	0.08
2001	Massachusetts	Barnstable	50%	A	1	0	1	0	12,258	221	73	148	0	0.00	0.00	0.02
2001	Massachusetts	Barnstable	50%	C	20	1	20	1	1,175,710	21,162	0	21,162	150,000	7.09	0.13	0.02
2001	Massachusetts	Barnstable	55%	A	2	0	2	0	205,524	4,254	1,532	2,722	0	0.00	0.00	0.02
2001	Massachusetts	Barnstable	60%	A	2	0	2	0	213,905	5,198	1,872	3,326	0	0.00	0.00	0.02
2001	Massachusetts	Barnstable	65%	A	12	0	12	0	626,886	18,618	7,634	10,984	0	0.00	0.00	0.03
2001	Massachusetts	Barnstable	70%	A	1	0	1	0	287,280	11,118	4,558	6,560	0	0.00	0.00	0.04
2001	South Carolina	Charleston	50%	A	2	0	7	0	343,000	7,203	2,380	4,823	0	0.00	0.00	0.02
2001	South Carolina	Charleston	50%	C	2	0	2	0	29,645	561	0	561	0	0.00	0.00	0.02
2001	South Carolina	Charleston	65%	A	1	0	1	0	31,850	975	400	575	0	0.00	0.00	0.03
2001	Virginia	Accomack	50%	A	9	0	25	0	2,593,584	52,483	17,321	35,162	0	0.00	0.00	0.02
2001	Virginia	Accomack	60%	A	3	0	6	0	126,144	3,265	1,176	2,089	0	0.00	0.00	0.03
2001	Virginia	Accomack	65%	A	5	0	21	0	900,775	29,110	11,935	17,175	0	0.00	0.00	0.03
2001	Virginia	Accomack	75%	A	1	0	1	0	36,000	1,912	860	1,052	0	0.00	0.00	0.05
2001	Virginia	Northampton	50%	A	45	1	88	2	15,734,262	302,859	99,946	202,913	151,200	0.50	0.01	0.02
2001	Virginia	Northampton	60%	A	3	1	6	1	320,256	8,070	2,905	5,165	53,186	6.59	0.17	0.03
2001	Virginia	Northampton	65%	A	1	0	2	0	107,640	3,293	1,350	1,943	0	0.00	0.00	0.03
2001	Virginia	Northampton	70%	A	1	0	1	0	73,920	2,927	1,200	1,727	0	0.00	0.00	0.04
2001	Virginia	Northampton	75%	A	2	0	3	0	100,800	5,354	2,408	2,946	0	0.00	0.00	0.05
2002	Florida	Brevard	60%	A	2	0	2	0	62,400	2,327	836	1,491	0	0.00	0.00	0.04
2002	Florida	Brevard	65%	A	6	3	6	3	251,820	10,881	4,462	6,419	107,683	9.90	0.43	0.04
2002	Florida	Brevard	70%	A	10	3	10	3	632,450	35,861	14,702	21,159	136,699	3.81	0.22	0.06
2002	Florida	Brevard	75%	A	8	2	9	2	339,788	25,683	11,557	14,126	29,633	1.15	0.09	0.08
2002	Florida	Dixie	50%	A	6	0	8	0	201,240	5,764	1,901	3,863	0	0.00	0.00	0.03
2002	Florida	Dixie	60%	A	2	1	3	1	80,280	3,034	1,093	1,941	13,487	4.45	0.17	0.04
2002	Florida	Dixie	65%	A	56	21	86	23	2,484,900	114,702	47,025	67,677	130,912	1.14	0.05	0.05
2002	Florida	Dixie	70%	A	6	0	11	0	308,210	18,923	7,761	11,162	0	0.00	0.00	0.06
2002	Florida	Dixie	75%	A	5	2	5	2	101,400	7,574	3,408	4,166	14,321	1.89	0.14	0.07
2002	Florida	Indian River	65%	A	5	0	5	0	183,264	7,917	3,246	4,671	0	0.00	0.00	0.04
2002	Florida	Indian River	70%	A	21	2	33	3	1,136,281	68,096	27,917	40,179	61,669	0.91	0.05	0.06
2002	Florida	Indian River	75%	A	13	2	15	2	739,016	55,991	25,196	30,795	72,081	1.29	0.10	0.08
2002	Florida	Levy	50%	A	9	1	16	1	647,853	18,093	5,971	12,122	25,119	1.39	0.04	0.03
2002	Florida	Levy	50%	C	1	1	1	1	26,675	696	0	696	1,896	2.72	0.07	0.03
2002	Florida	Levy	55%	A	2	0	7	0	321,145	10,280	3,700	6,580	0	0.00	0.00	0.03
2002	Florida	Levy	60%	A	8	0	18	0	608,106	23,305	8,391	14,914	0	0.00	0.00	0.04
2002	Florida	Levy	65%	A	114	51	189	59	10,150,065	466,511	191,271	275,240	1,618,045	3.47	0.16	0.05
2002	Florida	Levy	70%	A	51	21	79	26	5,610,347	336,067	137,792	198,275	927,434	2.76	0.17	0.06
2002	Florida	Levy	75%	A	37	21	50	26	2,503,029	198,597	89,370	109,227	785,853	3.96	0.31	0.08
2002	Massachusetts	Barnstable	50%	A	1	0	1	0	11,400	206	68	138	0	0.00	0.00	0.02
2002	Massachusetts	Barnstable	50%	C	14	0	14	0	802,296	14,442	0	14,442	0	0.00	0.00	0.02
2002	Massachusetts	Barnstable	55%	A	2	0	2	0	292,183	6,048	2,178	3,870	0	0.00	0.00	0.02
2002	Massachusetts	Barnstable	60%	A	3	0	4	0	591,660	15,182	5,466	9,716	0	0.00	0.00	0.03
2002	Massachusetts	Barnstable	65%	A	9	0	9	0	725,070	21,533	8,830	12,703	0	0.00	0.00	0.03
2002	Massachusetts	Barnstable	70%	A	1	0	1	0	255,360	9,882	4,052	5,830	0	0.00	0.00	0.04
2002	Massachusetts	Barnstable	75%	A	1	0	1	0	32,490	1,667	750	917	0	0.00	0.00	0.05
2002	South Carolina	Beaufort	50%	A	1	0	1	0	151,778	2,869	947	1,922	0	0.00	0.00	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Coverage Level Percentage
Table 1.8
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2002	South Carolina	Charleston	50%	A	2	0	13	0	682,500	14,339	4,732	9,607	0	0.00	0.00	0.02
2002	South Carolina	Charleston	50%	C	2	0	2	0	31,763	600	0	600	0	0.00	0.00	0.02
2002	South Carolina	Charleston	65%	A	2	0	2	0	261,426	8,000	3,280	4,720	0	0.00	0.00	0.03
2002	South Carolina	Charleston	70%	A	1	0	1	0	115,395	4,570	1,874	2,696	0	0.00	0.00	0.04
2002	Virginia	Accomack	50%	A	8	0	12	0	6,661,535	131,046	43,242	87,804	0	0.00	0.00	0.02
2002	Virginia	Accomack	60%	A	2	0	3	0	952,027	26,171	9,423	16,748	0	0.00	0.00	0.03
2002	Virginia	Accomack	65%	A	5	0	5	0	1,298,375	40,840	16,744	24,096	0	0.00	0.00	0.03
2002	Virginia	Accomack	75%	A	1	0	1	0	58,140	3,087	1,389	1,698	0	0.00	0.00	0.05
2002	Virginia	Northampton	50%	A	47	2	158	2	16,114,340	334,796	110,479	224,317	42,809	0.13	0.00	0.02
2002	Virginia	Northampton	60%	A	1	1	1	1	3,745,267	104,867	37,752	67,115	51,607	0.49	0.01	0.03
2002	Virginia	Northampton	65%	A	2	0	4	0	311,666	9,537	3,910	5,627	0	0.00	0.00	0.03
2002	Virginia	Northampton	70%	A	3	0	3	0	324,323	13,001	5,330	7,671	0	0.00	0.00	0.04
2002	Virginia	Northampton	75%	A	2	0	2	0	145,350	7,718	3,473	4,245	0	0.00	0.00	0.05
2003	Florida	Brevard	60%	A	2	0	2	0	92,400	3,424	1,233	2,191	0	0.00	0.00	0.04
2003	Florida	Brevard	65%	A	6	3	6	3	159,379	6,884	2,823	4,061	86,165	12.52	0.54	0.04
2003	Florida	Brevard	70%	A	5	0	7	0	143,729	8,597	3,526	5,071	0	0.00	0.00	0.06
2003	Florida	Brevard	75%	A	4	1	4	1	199,557	14,907	6,710	8,197	126,815	8.51	0.64	0.07
2003	Florida	Dixie	50%	A	2	0	2	0	16,563	432	142	290	0	0.00	0.00	0.03
2003	Florida	Dixie	65%	A	33	8	48	10	1,128,357	52,061	21,342	30,719	80,631	1.55	0.07	0.05
2003	Florida	Dixie	70%	A	27	11	40	11	1,473,711	89,491	36,686	52,805	193,275	2.16	0.13	0.06
2003	Florida	Dixie	75%	A	8	1	8	1	151,125	11,289	5,079	6,210	2,250	0.20	0.01	0.07
2003	Florida	Indian River	65%	A	2	0	2	0	40,040	1,730	709	1,021	0	0.00	0.00	0.04
2003	Florida	Indian River	70%	A	17	2	29	2	802,168	48,245	19,779	28,466	11,840	0.25	0.01	0.06
2003	Florida	Indian River	75%	A	11	3	14	3	619,482	48,444	21,799	26,645	75,080	1.55	0.12	0.08
2003	Florida	Levy	50%	A	10	0	15	0	523,370	14,281	4,714	9,567	0	0.00	0.00	0.03
2003	Florida	Levy	50%	C	2	0	2	0	30,866	805	0	805	0	0.00	0.00	0.03
2003	Florida	Levy	55%	A	1	0	1	0	79,235	2,353	847	1,506	0	0.00	0.00	0.03
2003	Florida	Levy	60%	A	2	0	8	0	423,376	16,511	5,945	10,566	0	0.00	0.00	0.04
2003	Florida	Levy	65%	A	53	12	98	16	4,776,480	219,837	90,131	129,706	238,339	1.08	0.05	0.05
2003	Florida	Levy	70%	A	83	15	126	17	6,772,112	407,400	167,033	240,367	428,783	1.05	0.06	0.06
2003	Florida	Levy	75%	A	41	21	61	22	2,924,263	232,951	104,830	128,121	713,608	3.06	0.24	0.08
2003	Massachusetts	Barnstable	50%	A	3	1	3	1	295,830	5,325	1,757	3,568	8,334	1.57	0.03	0.02
2003	Massachusetts	Barnstable	50%	C	13	1	13	1	1,022,113	18,399	0	18,399	5,213	0.28	0.01	0.02
2003	Massachusetts	Barnstable	55%	A	2	0	3	0	317,262	7,002	2,521	4,481	0	0.00	0.00	0.02
2003	Massachusetts	Barnstable	60%	A	3	1	4	1	378,526	9,383	3,379	6,004	4,288	0.46	0.01	0.02
2003	Massachusetts	Barnstable	65%	A	7	3	7	3	525,073	15,593	6,393	9,200	154,824	9.93	0.29	0.03
2003	Massachusetts	Barnstable	70%	A	1	0	1	0	239,400	9,265	3,798	5,467	0	0.00	0.00	0.04
2003	Massachusetts	Barnstable	75%	A	1	1	1	1	32,490	1,667	750	917	16,861	10.11	0.52	0.05
2003	South Carolina	Beaufort	70%	A	4	0	7	0	348,590	15,014	6,157	8,857	0	0.00	0.00	0.04
2003	South Carolina	Charleston	50%	A	2	1	7	1	451,999	9,207	3,039	6,168	77,599	8.43	0.17	0.02
2003	South Carolina	Charleston	50%	C	2	0	2	0	31,763	600	0	600	0	0.00	0.00	0.02
2003	South Carolina	Charleston	60%	A	4	0	4	0	486,000	12,248	4,408	7,840	0	0.00	0.00	0.03
2003	South Carolina	Charleston	65%	A	1	0	1	0	162,731	4,980	2,042	2,938	0	0.00	0.00	0.03
2003	South Carolina	Charleston	70%	A	2	0	2	0	147,000	5,822	2,388	3,434	0	0.00	0.00	0.04
2003	Virginia	Accomack	50%	A	12	4	46	4	6,570,251	135,969	44,863	91,106	275,435	2.03	0.04	0.02
2003	Virginia	Accomack	55%	A	1	0	1	0	168,300	3,484	1,254	2,230	0	0.00	0.00	0.02
2003	Virginia	Accomack	60%	A	3	0	4	0	1,772,790	48,251	17,372	30,879	0	0.00	0.00	0.03
2003	Virginia	Northampton	50%	A	42	5	121	7	16,935,458	353,106	116,520	236,586	258,391	0.73	0.02	0.02
2003	Virginia	Northampton	55%	A	2	0	2	0	168,300	3,483	1,254	2,229	0	0.00	0.00	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Coverage Level Percentage
Table 1.8
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2003	Virginia	Northampton	60%	A	1	1	2	1	518,609	14,350	5,166	9,184	16,789	1.17	0.03	0.03
2003	Virginia	Northampton	65%	A	2	0	2	0	248,625	7,608	3,119	4,489	0	0.00	0.00	0.03
2004	Florida	Brevard	65%	A	2	2	2	2	71,663	5,418	2,222	3,196	16,492	3.04	0.23	0.08
2004	Florida	Brevard	70%	A	3	3	3	3	19,664	2,555	1,048	1,507	17,597	6.89	0.89	0.13
2004	Florida	Brevard	75%	A	3	2	3	2	33,210	4,537	2,042	2,495	26,119	5.76	0.79	0.14
2004	Florida	Dixie	50%	A	4	1	4	1	43,014	2,619	865	1,754	13,437	5.13	0.31	0.06
2004	Florida	Dixie	50%	C	4	0	4	0	45,117	2,786	0	2,786	0	0.00	0.00	0.06
2004	Florida	Dixie	60%	A	1	0	1	0	13,441	1,125	405	720	0	0.00	0.00	0.08
2004	Florida	Dixie	65%	A	17	6	24	11	336,546	32,652	13,388	19,264	24,669	0.76	0.07	0.10
2004	Florida	Dixie	70%	A	14	11	19	15	231,045	26,646	10,924	15,722	71,643	2.69	0.31	0.12
2004	Florida	Dixie	75%	A	2	1	3	1	33,496	4,010	1,804	2,206	16,619	4.14	0.50	0.12
2004	Florida	Indian River	50%	A	4	1	6	1	54,034	3,583	1,182	2,401	7,845	2.19	0.15	0.07
2004	Florida	Indian River	60%	A	1	0	2	0	20,097	1,869	673	1,196	0	0.00	0.00	0.09
2004	Florida	Indian River	70%	A	5	3	10	4	131,936	14,919	6,119	8,800	28,894	1.94	0.22	0.11
2004	Florida	Indian River	75%	A	8	7	11	10	241,763	30,843	13,879	16,964	140,776	4.56	0.58	0.13
2004	Florida	Levy	50%	A	26	4	41	5	1,158,954	82,092	27,093	54,999	72,902	0.89	0.06	0.07
2004	Florida	Levy	50%	C	16	5	16	5	372,054	23,454	0	23,454	39,485	1.68	0.11	0.06
2004	Florida	Levy	60%	A	10	3	19	7	352,271	33,626	12,105	21,521	45,073	1.34	0.13	0.10
2004	Florida	Levy	65%	A	25	11	29	14	953,667	101,504	41,616	59,888	239,651	2.36	0.25	0.11
2004	Florida	Levy	70%	A	26	9	33	9	704,520	80,786	33,122	47,664	79,944	0.99	0.11	0.11
2004	Florida	Levy	75%	A	21	17	24	18	522,523	69,800	31,410	38,390	209,427	3.00	0.40	0.13
2004	Massachusetts	Barnstable	50%	A	3	0	4	0	444,959	7,316	2,413	4,903	0	0.00	0.00	0.02
2004	Massachusetts	Barnstable	50%	C	12	0	12	0	615,698	10,161	0	10,161	0	0.00	0.00	0.02
2004	Massachusetts	Barnstable	55%	A	1	1	2	1	117,018	2,446	881	1,565	55,788	22.81	0.48	0.02
2004	Massachusetts	Barnstable	60%	A	2	0	8	0	364,889	8,906	3,207	5,699	0	0.00	0.00	0.02
2004	Massachusetts	Barnstable	65%	A	6	2	11	3	361,745	11,172	4,580	6,592	22,170	1.98	0.06	0.03
2004	Massachusetts	Barnstable	70%	A	2	0	5	0	216,670	8,819	3,617	5,202	0	0.00	0.00	0.04
2004	South Carolina	Beaufort	55%	A	3	0	4	0	188,337	3,917	1,407	2,510	0	0.00	0.00	0.02
2004	South Carolina	Beaufort	70%	A	1	0	2	0	39,190	1,666	683	983	0	0.00	0.00	0.04
2004	South Carolina	Charleston	50%	C	2	0	2	0	61,104	1,070	0	1,070	0	0.00	0.00	0.02
2004	South Carolina	Charleston	55%	A	1	1	1	1	189,925	4,386	1,579	2,807	31,938	7.28	0.17	0.02
2004	South Carolina	Charleston	60%	A	1	0	1	0	358,020	8,056	2,900	5,156	0	0.00	0.00	0.02
2004	Virginia	Accomack	50%	A	9	5	22	5	710,808	12,993	4,287	8,706	254,995	19.63	0.36	0.02
2004	Virginia	Accomack	50%	C	3	0	24	0	2,326,135	41,480	0	41,480	0	0.00	0.00	0.02
2004	Virginia	Accomack	55%	A	2	2	2	2	115,500	2,558	920	1,638	109,257	42.71	0.95	0.02
2004	Virginia	Accomack	60%	A	4	3	8	3	1,069,488	25,874	9,314	16,560	275,937	10.66	0.26	0.02
2004	Virginia	Accomack	65%	A	1	1	1	1	87,360	2,019	828	1,191	46,893	23.23	0.54	0.02
2004	Virginia	Northampton	50%	A	41	9	182	12	11,969,869	221,339	73,037	148,302	303,305	1.37	0.03	0.02
2004	Virginia	Northampton	50%	C	2	0	2	0	63,063	1,099	0	1,099	0	0.00	0.00	0.02
2004	Virginia	Northampton	55%	A	1	0	1	0	53,130	1,004	361	643	0	0.00	0.00	0.02
2004	Virginia	Northampton	60%	A	2	1	4	2	2,858,219	62,412	22,468	39,944	31,546	0.51	0.01	0.02
2004	Virginia	Northampton	65%	A	1	0	2	0	81,900	2,358	966	1,392	0	0.00	0.00	0.03
2004	Virginia	Northampton	75%	A	1	0	1	0	69,300	3,306	1,488	1,818	0	0.00	0.00	0.05
2005	Florida	Brevard	65%	A	1	0	1	0	68,250	5,160	2,116	3,044	0	0.00	0.00	0.08
2005	Florida	Brevard	70%	A	1	0	1	0	3,126	338	139	199	0	0.00	0.00	0.11
2005	Florida	Brevard	75%	A	1	0	1	0	3,938	379	171	208	0	0.00	0.00	0.10
2005	Florida	Dixie	50%	A	1	0	2	0	12,869	750	248	502	0	0.00	0.00	0.06
2005	Florida	Dixie	50%	C	1	0	3	0	25,377	1,536	0	1,536	0	0.00	0.00	0.06
2005	Florida	Dixie	65%	A	8	0	10	0	98,347	7,824	3,209	4,615	0	0.00	0.00	0.08

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Coverage Level Percentage
Table 1.8
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2005	Florida	Dixie	70%	A	9	3	11	4	117,650	11,305	4,634	6,671	37,404	3.31	0.32	0.10
2005	Florida	Dixie	75%	A	1	1	1	1	39,376	2,806	1,263	1,543	19,156	6.83	0.49	0.07
2005	Florida	Indian River	50%	A	1	0	1	0	14,438	728	240	488	0	0.00	0.00	0.05
2005	Florida	Indian River	60%	A	2	0	3	0	25,200	1,702	614	1,088	0	0.00	0.00	0.07
2005	Florida	Indian River	70%	A	4	0	5	0	66,532	6,155	2,523	3,632	0	0.00	0.00	0.09
2005	Florida	Indian River	75%	A	7	0	7	0	69,138	6,113	2,751	3,362	0	0.00	0.00	0.09
2005	Florida	Levy	50%	A	4	1	7	1	393,628	21,444	7,077	14,367	19,570	0.91	0.05	0.05
2005	Florida	Levy	50%	C	19	0	30	0	702,140	43,825	0	43,825	0	0.00	0.00	0.06
2005	Florida	Levy	55%	A	1	0	1	0	96,985	5,674	2,043	3,631	0	0.00	0.00	0.06
2005	Florida	Levy	60%	A	5	0	6	0	285,075	19,244	6,927	12,317	0	0.00	0.00	0.07
2005	Florida	Levy	65%	A	22	4	33	4	1,347,780	99,753	40,901	58,852	19,858	0.20	0.01	0.07
2005	Florida	Levy	70%	A	17	0	27	0	520,782	51,993	21,317	30,676	0	0.00	0.00	0.10
2005	Florida	Levy	75%	A	17	4	23	4	677,462	68,978	31,039	37,939	140,432	2.04	0.21	0.10
2005	Massachusetts	Barnstable	50%	A	1	0	3	0	75,060	1,231	406	825	0	0.00	0.00	0.02
2005	Massachusetts	Barnstable	50%	C	10	1	16	1	547,893	9,058	0	9,058	108,936	12.03	0.20	0.02
2005	Massachusetts	Barnstable	60%	A	2	0	6	0	407,981	8,813	3,174	5,639	0	0.00	0.00	0.02
2005	Massachusetts	Barnstable	65%	A	6	2	12	3	721,998	19,910	8,162	11,748	271,338	13.63	0.38	0.03
2005	Massachusetts	Barnstable	70%	A	1	1	2	2	71,820	2,521	1,033	1,488	7,759	3.08	0.11	0.04
2005	Massachusetts	Plymouth	50%	A	1	0	1	0	222,858	3,732	1,232	2,500	0	0.00	0.00	0.02
2005	South Carolina	Beaufort	50%	C	1	0	1	0	115,500	1,767	0	1,767	0	0.00	0.00	0.02
2005	South Carolina	Charleston	50%	C	1	0	2	0	157,262	2,529	0	2,529	0	0.00	0.00	0.02
2005	South Carolina	Charleston	60%	A	1	0	1	0	325,162	6,388	2,300	4,088	0	0.00	0.00	0.02
2005	Virginia	Accomack	50%	A	3	0	4	0	54,222	949	314	635	0	0.00	0.00	0.02
2005	Virginia	Accomack	60%	A	6	0	6	0	158,508	4,005	1,441	2,564	0	0.00	0.00	0.03
2005	Virginia	Accomack	65%	A	5	0	5	0	285,558	8,852	3,629	5,223	0	0.00	0.00	0.03
2005	Virginia	Accomack	70%	A	6	0	6	0	124,036	4,889	2,005	2,884	0	0.00	0.00	0.04
2005	Virginia	Northampton	50%	A	16	0	27	0	1,360,334	23,412	7,727	15,685	0	0.00	0.00	0.02
2005	Virginia	Northampton	50%	C	17	0	59	0	5,547,772	95,157	0	95,157	0	0.00	0.00	0.02
2005	Virginia	Northampton	60%	A	2	0	5	0	3,306,356	73,620	26,502	47,118	0	0.00	0.00	0.02
2005	Virginia	Northampton	65%	A	1	0	2	0	109,200	3,120	1,279	1,841	0	0.00	0.00	0.03
2006	Florida	Brevard	65%	A	1	0	1	0	6,825	885	363	522	0	0.00	0.00	0.13
2006	Florida	Brevard	75%	A	1	0	1	0	10,500	1,106	498	608	0	0.00	0.00	0.11
2006	Florida	Dixie	50%	C	1	0	1	0	30,100	2,111	0	2,111	0	0.00	0.00	0.07
2006	Florida	Dixie	60%	A	1	0	1	0	18,346	1,354	487	867	0	0.00	0.00	0.07
2006	Florida	Dixie	65%	A	2	0	2	0	9,100	754	310	444	0	0.00	0.00	0.08
2006	Florida	Dixie	70%	A	3	0	3	0	63,955	6,044	2,478	3,566	0	0.00	0.00	0.09
2006	Florida	Dixie	75%	A	1	0	1	0	39,375	4,147	1,866	2,281	0	0.00	0.00	0.11
2006	Florida	Indian River	50%	C	1	0	1	0	22,407	911	0	911	0	0.00	0.00	0.04
2006	Florida	Indian River	60%	A	1	0	1	0	21,000	1,550	558	992	0	0.00	0.00	0.07
2006	Florida	Indian River	70%	A	2	0	2	0	50,225	4,747	1,946	2,801	0	0.00	0.00	0.09
2006	Florida	Indian River	75%	A	5	0	5	0	99,750	10,503	4,727	5,776	0	0.00	0.00	0.11
2006	Florida	Levy	50%	A	4	0	4	0	213,500	11,913	3,930	7,983	0	0.00	0.00	0.06
2006	Florida	Levy	50%	C	20	0	20	0	987,793	56,679	0	56,679	0	0.00	0.00	0.06
2006	Florida	Levy	60%	A	4	0	5	0	334,479	25,118	9,043	16,075	0	0.00	0.00	0.08
2006	Florida	Levy	65%	A	21	4	23	5	2,877,946	249,562	102,319	147,243	204,230	0.82	0.07	0.09
2006	Florida	Levy	70%	A	9	2	9	2	517,629	50,722	20,797	29,925	89,869	1.77	0.17	0.10
2006	Florida	Levy	75%	A	12	3	12	3	726,128	76,407	34,384	42,023	147,764	1.93	0.20	0.11
2006	Massachusetts	Barnstable	50%	A	1	0	2	0	51,300	1,048	345	703	0	0.00	0.00	0.02
2006	Massachusetts	Barnstable	50%	C	11	0	11	0	650,506	11,847	0	11,847	0	0.00	0.00	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Coverage Level Percentage
Table 1.8
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2006	Massachusetts	Barnstable	60%	A	4	2	6	2	586,440	15,484	5,574	9,910	109,025	7.04	0.19	0.03
2006	Massachusetts	Barnstable	65%	A	6	2	10	2	385,067	13,141	5,386	7,755	14,008	1.07	0.04	0.03
2006	Massachusetts	Plymouth	50%	A	1	0	1	0	291,600	5,249	1,732	3,517	0	0.00	0.00	0.02
2006	South Carolina	Beaufort	50%	C	1	0	1	0	115,500	1,975	0	1,975	0	0.00	0.00	0.02
2006	South Carolina	Charleston	50%	C	1	0	1	0	147,840	2,528	0	2,528	0	0.00	0.00	0.02
2006	South Carolina	Charleston	55%	A	1	0	1	0	237,190	4,981	1,793	3,188	0	0.00	0.00	0.02
2006	Virginia	Accomack	50%	A	2	0	2	0	61,868	1,141	376	765	0	0.00	0.00	0.02
2006	Virginia	Accomack	60%	A	4	0	4	0	200,910	5,487	1,976	3,511	0	0.00	0.00	0.03
2006	Virginia	Accomack	65%	A	4	0	4	0	526,871	16,225	6,651	9,574	0	0.00	0.00	0.03
2006	Virginia	Accomack	70%	A	4	0	4	0	186,553	8,203	3,362	4,841	0	0.00	0.00	0.04
2006	Virginia	Northampton	50%	A	29	3	36	3	11,712,835	215,581	71,141	144,440	112,317	0.52	0.01	0.02
2006	Virginia	Northampton	50%	C	1	0	1	0	72,186	1,363	0	1,363	0	0.00	0.00	0.02
2006	Virginia	Northampton	60%	A	5	0	9	0	4,863,586	122,755	44,192	78,563	0	0.00	0.00	0.03
2007	Florida	Brevard	65%	A	1	0	1	0	11,375	942	386	556	0	0.00	0.00	0.08
2007	Florida	Brevard	70%	A	1	0	1	0	8,820	365	150	215	0	0.00	0.00	0.04
2007	Florida	Brevard	75%	A	1	0	1	0	10,500	1,106	498	608	0	0.00	0.00	0.11
2007	Florida	Indian River	50%	C	1	0	1	0	22,754	1,270	0	1,270	0	0.00	0.00	0.06
2007	Florida	Indian River	70%	A	2	0	2	0	34,545	3,108	1,274	1,834	0	0.00	0.00	0.09
2007	Florida	Indian River	75%	A	4	0	4	0	91,597	9,645	4,340	5,305	0	0.00	0.00	0.11
2007	Florida	Levy	50%	A	4	1	6	1	310,058	18,991	6,266	12,725	22,412	1.18	0.07	0.06
2007	Florida	Levy	50%	C	14	0	14	0	963,086	55,435	0	55,435	0	0.00	0.00	0.06
2007	Florida	Levy	60%	A	8	2	12	2	1,269,282	93,973	33,830	60,143	10,490	0.11	0.01	0.07
2007	Florida	Levy	65%	A	14	2	17	2	1,912,275	169,739	69,588	100,151	28,905	0.17	0.02	0.09
2007	Florida	Levy	70%	A	13	5	14	5	1,034,340	103,459	42,421	61,038	139,738	1.35	0.14	0.10
2007	Florida	Levy	75%	A	7	2	8	2	627,777	59,996	26,999	32,997	169,468	2.82	0.27	0.10
2007	Massachusetts	Barnstable	50%	A	5	0	5	0	299,948	5,487	1,810	3,677	0	0.00	0.00	0.02
2007	Massachusetts	Barnstable	50%	C	7	2	7	2	339,820	6,192	0	6,192	53,016	8.56	0.16	0.02
2007	Massachusetts	Barnstable	60%	A	3	1	3	1	543,024	13,332	4,798	8,534	3,940	0.30	0.01	0.02
2007	Massachusetts	Barnstable	65%	A	4	2	8	2	379,115	12,035	4,934	7,101	29,562	2.46	0.08	0.03
2007	Massachusetts	Plymouth	50%	A	1	0	1	0	256,500	4,641	1,531	3,110	0	0.00	0.00	0.02
2007	South Carolina	Charleston	50%	C	1	0	1	0	125,203	2,247	0	2,247	0	0.00	0.00	0.02
2007	South Carolina	Charleston	55%	A	1	0	1	0	157,472	3,307	1,190	2,117	0	0.00	0.00	0.02
2007	Virginia	Accomack	50%	A	2	0	2	0	65,475	1,217	402	815	0	0.00	0.00	0.02
2007	Virginia	Accomack	60%	A	2	0	2	0	135,758	3,484	1,255	2,229	0	0.00	0.00	0.03
2007	Virginia	Accomack	65%	A	8	1	8	1	915,707	27,950	11,460	16,490	22,680	0.81	0.02	0.03
2007	Virginia	Accomack	70%	A	2	1	2	1	269,325	11,869	4,867	7,002	21,809	1.84	0.08	0.04
2007	Virginia	Northampton	50%	A	29	0	33	0	11,219,003	205,155	67,701	137,454	0	0.00	0.00	0.02
2007	Virginia	Northampton	50%	C	2	0	2	0	164,382	3,021	0	3,021	0	0.00	0.00	0.02
2007	Virginia	Northampton	60%	A	7	0	7	0	5,613,070	155,097	55,838	99,259	0	0.00	0.00	0.03
2008	Florida	Brevard	65%	A	1	1	1	1	75,724	6,764	2,773	3,991	34,290	5.07	0.45	0.09
2008	Florida	Indian River	70%	A	1	1	1	1	23,520	2,223	911	1,312	7,461	3.36	0.32	0.09
2008	Florida	Indian River	75%	A	3	0	3	0	126,000	13,268	5,971	7,297	0	0.00	0.00	0.11
2008	Florida	Levy	50%	A	1	0	2	0	141,750	8,735	2,882	5,853	0	0.00	0.00	0.06
2008	Florida	Levy	50%	C	11	0	11	0	838,369	55,797	0	55,797	0	0.00	0.00	0.07
2008	Florida	Levy	55%	A	1	0	2	0	90,321	8,039	2,894	5,145	0	0.00	0.00	0.09
2008	Florida	Levy	60%	A	7	0	14	0	1,189,304	113,278	40,778	72,500	0	0.00	0.00	0.10
2008	Florida	Levy	65%	A	6	1	13	1	843,738	108,369	44,432	63,937	11,088	0.10	0.01	0.13
2008	Florida	Levy	70%	A	9	3	9	3	405,614	40,837	16,742	24,095	100,993	2.47	0.25	0.10
2008	Florida	Levy	75%	A	6	3	8	3	985,302	85,204	38,342	46,862	192,188	2.26	0.20	0.09

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Coverage Level Percentage
Table 1.8
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Coverage Flag	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2008	Massachusetts	Barnstable	50%	A	5	0	5	0	255,690	5,694	1,878	3,816	0	0.00	0.00	0.02
2008	Massachusetts	Barnstable	50%	C	4	1	4	1	224,728	4,458	0	4,458	22,089	4.95	0.10	0.02
2008	Massachusetts	Barnstable	60%	A	3	0	3	0	593,517	17,429	6,276	11,153	0	0.00	0.00	0.03
2008	Massachusetts	Barnstable	65%	A	3	1	3	1	391,049	14,524	5,955	8,569	38,936	2.68	0.10	0.04
2008	Massachusetts	Barnstable	75%	A	1	0	1	0	118,960	6,637	2,987	3,650	0	0.00	0.00	0.06
2008	Virginia	Accomack	50%	A	2	0	2	0	102,720	1,992	657	1,335	0	0.00	0.00	0.02
2008	Virginia	Accomack	60%	A	2	0	2	0	195,654	5,112	1,840	3,272	0	0.00	0.00	0.03
2008	Virginia	Accomack	65%	A	6	0	6	0	1,514,595	43,121	17,681	25,440	0	0.00	0.00	0.03
2008	Virginia	Accomack	70%	A	4	0	4	0	386,911	16,604	6,807	9,797	0	0.00	0.00	0.04
2008	Virginia	Northampton	50%	A	28	0	35	0	14,364,510	289,241	95,450	193,791	0	0.00	0.00	0.02
2008	Virginia	Northampton	50%	C	1	0	1	0	72,222	1,348	0	1,348	0	0.00	0.00	0.02
2008	Virginia	Northampton	60%	A	6	0	6	0	7,902,624	202,121	72,763	129,358	0	0.00	0.00	0.03
2009	Florida	Brevard	65%	A	1	0	1	0	3,538	366	150	216	0	0.00	0.00	0.10
2009	Florida	Indian River	70%	A	1	0	1	0	8,820	667	273	394	0	0.00	0.00	0.08
2009	Florida	Indian River	75%	A	2	0	2	0	47,250	3,997	1,798	2,199	0	0.00	0.00	0.08
2009	Florida	Levy	50%	A	10	5	10	5	1,733,702	57,828	19,081	38,747	276,405	4.78	0.16	0.03
2009	Florida	Levy	50%	C	19	4	19	4	1,328,219	66,532	0	66,532	151,480	2.28	0.11	0.05
2009	Florida	Levy	60%	A	1	1	1	1	151,200	8,981	3,233	5,748	147,838	16.46	0.98	0.06
2009	Florida	Levy	70%	A	8	4	8	4	343,476	29,186	11,966	17,220	153,231	5.25	0.45	0.08
2009	Florida	Levy	75%	A	6	5	6	5	735,767	59,316	26,692	32,624	599,471	10.11	0.81	0.08
2009	Massachusetts	Barnstable	50%	A	3	0	3	0	243,454	4,222	1,394	2,828	0	0.00	0.00	0.02
2009	Massachusetts	Barnstable	60%	A	2	0	2	0	673,596	14,439	5,197	9,242	0	0.00	0.00	0.02
2009	Massachusetts	Barnstable	65%	A	3	0	3	0	389,205	11,711	4,801	6,910	0	0.00	0.00	0.03
2009	Massachusetts	Barnstable	75%	A	1	0	1	0	156,124	7,025	3,162	3,863	0	0.00	0.00	0.04
2009	Virginia	Accomack	50%	A	2	0	2	0	120,480	1,839	607	1,232	0	0.00	0.00	0.02
2009	Virginia	Accomack	60%	A	2	0	2	0	60,480	1,306	470	836	0	0.00	0.00	0.02
2009	Virginia	Accomack	65%	A	7	2	7	2	2,097,591	54,205	22,226	31,979	228,088	4.21	0.11	0.03
2009	Virginia	Accomack	70%	A	4	0	4	0	250,656	8,358	3,427	4,931	0	0.00	0.00	0.03
2009	Virginia	Northampton	50%	A	28	0	30	0	13,094,715	211,530	69,801	141,729	0	0.00	0.00	0.02
2009	Virginia	Northampton	50%	C	1	0	1	0	125,004	1,848	0	1,848	0	0.00	0.00	0.01
2009	Virginia	Northampton	60%	A	6	0	6	0	6,317,217	131,038	47,172	83,866	0	0.00	0.00	0.02
2010	Florida	Brevard	65%	A	1	1	1	1	4,571	378	155	223	4,571	12.09	1.00	0.08
2010	Florida	Levy	50%	C	1	0	2	0	78,925	3,552	0	3,552	0	0.00	0.00	0.05
2010	Florida	Levy	75%	A	1	1	4	4	141,531	13,591	6,116	7,475	49,790	3.66	0.35	0.10
2010	Massachusetts	Barnstable	50%	A	2	0	2	0	98,940	1,584	523	1,061	0	0.00	0.00	0.02
2010	Massachusetts	Barnstable	60%	A	5	0	5	0	593,525	14,165	5,099	9,066	0	0.00	0.00	0.02
2010	Massachusetts	Barnstable	65%	A	3	1	3	1	470,521	13,955	5,723	8,232	18,658	1.34	0.04	0.03
2010	Massachusetts	Barnstable	75%	A	2	0	2	0	223,268	10,329	4,648	5,681	0	0.00	0.00	0.05
2010	South Carolina	Charleston	55%	A	1	0	1	0	18,710	393	141	252	0	0.00	0.00	0.02
2010	Virginia	Accomack	50%	A	1	0	1	0	22,500	370	124	246	0	0.00	0.00	0.02
2010	Virginia	Accomack	60%	A	2	1	2	1	106,110	2,546	917	1,629	24,300	9.54	0.23	0.02
2010	Virginia	Accomack	65%	A	6	0	6	0	1,959,828	43,210	17,717	25,493	0	0.00	0.00	0.02
2010	Virginia	Accomack	70%	A	4	1	4	1	182,070	6,070	2,490	3,580	28,771	4.74	0.16	0.03
2010	Virginia	Northampton	50%	A	24	0	24	0	11,594,130	182,582	60,254	122,328	0	0.00	0.00	0.02
2010	Virginia	Northampton	50%	C	2	0	2	0	1,779,666	25,680	0	25,680	0	0.00	0.00	0.01
2010	Virginia	Northampton	60%	A	5	0	5	0	4,798,140	106,391	38,305	68,086	0	0.00	0.00	0.02
2010	Virginia	Northampton	65%	A	1	0	1	0	57,184	1,450	594	856	0	0.00	0.00	0.03
				Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777			

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Reporting Organization
Table 1.9
Clams
Florida, Massachusetts, South Carolina, Virginia

Reporting Organization	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
HB	43	19	43	19	4,256,152	218,779	59,593	159,186	1,328,425	6.07	0.31	0.05
HL	42	15	82	16	4,151,545	326,380	133,959	176,787	449,316	1.38	0.11	0.08
MB	66	16	81	16	5,886,669	528,105	178,156	349,949	653,635	1.24	0.11	0.09
MJ	1319	219	2140	256	205,865,298	5,742,708	1,988,911	3,515,034	5,006,783	0.87	0.02	0.03
MN	316	115	393	133	21,589,186	950,812	418,855	288,954	2,410,440	2.54	0.11	0.04
OW	296	49	338	50	77,437,333	1,956,478	700,583	1,208,697	1,867,153	0.95	0.02	0.03
PW	224	91	370	103	17,110,113	829,322	339,301	490,021	2,285,227	2.76	0.13	0.05
SU	6	1	10	4	312,738	24,871	9,566	15,305	49,790	2.00	0.16	0.08
YH	371	107	566	124	31,470,386	1,640,893	691,450	866,177	3,769,008	2.30	0.12	0.05
Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, Reporting Organization
Table 1.10
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Reporting Organization	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	HL	8	7	15	8	575,393	37,240	21,606	0	210,917	5.66	0.37	0.06
2000	MJ	103	14	122	14	18,115,597	381,860	143,097	0	195,055	0.51	0.01	0.02
2000	MN	148	46	176	53	11,250,090	465,660	222,657	0	997,674	2.14	0.09	0.04
2000	OW	27	5	40	5	2,396,462	83,055	35,857	0	114,459	1.38	0.05	0.03
2000	YH	49	19	62	21	3,783,263	157,966	74,700	0	551,470	3.49	0.15	0.04
2001	HL	9	7	18	7	737,463	53,569	23,492	30,077	190,743	3.56	0.26	0.07
2001	MJ	92	3	132	4	16,548,627	334,380	110,032	224,348	319,648	0.96	0.02	0.02
2001	MN	168	69	217	80	10,339,096	485,152	196,198	288,954	1,412,766	2.91	0.14	0.05
2001	OW	33	8	46	8	2,640,009	94,983	32,518	62,465	175,417	1.85	0.07	0.04
2001	YH	75	25	152	26	10,950,073	432,522	169,895	262,627	782,124	1.81	0.07	0.04
2002	HL	8	1	16	1	457,106	30,254	13,048	17,206	47,656	1.58	0.10	0.07
2002	MJ	86	2	213	2	19,885,704	433,515	144,357	289,158	42,809	0.10	0.00	0.02
2002	OW	37	6	40	6	14,273,477	366,623	131,807	234,816	186,604	0.51	0.01	0.03
2002	PW	224	91	370	103	17,110,113	829,322	339,301	490,021	2,285,227	2.76	0.13	0.05
2002	YH	117	34	154	43	8,226,213	520,989	221,005	299,984	1,456,952	2.80	0.18	0.06
2003	HL	2	0	4	0	108,046	8,968	4,036	4,932		0.00	0.00	0.08
2003	MJ	260	62	476	68	37,812,663	1,203,578	449,987	753,591	1,645,970	1.37	0.04	0.03
2003	OW	25	4	28	4	4,745,777	118,436	39,635	78,801	150,088	1.27	0.03	0.02
2003	YH	130	29	198	34	8,510,837	529,416	225,850	303,566	978,462	1.85	0.11	0.06
2004	MJ	271	97	529	123	22,087,603	843,686	293,063	550,623	1,459,357	1.73	0.07	0.04
2004	OW	22	14	26	15	5,613,739	125,495	41,770	83,725	723,045	5.76	0.13	0.02
2005	MJ	177	17	303	20	13,541,430	515,371	146,119	369,252	624,453	1.21	0.05	0.04
2005	OW	25	0	28	0	4,618,183	110,289	40,297	69,992		0.00	0.00	0.02
2006	MJ	140	15	158	16	19,491,388	762,459	265,689	496,770	584,622	0.77	0.03	0.04
2006	OW	24	1	27	1	6,627,922	169,062	60,545	108,517	92,591	0.55	0.01	0.03
2007	MB	42	9	53	9	3,834,982	315,626	107,923	207,703	349,366	1.11	0.09	0.08
2007	MJ	74	6	82	6	15,321,971	445,047	156,560	288,487	69,814	0.16	0.00	0.03
2007	OW	28	4	28	4	7,623,258	212,390	77,055	135,335	82,840	0.39	0.01	0.03
2008	HL	15	0	29	0	2,273,537	196,349	71,777	124,572		0.00	0.00	0.09
2008	MB	24	7	28	7	2,051,687	212,479	70,233	142,246	304,269	1.43	0.15	0.10
2008	MJ	47	2	54	2	16,072,620	360,854	122,776	238,078	46,397	0.13	0.00	0.02
2008	OW	25	2	25	2	10,444,978	281,113	103,233	177,880	56,379	0.20	0.01	0.03
2009	HB	43	19	43	19	4,256,152	218,779	59,593	159,186	1,328,425	6.07	0.31	0.05
2009	MJ	36	0	38	0	14,163,326	241,856	81,837	160,019		0.00	0.00	0.02
2009	OW	24	2	24	2	9,368,734	206,031	76,570	129,461	228,088	1.11	0.02	0.02
2009	SU	4	0	4	0	92,282	7,728	3,450	4,278		0.00	0.00	0.08
2010	MJ	33	1	33	1	12,824,369	220,102	75,394	144,708	18,658	0.08	0.00	0.02
2010	OW	26	3	26	3	9,084,794	189,001	61,296	127,705	57,642	0.30	0.01	0.02
2010	SU	2	1	6	4	220,456	17,143	6,116	11,027	49,790	2.90	0.23	0.08
	Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Reporting Organization
Table 1.11
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Reporting Organization	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	Florida	Brevard	MJ	2	2	2	2	197,694	8,577	4,205	0	83,589	9.75	0.42	0.04
2000	Florida	Brevard	MN	4	1	4	1	134,959	3,973	1,321	0	9,492	2.39	0.07	0.03
2000	Florida	Brevard	OW	1	0	1	0	4,388	190	93	0		0.00	0.00	0.04
2000	Florida	Brevard	YH	7	2	7	2	243,360	10,068	4,819	0	38,522	3.83	0.16	0.04
2000	Florida	Dixie	MN	42	24	55	31	1,940,161	75,031	33,997	0	573,106	7.64	0.30	0.04
2000	Florida	Dixie	OW	3	2	6	2	184,440	7,083	3,272	0	72,012	10.17	0.39	0.04
2000	Florida	Dixie	YH	5	4	6	4	258,195	10,509	4,937	0	52,439	4.99	0.20	0.04
2000	Florida	Indian River	OW	1	0	1	0	44,963	1,335	562	0		0.00	0.00	0.03
2000	Florida	Indian River	YH	15	7	19	8	1,931,198	85,158	41,140	0	260,557	3.06	0.13	0.04
2000	Florida	Levy	HL	8	7	15	8	575,393	37,240	21,606	0	210,917	5.66	0.37	0.06
2000	Florida	Levy	MJ	2	1	2	1	75,637	3,268	1,598	0	3,660	1.12	0.05	0.04
2000	Florida	Levy	MN	102	21	117	21	9,174,970	386,656	187,339	0	415,076	1.07	0.05	0.04
2000	Florida	Levy	OW	17	3	27	3	1,466,260	54,400	24,031	0	42,447	0.78	0.03	0.04
2000	Florida	Levy	YH	22	6	30	7	1,350,510	52,231	23,804	0	199,952	3.83	0.15	0.04
2000	Massachusetts	Barnstable	MJ	40	11	53	11	2,517,191	64,298	28,271	0	107,806	1.68	0.04	0.03
2000	Massachusetts	Barnstable	OW	5	0	5	0	696,411	20,047	7,899	0		0.00	0.00	0.03
2000	South Carolina	Beaufort	MJ	1	0	1	0	1,188,101	36,356	17,778	0		0.00	0.00	0.03
2000	South Carolina	Charleston	MJ	4	0	8	0	209,475	5,402	1,884	0		0.00	0.00	0.03
2000	Virginia	Accomack	MJ	14	0	14	0	1,358,400	25,673	8,660	0		0.00	0.00	0.02
2000	Virginia	Northampton	MJ	40	0	42	0	12,569,099	238,286	80,701	0		0.00	0.00	0.02
2001	Florida	Brevard	MJ	2	1	2	1	32,729	1,428	585	843	18,448	12.92	0.56	0.04
2001	Florida	Brevard	MN	20	18	25	18	1,034,865	59,251	24,263	34,988	344,163	5.81	0.33	0.06
2001	Florida	Brevard	OW	6	2	6	2	160,068	7,083	2,847	4,236	16,622	2.35	0.10	0.04
2001	Florida	Brevard	YH	3	1	3	1	198,770	11,179	4,583	6,596	140,843	12.60	0.71	0.06
2001	Florida	Dixie	MN	44	15	54	15	1,917,445	88,149	36,086	52,063	57,757	0.66	0.03	0.05
2001	Florida	Dixie	OW	0	0	1	0	9,035	391	160	231		0.00	0.00	0.04
2001	Florida	Dixie	YH	10	5	16	5	328,518	20,832	8,881	11,951	58,427	2.80	0.18	0.06
2001	Florida	Indian River	MJ	1	0	1	0	592	26	11	15		0.00	0.00	0.04
2001	Florida	Indian River	MN	30	14	41	18	1,665,546	95,716	39,232	56,484	360,290	3.76	0.22	0.06
2001	Florida	Indian River	OW	1	0	1	0	3,380	146	60	86		0.00	0.00	0.04
2001	Florida	Levy	HL	9	7	18	7	737,463	53,569	23,492	30,077	190,743	3.56	0.26	0.07
2001	Florida	Levy	MJ	1	0	1	0	57,362	4,286	1,929	2,357		0.00	0.00	0.07
2001	Florida	Levy	MN	74	22	97	29	5,721,240	242,036	96,617	145,419	650,556	2.69	0.11	0.04
2001	Florida	Levy	OW	19	6	31	6	1,912,390	76,969	29,051	47,918	158,795	2.06	0.08	0.04
2001	Florida	Levy	YH	44	18	67	19	4,516,426	260,962	106,788	154,174	529,668	2.03	0.12	0.06
2001	Massachusetts	Barnstable	MJ	32	1	32	1	1,998,277	51,152	15,669	35,483	150,000	2.93	0.08	0.03
2001	Massachusetts	Barnstable	OW	6	0	6	0	523,286	9,419	0	9,419		0.00	0.00	0.02
2001	South Carolina	Charleston	MJ	4	0	9	0	372,645	7,764	2,380	5,384		0.00	0.00	0.02
2001	South Carolina	Charleston	OW	1	0	1	0	31,850	975	400	575		0.00	0.00	0.03
2001	Virginia	Accomack	MJ	6	0	8	0	238,560	4,508	1,488	3,020		0.00	0.00	0.02
2001	Virginia	Accomack	YH	12	0	45	0	3,417,943	82,262	29,804	52,458		0.00	0.00	0.02
2001	Virginia	Northampton	MJ	46	1	79	2	13,848,462	265,216	87,970	177,246	151,200	0.57	0.01	0.02
2001	Virginia	Northampton	YH	6	1	21	1	2,488,416	57,287	19,839	37,448	53,186	0.93	0.02	0.02
2002	Florida	Brevard	OW	7	4	7	4	278,761	11,921	4,770	7,151	118,745	9.96	0.43	0.04
2002	Florida	Brevard	PW	3	1	3	1	94,609	4,641	1,903	2,738	12,978	2.80	0.14	0.05
2002	Florida	Brevard	YH	16	3	17	3	913,088	58,190	24,884	33,306	142,292	2.45	0.16	0.06
2002	Florida	Dixie	PW	65	22	99	24	2,823,580	129,058	52,430	76,628	144,399	1.12	0.05	0.05

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Reporting Organization
Table 1.11
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Reporting Organization	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2002	Florida	Dixie	YH	10	2	14	2	352,450	20,939	8,758	12,181	14,321	0.68	0.04	0.06
2002	Florida	Indian River	MJ	1	0	1	0	4,969	215	88	127		0.00	0.00	0.04
2002	Florida	Indian River	OW	2	0	2	0	147,030	6,351	2,604	3,747		0.00	0.00	0.04
2002	Florida	Indian River	PW	4	1	4	1	110,841	6,132	2,558	3,574	45,881	7.48	0.41	0.06
2002	Florida	Indian River	YH	32	3	46	4	1,795,721	119,306	51,109	68,197	87,869	0.74	0.05	0.07
2002	Florida	Levy	HL	8	1	16	1	457,106	30,254	13,048	17,206	47,656	1.58	0.10	0.07
2002	Florida	Levy	MJ	1	0	1	0	69,962	5,227	2,352	2,875		0.00	0.00	0.07
2002	Florida	Levy	OW	3	1	4	1	228,428	10,133	4,116	6,017	16,252	1.60	0.07	0.04
2002	Florida	Levy	PW	152	67	264	77	14,081,083	689,491	282,410	407,081	2,081,969	3.02	0.15	0.05
2002	Florida	Levy	YH	58	26	75	34	5,030,641	318,444	134,569	183,875	1,212,470	3.81	0.24	0.06
2002	Massachusetts	Barnstable	MJ	27	0	28	0	2,448,072	64,237	21,344	42,893		0.00	0.00	0.03
2002	Massachusetts	Barnstable	OW	4	0	4	0	262,387	4,723	0	4,723		0.00	0.00	0.02
2002	South Carolina	Beaufort	OW	1	0	1	0	151,778	2,869	947	1,922		0.00	0.00	0.02
2002	South Carolina	Charleston	MJ	4	0	15	0	714,263	14,939	4,732	10,207		0.00	0.00	0.02
2002	South Carolina	Charleston	OW	3	0	3	0	376,821	12,570	5,154	7,416		0.00	0.00	0.03
2002	Virginia	Accomack	MJ	4	0	8	0	354,195	7,047	2,324	4,723		0.00	0.00	0.02
2002	Virginia	Accomack	OW	12	0	13	0	8,615,882	194,097	68,474	125,623		0.00	0.00	0.02
2002	Virginia	Northampton	MJ	49	2	160	2	16,294,243	341,850	113,517	228,333	42,809	0.13	0.00	0.02
2002	Virginia	Northampton	OW	5	1	6	1	4,212,390	123,959	45,742	78,217	51,607	0.42	0.01	0.03
2002	Virginia	Northampton	YH	1	0	2	0	134,313	4,110	1,685	2,425		0.00	0.00	0.03
2003	Florida	Brevard	MJ	2	1	2	1	67,198	2,902	1,189	1,713	29,376	10.12	0.44	0.04
2003	Florida	Brevard	OW	6	2	6	2	184,581	7,406	2,867	4,539	56,789	7.67	0.31	0.04
2003	Florida	Brevard	YH	9	1	11	1	343,286	23,504	10,236	13,268	126,815	5.40	0.37	0.07
2003	Florida	Dixie	MJ	46	18	68	19	2,121,638	119,032	48,917	70,115	258,287	2.17	0.12	0.06
2003	Florida	Dixie	YH	24	2	30	3	648,118	34,241	14,332	19,909	17,869	0.52	0.03	0.05
2003	Florida	Indian River	MJ	3	0	3	0	50,974	3,141	1,363	1,778		0.00	0.00	0.06
2003	Florida	Indian River	YH	27	5	42	5	1,410,716	95,278	40,924	54,354	86,920	0.91	0.06	0.07
2003	Florida	Levy	HL	2	0	4	0	108,046	8,968	4,036	4,932		0.00	0.00	0.08
2003	Florida	Levy	MJ	118	27	189	30	9,208,332	504,418	207,419	296,999	633,872	1.26	0.07	0.05
2003	Florida	Levy	OW	2	0	3	0	104,607	4,359	1,687	2,672		0.00	0.00	0.04
2003	Florida	Levy	YH	70	21	115	25	6,108,717	376,393	160,358	216,035	746,858	1.98	0.12	0.06
2003	Massachusetts	Barnstable	MJ	26	7	28	7	2,371,793	58,734	18,598	40,136	189,520	3.23	0.08	0.02
2003	Massachusetts	Barnstable	OW	4	0	4	0	438,901	7,900	0	7,900		0.00	0.00	0.02
2003	South Carolina	Beaufort	MJ	4	0	7	0	348,590	15,014	6,157	8,857		0.00	0.00	0.04
2003	South Carolina	Charleston	MJ	10	1	15	1	1,116,762	27,877	9,835	18,042	77,599	2.78	0.07	0.02
2003	South Carolina	Charleston	OW	1	0	1	0	162,731	4,980	2,042	2,938		0.00	0.00	0.03
2003	Virginia	Accomack	MJ	9	3	43	3	5,415,101	113,879	37,736	76,143	198,925	1.75	0.04	0.02
2003	Virginia	Accomack	OW	7	1	8	1	3,096,240	73,825	25,753	48,072	76,510	1.04	0.02	0.02
2003	Virginia	Northampton	MJ	42	5	121	7	17,112,275	358,581	118,773	239,808	258,391	0.72	0.02	0.02
2003	Virginia	Northampton	OW	5	1	6	1	758,717	19,966	7,286	12,680	16,789	0.84	0.02	0.03
2004	Florida	Brevard	MJ	6	5	6	5	52,874	7,092	3,090	4,002	43,716	6.16	0.83	0.13
2004	Florida	Brevard	OW	2	2	2	2	71,663	5,418	2,222	3,196	16,492	3.04	0.23	0.08
2004	Florida	Dixie	MJ	41	18	54	27	651,471	65,968	25,799	40,169	124,491	1.89	0.19	0.10
2004	Florida	Dixie	OW	1	1	1	1	51,188	3,870	1,587	2,283	1,877	0.49	0.04	0.08
2004	Florida	Indian River	MJ	18	11	29	15	447,830	51,214	21,853	29,361	177,515	3.47	0.40	0.11
2004	Florida	Levy	MJ	124	49	162	58	4,063,989	391,262	145,346	245,916	686,482	1.75	0.17	0.10
2004	Massachusetts	Barnstable	MJ	24	3	40	4	1,702,614	42,040	12,533	29,507	77,958	1.85	0.05	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Reporting Organization
Table 1.11
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Reporting Organization	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2004	Massachusetts	Barnstable	OW	2	0	2	0	418,365	6,780	2,165	4,615		0.00	0.00	0.02
2004	South Carolina	Beaufort	MJ	4	0	6	0	227,527	5,583	2,090	3,493		0.00	0.00	0.02
2004	South Carolina	Charleston	MJ	3	0	3	0	419,124	9,126	2,900	6,226		0.00	0.00	0.02
2004	South Carolina	Charleston	OW	1	1	1	1	189,925	4,386	1,579	2,807	31,938	7.28	0.17	0.02
2004	Virginia	Accomack	MJ	8	2	45	2	2,499,553	46,491	4,715	41,776	45,890	0.99	0.02	0.02
2004	Virginia	Accomack	OW	11	9	12	9	1,809,738	38,433	10,634	27,799	641,192	16.68	0.35	0.02
2004	Virginia	Northampton	MJ	43	9	184	12	12,022,621	224,910	74,737	150,173	303,305	1.35	0.03	0.02
2004	Virginia	Northampton	OW	5	1	8	2	3,072,860	66,608	23,583	43,025	31,546	0.47	0.01	0.02
2005	Florida	Brevard	MJ	2	0	2	0	7,064	717	310	407		0.00	0.00	0.10
2005	Florida	Brevard	OW	1	0	1	0	68,250	5,160	2,116	3,044		0.00	0.00	0.08
2005	Florida	Dixie	MJ	19	4	26	5	259,494	21,641	8,296	13,345	56,560	2.61	0.22	0.08
2005	Florida	Dixie	OW	1	0	1	0	34,125	2,580	1,058	1,522		0.00	0.00	0.08
2005	Florida	Indian River	MJ	14	0	16	0	175,308	14,698	6,128	8,570		0.00	0.00	0.08
2005	Florida	Levy	MJ	85	9	127	9	4,023,852	310,911	109,304	201,607	179,860	0.58	0.04	0.08
2005	Massachusetts	Barnstable	MJ	20	4	39	6	1,824,752	41,533	12,775	28,758	388,033	9.34	0.21	0.02
2005	Massachusetts	Plymouth	OW	1	0	1	0	222,858	3,732	1,232	2,500		0.00	0.00	0.02
2005	South Carolina	Beaufort	MJ	1	0	1	0	115,500	1,767	0	1,767		0.00	0.00	0.02
2005	South Carolina	Charleston	MJ	1	0	2	0	157,262	2,529	0	2,529		0.00	0.00	0.02
2005	South Carolina	Charleston	OW	1	0	1	0	325,162	6,388	2,300	4,088		0.00	0.00	0.02
2005	Virginia	Accomack	MJ	3	0	4	0	58,254	1,348	492	856		0.00	0.00	0.02
2005	Virginia	Accomack	OW	17	0	17	0	564,070	17,347	6,897	10,450		0.00	0.00	0.03
2005	Virginia	Northampton	MJ	32	0	86	0	6,919,944	120,227	8,814	111,413		0.00	0.00	0.02
2005	Virginia	Northampton	OW	4	0	7	0	3,403,718	75,082	26,694	48,388		0.00	0.00	0.02
2006	Florida	Brevard	MJ	1	0	1	0	10,500	1,106	498	608		0.00	0.00	0.11
2006	Florida	Brevard	OW	1	0	1	0	6,825	885	363	522		0.00	0.00	0.13
2006	Florida	Dixie	MJ	8	0	8	0	160,876	14,410	5,141	9,269		0.00	0.00	0.09
2006	Florida	Indian River	MJ	9	0	9	0	193,382	17,711	7,231	10,480		0.00	0.00	0.09
2006	Florida	Levy	MJ	70	9	73	10	5,657,475	470,401	170,473	299,928	441,863	0.94	0.08	0.08
2006	Massachusetts	Barnstable	MJ	17	3	24	3	1,362,975	34,728	9,652	25,076	30,442	0.88	0.02	0.03
2006	Massachusetts	Barnstable	OW	5	1	5	1	310,338	6,792	1,653	5,139	92,591	13.63	0.30	0.02
2006	Massachusetts	Plymouth	OW	1	0	1	0	291,600	5,249	1,732	3,517		0.00	0.00	0.02
2006	South Carolina	Beaufort	MJ	1	0	1	0	115,500	1,975	0	1,975		0.00	0.00	0.02
2006	South Carolina	Charleston	MJ	1	0	1	0	147,840	2,528	0	2,528		0.00	0.00	0.02
2006	South Carolina	Charleston	OW	1	0	1	0	237,190	4,981	1,793	3,188		0.00	0.00	0.02
2006	Virginia	Accomack	MJ	2	0	2	0	116,505	3,650	1,420	2,230		0.00	0.00	0.03
2006	Virginia	Accomack	OW	12	0	12	0	859,697	27,406	10,945	16,461		0.00	0.00	0.03
2006	Virginia	Northampton	MJ	31	3	39	3	11,726,335	215,950	71,274	144,676	112,317	0.52	0.01	0.02
2006	Virginia	Northampton	OW	4	0	7	0	4,922,272	123,749	44,059	79,690		0.00	0.00	0.03
2007	Florida	Brevard	MJ	2	0	2	0	19,320	1,471	648	823		0.00	0.00	0.08
2007	Florida	Brevard	OW	1	0	1	0	11,375	942	386	556		0.00	0.00	0.08
2007	Florida	Indian River	MJ	7	0	7	0	148,896	14,023	5,614	8,409		0.00	0.00	0.09
2007	Florida	Levy	MB	41	9	52	9	3,709,779	313,379	107,923	205,456	349,366	1.11	0.09	0.08
2007	Florida	Levy	MJ	19	3	19	3	2,407,039	188,214	71,181	117,033	21,647	0.12	0.01	0.08
2007	Massachusetts	Barnstable	MJ	14	3	18	3	1,378,658	33,383	11,043	22,340	48,167	1.44	0.03	0.02
2007	Massachusetts	Barnstable	OW	5	2	5	2	183,249	3,663	499	3,164	38,351	10.47	0.21	0.02
2007	Massachusetts	Plymouth	OW	1	0	1	0	256,500	4,641	1,531	3,110		0.00	0.00	0.02
2007	South Carolina	Charleston	MB	1	0	1	0	125,203	2,247	0	2,247		0.00	0.00	0.02

Evaluation of Clams Plans of Insurance
Table of Insurance Experience by Crop Year, County, Reporting Organization
Table 1.11
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Reporting Organization	Policies Earning Premium	Policies Indemnified	Units Earning Premium	Units Indemnified	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2007	South Carolina	Charleston	OW	1	0	1	0	157,472	3,307	1,190	2,117		0.00	0.00	0.02
2007	Virginia	Accomack	MJ	1	0	1	0	48,375	909	300	609		0.00	0.00	0.02
2007	Virginia	Accomack	OW	13	2	13	2	1,337,890	43,611	17,684	25,927	44,489	1.02	0.03	0.03
2007	Virginia	Northampton	MJ	31	0	35	0	11,319,683	207,047	67,774	139,273		0.00	0.00	0.02
2007	Virginia	Northampton	OW	7	0	7	0	5,676,772	156,226	55,765	100,461		0.00	0.00	0.03
2008	Florida	Brevard	OW	1	1	1	1	75,724	6,764	2,773	3,991	34,290	5.07	0.45	0.09
2008	Florida	Indian River	MJ	4	1	4	1	149,520	15,491	6,882	8,609	7,461	0.48	0.05	0.10
2008	Florida	Levy	HL	15	0	29	0	2,273,537	196,349	71,777	124,572		0.00	0.00	0.09
2008	Florida	Levy	MB	24	7	28	7	2,051,687	212,479	70,233	142,246	304,269	1.43	0.15	0.10
2008	Florida	Levy	MJ	2	0	2	0	169,174	11,431	4,060	7,371		0.00	0.00	0.07
2008	Massachusetts	Barnstable	MJ	13	1	13	1	1,421,096	45,130	16,530	28,600	38,936	0.86	0.03	0.03
2008	Massachusetts	Barnstable	OW	3	1	3	1	162,848	3,612	566	3,046	22,089	6.12	0.14	0.02
2008	Virginia	Accomack	MJ	1	0	1	0	43,200	902	297	605		0.00	0.00	0.02
2008	Virginia	Accomack	OW	13	0	13	0	2,156,680	65,927	26,688	39,239		0.00	0.00	0.03
2008	Virginia	Northampton	MJ	27	0	34	0	14,289,630	287,900	95,007	192,893		0.00	0.00	0.02
2008	Virginia	Northampton	OW	8	0	8	0	8,049,726	204,810	73,206	131,604		0.00	0.00	0.03
2009	Florida	Brevard	OW	1	0	1	0	3,538	366	150	216		0.00	0.00	0.10
2009	Florida	Indian River	SU	3	0	3	0	56,070	4,664	2,071	2,593		0.00	0.00	0.08
2009	Florida	Levy	HB	43	19	43	19	4,256,152	218,779	59,593	159,186	1,328,425	6.07	0.31	0.05
2009	Florida	Levy	SU	1	0	1	0	36,212	3,064	1,379	1,685		0.00	0.00	0.08
2009	Massachusetts	Barnstable	MJ	8	0	8	0	1,131,899	31,192	12,321	18,871		0.00	0.00	0.03
2009	Massachusetts	Barnstable	OW	1	0	1	0	330,480	6,205	2,233	3,972		0.00	0.00	0.02
2009	Virginia	Accomack	MJ	1	0	1	0	50,400	830	274	556		0.00	0.00	0.02
2009	Virginia	Accomack	OW	14	2	14	2	2,478,807	64,878	26,456	38,422	228,088	3.52	0.09	0.03
2009	Virginia	Northampton	MJ	27	0	29	0	12,981,027	209,834	69,242	140,592		0.00	0.00	0.02
2009	Virginia	Northampton	OW	8	0	8	0	6,555,909	134,582	47,731	86,851		0.00	0.00	0.02
2010	Florida	Brevard	OW	1	1	1	1	4,571	378	155	223	4,571	12.09	1.00	0.08
2010	Florida	Levy	SU	2	1	6	4	220,456	17,143	6,116	11,027	49,790	2.90	0.23	0.08
2010	Massachusetts	Barnstable	MJ	10	1	10	1	1,324,289	38,954	15,614	23,340	18,658	0.48	0.01	0.03
2010	Massachusetts	Barnstable	OW	2	0	2	0	61,965	1,079	379	700		0.00	0.00	0.02
2010	South Carolina	Charleston	OW	1	0	1	0	18,710	393	141	252		0.00	0.00	0.02
2010	Virginia	Accomack	OW	13	2	13	2	2,270,508	52,196	21,248	30,948	53,071	1.02	0.02	0.02
2010	Virginia	Northampton	MJ	23	0	23	0	11,500,080	181,148	59,780	121,368		0.00	0.00	0.02
2010	Virginia	Northampton	OW	9	0	9	0	6,729,040	134,955	39,373	95,582		0.00	0.00	0.02
			Total	2683	632	4023	721	368,079,420	12,218,348	4,520,374	7,070,110	17,819,777	1.46	0.05	0.03

Evaluation of Clams Plans of Insurance
Table of Indemnity by Cause of Loss
Table 2.1
Clams
Florida, Massachusetts, South Carolina, Virginia

Description	Indemnity	Percent Indemnity
Disease, Aquaculture	615,161	3%
Excess Wind	41,028	0%
Freeze	2,327,174	13%
Hurricane	2,403,206	13%
Ice Floe	340,306	2%
Other	135,280	1%
Oxygen Depletion	1,472,829	8%
Salinity	7,115,158	40%
Storm Surge	3,350,580	19%
Tidal Wave	19,055	0%
Total	17,819,777	100%

Evaluation of Clams Plans of Insurance
Table of Indemnity by Crop Year and Cause of Loss
Table 2.2
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Description	Indemnity	Percent Indemnity
2000	Disease, Aquaculture	205,758	10%
2000	Excess Wind	25,740	1%
2000	Freeze	148,879	7%
2000	Hurricane	472,528	23%
2000	Other	14,160	1%
2000	Oxygen Depletion	344,641	17%
2000	Salinity	817,885	40%
2000	Storm Surge	39,984	2%
2001	Disease, Aquaculture	151,200	5%
2001	Freeze	214,828	7%
2001	Hurricane	694,670	24%
2001	Oxygen Depletion	18,448	1%
2001	Salinity	708,366	25%
2001	Storm Surge	1,093,186	38%
2002	Disease, Aquaculture	51,607	1%
2002	Freeze	210,979	5%
2002	Other	63,542	2%
2002	Oxygen Depletion	373,246	9%
2002	Salinity	2,053,673	51%
2002	Storm Surge	1,266,201	32%
2003	Excess Wind	15,288	1%
2003	Freeze	469,084	17%
2003	Hurricane	35,542	1%
2003	Oxygen Depletion	56,789	2%
2003	Salinity	1,835,464	66%
2003	Storm Surge	362,353	13%
2004	Disease, Aquaculture	55,788	3%
2004	Freeze	991,662	45%
2004	Hurricane	1,004,500	46%
2004	Salinity	44,196	2%
2004	Storm Surge	86,256	4%
2005	Disease, Aquaculture	108,936	17%
2005	Freeze	7,759	1%
2005	Hurricane	83,649	13%
2005	Ice Floe	265,074	42%
2005	Other	53,007	8%
2005	Salinity	36,562	6%
2005	Storm Surge	50,411	8%
2005	Tidal Wave	19,055	3%
2006	Freeze	95,968	14%
2006	Hurricane	112,317	17%
2006	Ice Floe	27,065	4%
2006	Oxygen Depletion	273,550	40%
2006	Storm Surge	168,313	25%
2007	Disease, Aquaculture	34,411	7%
2007	Freeze	48,429	10%
2007	Ice Floe	48,167	10%
2007	Oxygen Depletion	278,015	55%
2007	Salinity	92,998	19%
2008	Disease, Aquaculture	7,461	2%
2008	Freeze	61,025	15%
2008	Oxygen Depletion	109,482	27%
2008	Salinity	197,589	49%
2008	Storm Surge	31,488	8%
2009	Salinity	1,328,425	85%
2009	Storm Surge	228,088	15%
2010	Freeze	78,561	62%
2010	Other	4,571	4%
2010	Oxygen Depletion	18,658	15%
2010	Storm Surge	24,300	19%

Evaluation of Clams Plans of Insurance
Table of Indemnity by Crop Year, County, and Cause of Loss
Table 2.3
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Description	Indemnity
2000	Florida	Brevard	Disease, Aquaculture	12,782
2000	Florida	Brevard	Excess Wind	25,740
2000	Florida	Brevard	Freeze	899
2000	Florida	Brevard	Oxygen Depletion	9,492
2000	Florida	Brevard	Salinity	82,690
2000	Florida	Dixie	Freeze	18,332
2000	Florida	Dixie	Hurricane	28,365
2000	Florida	Dixie	Oxygen Depletion	111,653
2000	Florida	Dixie	Salinity	539,207
2000	Florida	Indian River	Disease, Aquaculture	192,976
2000	Florida	Indian River	Hurricane	33,183
2000	Florida	Indian River	Salinity	34,398
2000	Florida	Levy	Freeze	21,842
2000	Florida	Levy	Hurricane	410,980
2000	Florida	Levy	Other	14,160
2000	Florida	Levy	Oxygen Depletion	223,496
2000	Florida	Levy	Salinity	161,590
2000	Florida	Levy	Storm Surge	39,984
2000	Massachusetts	Barnstable	Freeze	107,806
2001	Florida	Brevard	Hurricane	379,332
2001	Florida	Brevard	Oxygen Depletion	18,448
2001	Florida	Brevard	Salinity	122,296
2001	Florida	Dixie	Salinity	68,290
2001	Florida	Dixie	Storm Surge	47,894
2001	Florida	Indian River	Hurricane	182,187
2001	Florida	Indian River	Salinity	178,103
2001	Florida	Levy	Freeze	11,642
2001	Florida	Levy	Hurricane	133,151
2001	Florida	Levy	Salinity	339,677
2001	Florida	Levy	Storm Surge	1,045,292
2001	Massachusetts	Barnstable	Freeze	150,000
2001	Virginia	Northampton	Disease, Aquaculture	151,200
2001	Virginia	Northampton	Freeze	53,186
2002	Florida	Brevard	Oxygen Depletion	101,254
2002	Florida	Brevard	Salinity	172,761
2002	Florida	Dixie	Freeze	1,597
2002	Florida	Dixie	Other	10,315
2002	Florida	Dixie	Oxygen Depletion	16,566
2002	Florida	Dixie	Salinity	117,518
2002	Florida	Dixie	Storm Surge	12,724
2002	Florida	Indian River	Oxygen Depletion	7,062
2002	Florida	Indian River	Salinity	126,688
2002	Florida	Levy	Freeze	209,382
2002	Florida	Levy	Other	53,227
2002	Florida	Levy	Oxygen Depletion	248,364
2002	Florida	Levy	Salinity	1,636,706
2002	Florida	Levy	Storm Surge	1,210,668
2002	Virginia	Northampton	Disease, Aquaculture	51,607
2002	Virginia	Northampton	Storm Surge	42,809
2003	Florida	Brevard	Oxygen Depletion	56,789
2003	Florida	Brevard	Salinity	156,191
2003	Florida	Dixie	Salinity	276,156
2003	Florida	Indian River	Salinity	86,920
2003	Florida	Levy	Excess Wind	15,288
2003	Florida	Levy	Salinity	1,316,197
2003	Florida	Levy	Storm Surge	49,245
2003	Massachusetts	Barnstable	Freeze	189,520
2003	South Carolina	Charleston	Storm Surge	77,599
2003	Virginia	Accomack	Freeze	204,351
2003	Virginia	Accomack	Hurricane	35,542

Evaluation of Clams Plans of Insurance
Table of Indemnity by Crop Year, County, and Cause of Loss
Table 2.3
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Description	Indemnity
2003	Virginia	Accomack	Storm Surge	35,542
2003	Virginia	Northampton	Freeze	75,213
2003	Virginia	Northampton	Storm Surge	199,967
2004	Florida	Brevard	Hurricane	60,208
2004	Florida	Dixie	Hurricane	124,491
2004	Florida	Dixie	Storm Surge	1,877
2004	Florida	Indian River	Hurricane	177,515
2004	Florida	Levy	Hurricane	642,286
2004	Florida	Levy	Salinity	44,196
2004	Massachusetts	Barnstable	Disease, Aquaculture	55,788
2004	Massachusetts	Barnstable	Freeze	22,170
2004	South Carolina	Charleston	Storm Surge	31,938
2004	Virginia	Accomack	Freeze	687,082
2004	Virginia	Northampton	Freeze	282,410
2004	Virginia	Northampton	Storm Surge	52,441
2005	Florida	Dixie	Hurricane	12,827
2005	Florida	Dixie	Salinity	19,156
2005	Florida	Dixie	Storm Surge	24,577
2005	Florida	Levy	Hurricane	70,822
2005	Florida	Levy	Other	53,007
2005	Florida	Levy	Salinity	17,406
2005	Florida	Levy	Storm Surge	19,570
2005	Florida	Levy	Tidal Wave	19,055
2005	Massachusetts	Barnstable	Disease, Aquaculture	108,936
2005	Massachusetts	Barnstable	Freeze	7,759
2005	Massachusetts	Barnstable	Ice Floe	265,074
2005	Massachusetts	Barnstable	Storm Surge	6,264
2006	Florida	Levy	Oxygen Depletion	273,550
2006	Florida	Levy	Storm Surge	168,313
2006	Massachusetts	Barnstable	Freeze	95,968
2006	Massachusetts	Barnstable	Ice Floe	27,065
2006	Virginia	Northampton	Hurricane	112,317
2007	Florida	Levy	Oxygen Depletion	278,015
2007	Florida	Levy	Salinity	92,998
2007	Massachusetts	Barnstable	Disease, Aquaculture	34,411
2007	Massachusetts	Barnstable	Freeze	3,940
2007	Massachusetts	Barnstable	Ice Floe	48,167
2007	Virginia	Accomack	Freeze	44,489
2008	Florida	Brevard	Salinity	34,290
2008	Florida	Indian River	Disease, Aquaculture	7,461
2008	Florida	Levy	Oxygen Depletion	109,482
2008	Florida	Levy	Salinity	163,299
2008	Florida	Levy	Storm Surge	31,488
2008	Massachusetts	Barnstable	Freeze	61,025
2009	Florida	Levy	Salinity	1,328,425
2009	Virginia	Accomack	Storm Surge	228,088
2010	Florida	Brevard	Other	4,571
2010	Florida	Levy	Freeze	49,790
2010	Massachusetts	Barnstable	Oxygen Depletion	18,658
2010	Virginia	Accomack	Freeze	28,771
2010	Virginia	Accomack	Storm Surge	24,300

Evaluation of Clams Plans of Insurance
Table of Indemnity by Unit Option Code
Table 2.4
Clams
Florida, Massachusetts, South Carolina, Virginia

Unit Option Code	Indemnity	Percent Indemnity
None	6,768,929	38%
BU	11,050,848	62%
Total	17,819,777	100%

Evaluation of Clams Plans of Insurance
Table of Indemnity by Crop Year and Unit Option Code
Table 2.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Unit Option Code	Indemnity	Percent Indemnity
2000	None	561,003	27%
2000	BU	1,508,572	73%
2001	None	832,583	29%
2001	BU	2,048,115	71%
2002	None	2,187,174	54%
2002	BU	1,832,074	46%
2003	None	1,338,949	48%
2003	BU	1,435,571	52%
2004	None	1,155,157	53%
2004	BU	1,027,245	47%
2005	None	58,000	9%
2005	BU	566,453	91%
2006	None	158,911	23%
2006	BU	518,302	77%
2007	None	77,521	15%
2007	BU	424,499	85%
2008	None	50,024	12%
2008	BU	357,021	88%
2009	None	228,088	15%
2009	BU	1,328,425	85%
2010	None	121,519	96%
2010	BU	4,571	4%

Evaluation of Clams Plans of Insurance
Table of Indemnity by Crop Year and Unit Option Code
Table 2.6
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Unit Option Code	Indemnity
2000	Florida	Brevard	BU	131,603
2000	Florida	Dixie	None	255,960
2000	Florida	Dixie	BU	441,597
2000	Florida	Indian River	None	74,918
2000	Florida	Indian River	BU	185,639
2000	Florida	Levy	None	216,303
2000	Florida	Levy	BU	655,749
2000	Massachusetts	Barnstable	None	13,822
2000	Massachusetts	Barnstable	BU	93,984
2001	Florida	Brevard	None	37,063
2001	Florida	Brevard	BU	483,013
2001	Florida	Dixie	None	31,007
2001	Florida	Dixie	BU	85,177
2001	Florida	Indian River	None	100,208
2001	Florida	Indian River	BU	260,082
2001	Florida	Levy	None	664,305
2001	Florida	Levy	BU	865,457
2001	Massachusetts	Barnstable	BU	150,000
2001	Virginia	Northampton	BU	204,386
2002	Florida	Brevard	None	27,965
2002	Florida	Brevard	BU	246,050
2002	Florida	Dixie	None	91,221
2002	Florida	Dixie	BU	67,499
2002	Florida	Indian River	None	15,788
2002	Florida	Indian River	BU	117,962
2002	Florida	Levy	None	1,957,784
2002	Florida	Levy	BU	1,400,563
2002	Virginia	Northampton	None	94,416
2003	Florida	Brevard	BU	212,980
2003	Florida	Dixie	None	152,426
2003	Florida	Dixie	BU	123,730
2003	Florida	Indian River	None	11,840
2003	Florida	Indian River	BU	75,080
2003	Florida	Levy	None	862,891
2003	Florida	Levy	BU	517,839
2003	Massachusetts	Barnstable	None	4,288
2003	Massachusetts	Barnstable	BU	185,232
2003	South Carolina	Charleston	BU	77,599
2003	Virginia	Accomack	None	71,084
2003	Virginia	Accomack	BU	204,351
2003	Virginia	Northampton	None	236,420
2003	Virginia	Northampton	BU	38,760
2004	Florida	Brevard	BU	60,208
2004	Florida	Dixie	None	48,596
2004	Florida	Dixie	BU	77,772
2004	Florida	Indian River	None	67,397

Evaluation of Clams Plans of Insurance
Table of Indemnity by Crop Year and Unit Option Code
Table 2.6
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Unit Option Code	Indemnity
2004	Florida	Indian River	BU	110,118
2004	Florida	Levy	None	291,760
2004	Florida	Levy	BU	394,722
2004	Massachusetts	Barnstable	None	77,958
2004	South Carolina	Charleston	None	31,938
2004	Virginia	Accomack	None	522,889
2004	Virginia	Accomack	BU	164,193
2004	Virginia	Northampton	None	114,619
2004	Virginia	Northampton	BU	220,232
2005	Florida	Dixie	BU	56,560
2005	Florida	Levy	None	58,000
2005	Florida	Levy	BU	121,860
2005	Massachusetts	Barnstable	BU	388,033
2006	Florida	Levy	None	125,068
2006	Florida	Levy	BU	316,795
2006	Massachusetts	Barnstable	None	30,442
2006	Massachusetts	Barnstable	BU	92,591
2006	Virginia	Northampton	None	3,401
2006	Virginia	Northampton	BU	108,916
2007	Florida	Levy	None	40,160
2007	Florida	Levy	BU	330,853
2007	Massachusetts	Barnstable	None	15,552
2007	Massachusetts	Barnstable	BU	70,966
2007	Virginia	Accomack	None	21,809
2007	Virginia	Accomack	BU	22,680
2008	Florida	Brevard	BU	34,290
2008	Florida	Indian River	BU	7,461
2008	Florida	Levy	None	11,088
2008	Florida	Levy	BU	293,181
2008	Massachusetts	Barnstable	None	38,936
2008	Massachusetts	Barnstable	BU	22,089
2009	Florida	Levy	BU	1,328,425
2009	Virginia	Accomack	None	228,088
2010	Florida	Brevard	BU	4,571
2010	Florida	Levy	None	49,790
2010	Massachusetts	Barnstable	None	18,658
2010	Virginia	Accomack	None	53,071

Evaluation of Clams Plans of Insurance
Table of Indemnity by Crop Year, State, County, and Cause of Loss
Table 2.6
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Description	Liability	Total Premium	Producer Premium	Subsidy	Policy Count	Indemnity	Partial Loss Ratio	Partial Loss Cost Ratio	Earned Premium Ratio
2000	Florida	Brevard	Disease, Aquaculture	580,401	22,808	10,438	0	1	12,782	1.225	0.560	0.458
2000	Florida	Brevard	Excess Wind	580,401	22,808	10,438	0	1	25,740	2.466	1.129	0.458
2000	Florida	Brevard	Freeze	580,401	22,808	10,438	0	1	899	0.086	0.039	0.458
2000	Florida	Brevard	Oxygen Depletion	580,401	22,808	10,438	0	1	9,492	0.909	0.416	0.458
2000	Florida	Brevard	Salinity	580,401	22,808	10,438	0	1	82,690	7.922	3.625	0.458
2000	Florida	Dixie	Freeze	2,382,796	92,623	42,206	0	1	18,332	0.434	0.198	0.456
2000	Florida	Dixie	Hurricane	2,382,796	92,623	42,206	0	1	28,365	0.672	0.306	0.456
2000	Florida	Dixie	Oxygen Depletion	2,382,796	92,623	42,206	0	7	111,653	2.645	1.205	0.456
2000	Florida	Dixie	Salinity	2,382,796	92,623	42,206	0	21	539,207	12.776	5.822	0.456
2000	Florida	Indian River	Disease, Aquaculture	1,976,161	86,493	41,702	0	5	192,976	4.627	2.231	0.482
2000	Florida	Indian River	Hurricane	1,976,161	86,493	41,702	0	1	33,183	0.796	0.384	0.482
2000	Florida	Indian River	Salinity	1,976,161	86,493	41,702	0	1	34,398	0.825	0.398	0.482
2000	Florida	Levy	Freeze	12,642,770	533,795	258,378	0	2	21,842	0.085	0.041	0.484
2000	Florida	Levy	Hurricane	12,642,770	533,795	258,378	0	18	410,980	1.591	0.770	0.484
2000	Florida	Levy	Other	12,642,770	533,795	258,378	0	1	14,160	0.055	0.027	0.484
2000	Florida	Levy	Oxygen Depletion	12,642,770	533,795	258,378	0	6	223,496	0.865	0.419	0.484
2000	Florida	Levy	Salinity	12,642,770	533,795	258,378	0	10	161,590	0.625	0.303	0.484
2000	Florida	Levy	Storm Surge	12,642,770	533,795	258,378	0	1	39,984	0.155	0.075	0.484
2000	Massachusetts	Barnstable	Freeze	3,213,602	84,345	36,170	0	11	107,806	2.981	1.278	0.429
2001	Florida	Brevard	Hurricane	1,426,432	78,941	32,278	46,663	12	379,332	11.752	4.805	0.409
2001	Florida	Brevard	Oxygen Depletion	1,426,432	78,941	32,278	46,663	1	18,448	0.572	0.234	0.409
2001	Florida	Brevard	Salinity	1,426,432	78,941	32,278	46,663	9	122,296	3.789	1.549	0.409
2001	Florida	Dixie	Salinity	2,254,998	109,372	45,127	64,245	15	68,290	1.513	0.624	0.413
2001	Florida	Dixie	Storm Surge	2,254,998	109,372	45,127	64,245	5	47,894	1.061	0.438	0.413
2001	Florida	Indian River	Hurricane	1,669,518	95,888	39,303	56,585	9	182,187	4.635	1.900	0.410
2001	Florida	Indian River	Salinity	1,669,518	95,888	39,303	56,585	5	178,103	4.532	1.857	0.410
2001	Florida	Levy	Freeze	12,944,881	637,822	257,877	379,945	2	11,642	0.045	0.018	0.404
2001	Florida	Levy	Hurricane	12,944,881	637,822	257,877	379,945	3	133,151	0.516	0.209	0.404
2001	Florida	Levy	Salinity	12,944,881	637,822	257,877	379,945	21	339,677	1.317	0.533	0.404
2001	Florida	Levy	Storm Surge	12,944,881	637,822	257,877	379,945	27	1,045,292	4.053	1.639	0.404
2001	Massachusetts	Barnstable	Freeze	2,521,563	60,571	15,669	44,902	1	150,000	9.573	2.476	0.259
2001	Virginia	Northampton	Disease, Aquaculture	16,336,878	322,503	107,809	214,694	1	151,200	1.402	0.469	0.334
2001	Virginia	Northampton	Freeze	16,336,878	322,503	107,809	214,694	1	53,186	0.493	0.165	0.334
2002	Florida	Brevard	Oxygen Depletion	1,286,458	74,752	31,557	43,195	5	101,254	3.209	1.355	0.422
2002	Florida	Brevard	Salinity	1,286,458	74,752	31,557	43,195	3	172,761	5.475	2.311	0.422
2002	Florida	Dixie	Freeze	3,176,030	149,997	61,188	88,809	1	1,597	0.026	0.011	0.408
2002	Florida	Dixie	Other	3,176,030	149,997	61,188	88,809	1	10,315	0.169	0.069	0.408
2002	Florida	Dixie	Oxygen Depletion	3,176,030	149,997	61,188	88,809	2	16,566	0.271	0.110	0.408
2002	Florida	Dixie	Salinity	3,176,030	149,997	61,188	88,809	19	117,518	1.921	0.783	0.408
2002	Florida	Dixie	Storm Surge	3,176,030	149,997	61,188	88,809	1	12,724	0.208	0.085	0.408
2002	Florida	Indian River	Oxygen Depletion	2,058,561	132,004	56,359	75,645	1	7,062	0.125	0.053	0.427
2002	Florida	Indian River	Salinity	2,058,561	132,004	56,359	75,645	3	126,688	2.248	0.960	0.427

Evaluation of Clams Plans of Insurance
Table of Indemnity by Crop Year, State, County, and Cause of Loss
Table 2.6
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Description	Liability	Total Premium	Producer Premium	Subsidy	Policy Count	Indemnity	Partial Loss Ratio	Partial Loss Cost Ratio	Earned Premium Ratio
2002	Florida	Levy	Freeze	19,867,220	1,053,549	436,495	617,054	7	209,382	0.480	0.199	0.414
2002	Florida	Levy	Other	19,867,220	1,053,549	436,495	617,054	1	53,227	0.122	0.051	0.414
2002	Florida	Levy	Oxygen Depletion	19,867,220	1,053,549	436,495	617,054	8	248,364	0.569	0.236	0.414
2002	Florida	Levy	Salinity	19,867,220	1,053,549	436,495	617,054	49	1,636,706	3.750	1.554	0.414
2002	Florida	Levy	Storm Surge	19,867,220	1,053,549	436,495	617,054	30	1,210,668	2.774	1.149	0.414
2002	Virginia	Northampton	Disease, Aquaculture	20,640,946	469,919	160,944	308,975	1	51,607	0.321	0.110	0.342
2002	Virginia	Northampton	Storm Surge	20,640,946	469,919	160,944	308,975	2	42,809	0.266	0.091	0.342
2003	Florida	Brevard	Oxygen Depletion	595,065	33,812	14,292	19,520	2	56,789	3.973	1.680	0.423
2003	Florida	Brevard	Salinity	595,065	33,812	14,292	19,520	2	156,191	10.929	4.619	0.423
2003	Florida	Dixie	Salinity	2,769,756	153,273	63,249	90,024	20	276,156	4.366	1.802	0.413
2003	Florida	Indian River	Salinity	1,461,690	98,419	42,287	56,132	5	86,920	2.055	0.883	0.430
2003	Florida	Levy	Excess Wind	15,529,702	894,138	373,500	520,638	1	15,288	0.041	0.017	0.418
2003	Florida	Levy	Salinity	15,529,702	894,138	373,500	520,638	46	1,316,197	3.524	1.472	0.418
2003	Florida	Levy	Storm Surge	15,529,702	894,138	373,500	520,638	1	49,245	0.132	0.055	0.418
2003	Massachusetts	Barnstable	Freeze	2,810,694	66,634	18,598	48,036	7	189,520	10.190	2.844	0.279
2003	South Carolina	Charleston	Storm Surge	1,279,493	32,857	11,877	20,980	1	77,599	6.534	2.362	0.361
2003	Virginia	Accomack	Freeze	8,511,341	187,704	63,489	124,215	2	204,351	3.219	1.089	0.338
2003	Virginia	Accomack	Hurricane	8,511,341	187,704	63,489	124,215	1	35,542	0.560	0.189	0.338
2003	Virginia	Accomack	Storm Surge	8,511,341	187,704	63,489	124,215	1	35,542	0.560	0.189	0.338
2003	Virginia	Northampton	Freeze	17,870,992	378,547	126,059	252,488	3	75,213	0.597	0.199	0.333
2003	Virginia	Northampton	Storm Surge	17,870,992	378,547	126,059	252,488	3	199,967	1.586	0.528	0.333
2004	Florida	Brevard	Hurricane	124,537	12,510	5,312	7,198	7	60,208	11.334	4.813	0.425
2004	Florida	Dixie	Hurricane	702,659	69,838	27,386	42,452	18	124,491	4.546	1.783	0.392
2004	Florida	Dixie	Storm Surge	702,659	69,838	27,386	42,452	1	1,877	0.069	0.027	0.392
2004	Florida	Indian River	Hurricane	447,830	51,214	21,853	29,361	11	177,515	8.123	3.466	0.427
2004	Florida	Levy	Hurricane	4,063,989	391,262	145,346	245,916	47	642,286	4.419	1.642	0.371
2004	Florida	Levy	Salinity	4,063,989	391,262	145,346	245,916	2	44,196	0.304	0.113	0.371
2004	Massachusetts	Barnstable	Disease, Aquaculture	2,120,979	48,820	14,698	34,122	1	55,788	3.796	1.143	0.301
2004	Massachusetts	Barnstable	Freeze	2,120,979	48,820	14,698	34,122	2	22,170	1.508	0.454	0.301
2004	South Carolina	Charleston	Storm Surge	609,049	13,512	4,479	9,033	1	31,938	7.131	2.364	0.331
2004	Virginia	Accomack	Freeze	4,309,291	84,924	15,349	69,575	11	687,082	44.764	8.091	0.181
2004	Virginia	Northampton	Freeze	15,095,481	291,518	98,320	193,198	7	282,410	2.872	0.969	0.337
2004	Virginia	Northampton	Storm Surge	15,095,481	291,518	98,320	193,198	3	52,441	0.533	0.180	0.337
2005	Florida	Dixie	Hurricane	293,619	24,221	9,354	14,867	2	12,827	1.371	0.530	0.386
2005	Florida	Dixie	Salinity	293,619	24,221	9,354	14,867	1	19,156	2.048	0.791	0.386
2005	Florida	Dixie	Storm Surge	293,619	24,221	9,354	14,867	1	24,577	2.627	1.015	0.386
2005	Florida	Levy	Hurricane	4,023,852	310,911	109,304	201,607	4	70,822	0.648	0.228	0.352
2005	Florida	Levy	Other	4,023,852	310,911	109,304	201,607	1	53,007	0.485	0.170	0.352
2005	Florida	Levy	Salinity	4,023,852	310,911	109,304	201,607	2	17,406	0.159	0.056	0.352
2005	Florida	Levy	Storm Surge	4,023,852	310,911	109,304	201,607	1	19,570	0.179	0.063	0.352
2005	Florida	Levy	Tidal Wave	4,023,852	310,911	109,304	201,607	1	19,055	0.174	0.061	0.352
2005	Massachusetts	Barnstable	Disease, Aquaculture	1824752	41,533	12,775	28,758	1	108,936	8.527	2.623	0.308

Evaluation of Clams Plans of Insurance
Table of Indemnity by Crop Year, State, County, and Cause of Loss
Table 2.6
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Description	Liability	Total Premium	Producer Premium	Subsidy	Policy Count	Indemnity	Partial Loss Ratio	Partial Loss Cost Ratio	Earned Premium Ratio
2005	Massachusetts	Barnstable	Freeze	1824752	41,533	12,775	28,758	1	7,759	0.607	0.187	0.308
2005	Massachusetts	Barnstable	Ice Floe	1824752	41,533	12,775	28,758	1	265,074	20.749	6.382	0.308
2005	Massachusetts	Barnstable	Storm Surge	1824752	41,533	12,775	28,758	1	6,264	0.490	0.151	0.308
2006	Florida	Levy	Oxygen Depletion	5657475	470,401	170,473	299,928	5	273,550	1.605	0.582	0.362
2006	Florida	Levy	Storm Surge	5657475	470,401	170,473	299,928	4	168,313	0.987	0.358	0.362
2006	Massachusetts	Barnstable	Freeze	1673313	41,520	11,305	30,215	2	95,968	8.489	2.311	0.272
2006	Massachusetts	Barnstable	Ice Floe	1673313	41,520	11,305	30,215	2	27,065	2.394	0.652	0.272
2006	Virginia	Northampton	Hurricane	16648607	339,699	115,333	224,366	3	112,317	0.974	0.331	0.340
2007	Florida	Levy	Oxygen Depletion	6116818	501,593	179,104	322,489	11	278,015	1.552	0.554	0.357
2007	Florida	Levy	Salinity	6116818	501,593	179,104	322,489	1	92,998	0.519	0.185	0.357
2007	Massachusetts	Barnstable	Disease, Aquaculture	1561907	37,046	11,542	25,504	1	34,411	2.981	0.929	0.312
2007	Massachusetts	Barnstable	Freeze	1561907	37,046	11,542	25,504	1	3,940	0.341	0.106	0.312
2007	Massachusetts	Barnstable	Ice Floe	1561907	37,046	11,542	25,504	3	48,167	4.173	1.300	0.312
2007	Virginia	Accomack	Freeze	1386265	44,520	17,984	26,536	2	44,489	2.474	0.999	0.404
2008	Florida	Brevard	Salinity	75724	6,764	2,773	3,991	1	34,290	12.366	5.069	0.410
2008	Florida	Indian River	Disease, Aquaculture	149520	15,491	6,882	8,609	1	7,461	1.084	0.482	0.444
2008	Florida	Levy	Oxygen Depletion	4494398	420,259	146,070	274,189	3	109,482	0.750	0.261	0.348
2008	Florida	Levy	Salinity	4494398	420,259	146,070	274,189	3	163,299	1.118	0.389	0.348
2008	Florida	Levy	Storm Surge	4494398	420,259	146,070	274,189	1	31,488	0.216	0.075	0.348
2008	Massachusetts	Barnstable	Freeze	1583944	48,742	17,096	31,646	2	61,025	3.570	1.252	0.351
2009	Florida	Levy	Salinity	4292364	221,843	60,972	160,871	19	1,328,425	21.787	5.988	0.275
2009	Virginia	Accomack	Storm Surge	2529207	65,708	26,730	38,978	2	228,088	8.533	3.471	0.407
2010	Florida	Brevard	Other	4571	378	155	223	1	4,571	29.490	12.093	0.410
2010	Florida	Levy	Freeze	220456	17,143	6,116	11,027	1	49,790	8.141	2.904	0.357
2010	Massachusetts	Barnstable	Oxygen Depletion	1386254	40,033	15,993	24,040	1	18,658	1.167	0.466	0.399
2010	Virginia	Accomack	Freeze	2270508	52,196	21,248	30,948	1	28,771	1.354	0.551	0.407
2010	Virginia	Accomack	Storm Surge	2270508	52,196	21,248	30,948	1	24,300	1.144	0.466	0.407

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.1
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Primary Cause	Secondary Cause	Policy Count	Indemnity
2000	Florida	Brevard	80	22	Salinity		1	82,690
2000	Florida	Brevard	82	23	Disease, Aquaculture		1	12,782
2000	Florida	Brevard	82	23	Excess Wind		1	25,740
2000	Florida	Brevard	82	23	Freeze		1	899
2000	Florida	Brevard	82	23	Oxygen Depletion		1	9,492
2000	Florida	Dixie	80	22	Salinity		3	170,925
2000	Florida	Dixie	82	23	Freeze		1	18,332
2000	Florida	Dixie	82	23	Hurricane		1	28,365
2000	Florida	Dixie	82	23	Oxygen Depletion		7	111,653
2000	Florida	Dixie	82	23	Salinity		18	368,282
2000	Florida	Indian River	80	22	Disease, Aquaculture		0	5,027
2000	Florida	Indian River	82	23	Disease, Aquaculture		5	187,949
2000	Florida	Indian River	82	23	Hurricane		1	33,183
2000	Florida	Indian River	82	23	Salinity		1	34,398
2000	Florida	Levy	80	22	Freeze		1	6,900
2000	Florida	Levy	80	22	Hurricane		1	102,429
2000	Florida	Levy	80	22	Hurricane	Salinity	1	37,855
2000	Florida	Levy	80	22	Salinity		2	9,903
2000	Florida	Levy	82	23	Freeze		1	14,942
2000	Florida	Levy	82	23	Hurricane		16	270,696
2000	Florida	Levy	82	23	Other		1	14,160
2000	Florida	Levy	82	23	Oxygen Depletion		6	223,496
2000	Florida	Levy	82	23	Salinity		8	151,687
2000	Florida	Levy	82	23	Storm Surge		1	39,984
2000	Massachusetts	Barnstable	82	24	Freeze		11	107,806
2001	Florida	Brevard	80	22	Hurricane		1	3,902
2001	Florida	Brevard	80	22	Oxygen Depletion		1	18,448
2001	Florida	Brevard	80	22	Salinity		4	28,096
2001	Florida	Brevard	82	23	Hurricane		11	375,430
2001	Florida	Brevard	82	23	Salinity		5	94,200
2001	Florida	Dixie	80	22	Salinity		0	0
2001	Florida	Dixie	80	22	Storm Surge		2	5,108
2001	Florida	Dixie	82	23	Salinity		15	68,290
2001	Florida	Dixie	82	23	Storm Surge		3	42,786
2001	Florida	Indian River	80	22	Hurricane		2	7,870
2001	Florida	Indian River	80	22	Salinity		1	5,752
2001	Florida	Indian River	82	23	Hurricane		7	174,317
2001	Florida	Indian River	82	23	Salinity		3	140,505
2001	Florida	Indian River	82	24	Salinity		1	31,846
2001	Florida	Levy	80	22	Freeze		2	11,642
2001	Florida	Levy	80	22	Salinity		3	37,158
2001	Florida	Levy	80	22	Salinity	Storm Surge	0	0
2001	Florida	Levy	80	22	Storm Surge		8	178,076
2001	Florida	Levy	82	23	Hurricane		3	133,151
2001	Florida	Levy	82	23	Salinity		14	252,589
2001	Florida	Levy	82	23	Salinity	Storm Surge	4	49,930
2001	Florida	Levy	82	23	Storm Surge		19	867,216
2001	Massachusetts	Barnstable	82	24	Freeze		1	150,000
2001	Virginia	Northampton	80	24	Disease, Aquaculture		0	72,000

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.1
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Primary Cause	Secondary Cause	Policy Count	Indemnity
2001	Virginia	Northampton	80	24	Freeze		1	53,186
2001	Virginia	Northampton	82	24	Disease, Aquaculture		1	79,200
2002	Florida	Brevard	80	22	Oxygen Depletion		2	14,646
2002	Florida	Brevard	80	22	Oxygen Depletion	Salinity	1	21,868
2002	Florida	Brevard	82	23	Oxygen Depletion		1	17,620
2002	Florida	Brevard	82	23	Oxygen Depletion	Salinity	1	47,120
2002	Florida	Brevard	82	23	Salinity		3	172,761
2002	Florida	Dixie	80	22	Freeze		1	1,597
2002	Florida	Dixie	80	22	Oxygen Depletion		0	5,991
2002	Florida	Dixie	80	22	Salinity		6	25,555
2002	Florida	Dixie	80	22	Storm Surge		1	12,724
2002	Florida	Dixie	82	23	Other		1	10,315
2002	Florida	Dixie	82	23	Oxygen Depletion		2	10,575
2002	Florida	Dixie	82	23	Salinity		13	91,963
2002	Florida	Indian River	80	22	Salinity		2	96,904
2002	Florida	Indian River	82	23	Oxygen Depletion		1	7,062
2002	Florida	Indian River	82	23	Salinity		1	29,784
2002	Florida	Levy	80	22	Freeze		5	96,234
2002	Florida	Levy	80	22	Oxygen Depletion	Salinity	1	1,896
2002	Florida	Levy	80	22	Salinity		10	293,349
2002	Florida	Levy	80	22	Salinity	Storm Surge	1	34,266
2002	Florida	Levy	80	22	Storm Surge		5	64,699
2002	Florida	Levy	82	23	Freeze		2	113,148
2002	Florida	Levy	82	23	Other		1	53,227
2002	Florida	Levy	82	23	Oxygen Depletion		6	230,216
2002	Florida	Levy	82	23	Oxygen Depletion	Salinity	1	16,252
2002	Florida	Levy	82	23	Salinity		38	1,309,091
2002	Florida	Levy	82	23	Storm Surge		25	1,145,969
2002	Virginia	Northampton	80	24	Storm Surge		1	35,700
2002	Virginia	Northampton	82	24	Disease, Aquaculture		1	51,607
2002	Virginia	Northampton	82	24	Storm Surge		1	7,109
2003	Florida	Brevard	80	22	Oxygen Depletion		0	22,062
2003	Florida	Brevard	82	23	Oxygen Depletion		2	34,727
2003	Florida	Brevard	82	23	Salinity		2	156,191
2003	Florida	Dixie	80	22	Salinity		2	8,896
2003	Florida	Dixie	82	23	Salinity		18	267,260
2003	Florida	Indian River	80	22	Salinity		1	1,224
2003	Florida	Indian River	82	23	Salinity		4	85,696
2003	Florida	Levy	80	22	Salinity		3	19,541
2003	Florida	Levy	80	22	Storm Surge		1	49,245
2003	Florida	Levy	82	23	Excess Wind		1	15,288
2003	Florida	Levy	82	23	Salinity		42	1,253,266
2003	Florida	Levy	82	23	Salinity	Excess Wind	1	43,390
2003	Massachusetts	Barnstable	80	24	Freeze		2	13,547
2003	Massachusetts	Barnstable	82	24	Freeze		5	175,973
2003	South Carolina	Charleston	82	23	Storm Surge		1	77,599
2003	Virginia	Accomack	80	24	Freeze		1	76,510
2003	Virginia	Accomack	80	24	Hurricane		1	35,542
2003	Virginia	Accomack	80	24	Storm Surge		1	35,542

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.1
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Primary Cause	Secondary Cause	Policy Count	Indemnity
2003	Virginia	Accomack	82	24	Freeze		1	127,841
2003	Virginia	Northampton	80	24	Freeze	Hurricane	1	22,950
2003	Virginia	Northampton	80	24	Storm Surge		1	16,789
2003	Virginia	Northampton	82	24	Freeze		1	5,853
2003	Virginia	Northampton	82	24	Freeze	Hurricane	1	46,410
2003	Virginia	Northampton	82	24	Storm Surge		2	183,178
2004	Florida	Brevard	84	23	Hurricane		3	27,379
2004	Florida	Brevard	85	23	Hurricane		2	16,337
2004	Florida	Brevard	86	23	Hurricane		2	16,492
2004	Florida	Dixie	84	23	Hurricane		3	14,532
2004	Florida	Dixie	85	23	Hurricane		15	109,959
2004	Florida	Dixie	86	23	Storm Surge		1	1,877
2004	Florida	Indian River	84	23	Hurricane		2	21,419
2004	Florida	Indian River	85	23	Hurricane		7	138,192
2004	Florida	Indian River	85	23	Hurricane	Oxygen Depletion	1	10,059
2004	Florida	Indian River	85	24	Hurricane		1	7,845
2004	Florida	Levy	84	23	Hurricane		29	434,415
2004	Florida	Levy	84	23	Salinity		1	40,209
2004	Florida	Levy	85	23	Hurricane		17	200,709
2004	Florida	Levy	86	23	Hurricane		1	7,162
2004	Florida	Levy	86	23	Salinity		1	3,987
2004	Massachusetts	Barnstable	84	24	Freeze		2	15,528
2004	Massachusetts	Barnstable	85	24	Disease, Aquaculture		1	55,788
2004	Massachusetts	Barnstable	85	24	Freeze		0	6,642
2004	South Carolina	Charleston	84	23	Storm Surge		1	31,938
2004	Virginia	Accomack	84	24	Freeze		5	332,068
2004	Virginia	Accomack	85	24	Freeze		6	355,014
2004	Virginia	Northampton	84	24	Freeze		2	97,370
2004	Virginia	Northampton	84	24	Storm Surge		3	52,441
2004	Virginia	Northampton	85	24	Freeze		5	185,040
2005	Florida	Dixie	84	23	Hurricane		1	5,168
2005	Florida	Dixie	85	23	Storm Surge		1	24,577
2005	Florida	Dixie	86	23	Hurricane		1	7,659
2005	Florida	Dixie	86	23	Salinity		1	19,156
2005	Florida	Levy	84	23	Other		1	53,007
2005	Florida	Levy	84	23	Salinity		1	3,518
2005	Florida	Levy	85	23	Hurricane		1	4,418
2005	Florida	Levy	85	23	Storm Surge		1	19,570
2005	Florida	Levy	86	23	Hurricane		3	66,404
2005	Florida	Levy	86	23	Salinity		1	13,888
2005	Florida	Levy	86	23	Tidal Wave		1	19,055
2005	Massachusetts	Barnstable	84	24	Disease, Aquaculture		1	108,936
2005	Massachusetts	Barnstable	84	24	Storm Surge		1	4,655
2005	Massachusetts	Barnstable	85	24	Freeze		1	7,759
2005	Massachusetts	Barnstable	85	24	Ice Floe		1	265,074
2005	Massachusetts	Barnstable	85	24	Storm Surge		0	1,609
2006	Florida	Levy	84	23	Oxygen Depletion		1	36,070
2006	Florida	Levy	86	23	Oxygen Depletion		4	237,480
2006	Florida	Levy	86	23	Storm Surge		4	168,313

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.1
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Primary Cause	Secondary Cause	Policy Count	Indemnity
2006	Massachusetts	Barnstable	84	24	Freeze		1	3,377
2006	Massachusetts	Barnstable	85	24	Freeze		1	92,591
2006	Massachusetts	Barnstable	85	24	Ice Floe		2	27,065
2006	Virginia	Northampton	84	24	Hurricane		1	3,401
2006	Virginia	Northampton	85	24	Hurricane		2	108,916
2007	Florida	Levy	84	23	Oxygen Depletion		1	9,201
2007	Florida	Levy	85	23	Oxygen Depletion		3	38,070
2007	Florida	Levy	86	23	Oxygen Depletion		7	230,744
2007	Florida	Levy	86	23	Salinity		1	92,998
2007	Massachusetts	Barnstable	85	24	Disease, Aquaculture		1	34,411
2007	Massachusetts	Barnstable	85	24	Freeze		1	3,940
2007	Massachusetts	Barnstable	85	24	Ice Floe		3	48,167
2007	Virginia	Accomack	84	24	Freeze		1	22,680
2007	Virginia	Accomack	85	24	Freeze		1	21,809
2008	Florida	Brevard	85	24	Salinity		0	9,802
2008	Florida	Brevard	86	24	Salinity		1	24,488
2008	Florida	Indian River	86	23	Disease, Aquaculture		1	7,461
2008	Florida	Levy	84	23	Oxygen Depletion		2	59,276
2008	Florida	Levy	85	23	Oxygen Depletion		0	27,216
2008	Florida	Levy	85	23	Storm Surge		1	31,488
2008	Florida	Levy	86	23	Oxygen Depletion		1	22,990
2008	Florida	Levy	86	23	Salinity		3	163,299
2008	Massachusetts	Barnstable	85	24	Freeze		2	61,025
2009	Florida	Levy	84	23	Salinity		3	242,788
2009	Florida	Levy	85	23	Salinity		4	202,215
2009	Florida	Levy	86	23	Salinity		12	883,422
2009	Virginia	Accomack	84	24	Storm Surge		1	199,368
2009	Virginia	Accomack	85	24	Storm Surge		1	28,720
2010	Florida	Brevard	84	24	Other		0	1,997
2010	Florida	Brevard	86	24	Other		1	2,574
2010	Florida	Levy	85	23	Freeze		0	8,134
2010	Florida	Levy	86	23	Freeze		1	41,656
2010	Massachusetts	Barnstable	85	24	Oxygen Depletion		1	18,658
2010	Virginia	Accomack	84	24	Freeze	Freeze	0	12,362
2010	Virginia	Accomack	84	24	Storm Surge		1	24,300
2010	Virginia	Accomack	85	24	Freeze		1	16,409
						Total	632	17,819,777

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.2
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Coverage	Primary Cause	Secondary Cause	Policy Count	Indemnity
2000	Florida	Brevard	80	22	0.65	Salinity		1	82,690
2000	Florida	Brevard	82	23	0.65	Disease, Aquaculture		1	12,782
2000	Florida	Brevard	82	23	0.65	Excess Wind		1	25,740
2000	Florida	Brevard	82	23	0.65	Oxygen Depletion		1	9,492
2000	Florida	Brevard	82	23	0.7	Freeze		1	899
2000	Florida	Dixie	80	22	0.5	Salinity		1	2,250
2000	Florida	Dixie	80	22	0.65	Salinity		2	168,675
2000	Florida	Dixie	82	23	0.5	Hurricane		1	28,365
2000	Florida	Dixie	82	23	0.5	Oxygen Depletion		4	46,855
2000	Florida	Dixie	82	23	0.5	Salinity		3	3,921
2000	Florida	Dixie	82	23	0.55	Salinity		1	7,742
2000	Florida	Dixie	82	23	0.65	Freeze		1	18,332
2000	Florida	Dixie	82	23	0.65	Oxygen Depletion		3	64,798
2000	Florida	Dixie	82	23	0.65	Salinity		14	356,619
2000	Florida	Indian River	80	22	0.65	Disease, Aquaculture		0	5,027
2000	Florida	Indian River	82	23	0.5	Disease, Aquaculture		1	9,749
2000	Florida	Indian River	82	23	0.65	Disease, Aquaculture		4	178,200
2000	Florida	Indian River	82	23	0.65	Hurricane		1	33,183
2000	Florida	Indian River	82	23	0.65	Salinity		1	34,398
2000	Florida	Levy	80	22	0.5	Salinity		1	5,279
2000	Florida	Levy	80	22	0.65	Freeze		1	6,900
2000	Florida	Levy	80	22	0.65	Hurricane		1	102,429
2000	Florida	Levy	80	22	0.65	Hurricane	Salinity	1	37,855
2000	Florida	Levy	80	22	0.65	Salinity		1	4,570
2000	Florida	Levy	80	22	0.75	Salinity		0	54
2000	Florida	Levy	82	23	0.5	Hurricane		4	30,639
2000	Florida	Levy	82	23	0.6	Oxygen Depletion		1	41,840
2000	Florida	Levy	82	23	0.65	Hurricane		11	222,687
2000	Florida	Levy	82	23	0.65	Other		1	14,160
2000	Florida	Levy	82	23	0.65	Oxygen Depletion		2	81,407
2000	Florida	Levy	82	23	0.65	Salinity		4	79,225
2000	Florida	Levy	82	23	0.65	Storm Surge		1	39,984
2000	Florida	Levy	82	23	0.7	Salinity		2	34,964
2000	Florida	Levy	82	23	0.75	Freeze		1	14,942
2000	Florida	Levy	82	23	0.75	Hurricane		1	17,370
2000	Florida	Levy	82	23	0.75	Oxygen Depletion		3	100,249
2000	Florida	Levy	82	23	0.75	Salinity		2	37,498
2000	Massachusetts	Barnstable	82	24	0.6	Freeze		2	13,822
2000	Massachusetts	Barnstable	82	24	0.65	Freeze		8	85,992
2000	Massachusetts	Barnstable	82	24	0.75	Freeze		1	7,992
2001	Florida	Brevard	80	22	0.65	Oxygen Depletion		1	18,448
2001	Florida	Brevard	80	22	0.7	Hurricane		1	3,902
2001	Florida	Brevard	80	22	0.7	Salinity		2	7,867
2001	Florida	Brevard	80	22	0.75	Salinity		2	20,229
2001	Florida	Brevard	82	23	0.65	Salinity		2	16,622
2001	Florida	Brevard	82	23	0.7	Hurricane		11	375,430
2001	Florida	Brevard	82	23	0.7	Salinity		3	77,578
2001	Florida	Dixie	80	22	0.65	Salinity		0	0
2001	Florida	Dixie	80	22	0.75	Storm Surge		2	5,108
2001	Florida	Dixie	82	23	0.5	Salinity		5	17,075

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.2
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Coverage	Primary Cause	Secondary Cause	Policy Count	Indemnity
2001	Florida	Dixie	82	23	0.5	Storm Surge		1	16,112
2001	Florida	Dixie	82	23	0.65	Salinity		10	51,215
2001	Florida	Dixie	82	23	0.7	Storm Surge		1	19,904
2001	Florida	Dixie	82	23	0.75	Storm Surge		1	6,770
2001	Florida	Indian River	80	22	0.7	Hurricane		1	3,990
2001	Florida	Indian River	80	22	0.75	Hurricane		1	3,880
2001	Florida	Indian River	80	22	0.75	Salinity		1	5,752
2001	Florida	Indian River	82	23	0.65	Salinity		1	10,726
2001	Florida	Indian River	82	23	0.7	Hurricane		7	174,317
2001	Florida	Indian River	82	23	0.7	Salinity		2	129,779
2001	Florida	Indian River	82	24	0.7	Salinity		1	31,846
2001	Florida	Levy	80	22	0.65	Salinity		2	23,905
2001	Florida	Levy	80	22	0.65	Salinity	Storm Surge	0	0
2001	Florida	Levy	80	22	0.65	Storm Surge		0	0
2001	Florida	Levy	80	22	0.7	Freeze		1	1,535
2001	Florida	Levy	80	22	0.7	Salinity		0	8,736
2001	Florida	Levy	80	22	0.7	Storm Surge		4	157,327
2001	Florida	Levy	80	22	0.75	Freeze		1	10,107
2001	Florida	Levy	80	22	0.75	Salinity		1	4,517
2001	Florida	Levy	80	22	0.75	Storm Surge		4	20,749
2001	Florida	Levy	82	23	0.5	Salinity		1	3,551
2001	Florida	Levy	82	23	0.5	Salinity	Storm Surge	1	2,712
2001	Florida	Levy	82	23	0.5	Storm Surge		1	42,941
2001	Florida	Levy	82	23	0.6	Salinity		1	18,111
2001	Florida	Levy	82	23	0.65	Hurricane		3	133,151
2001	Florida	Levy	82	23	0.65	Salinity		7	110,278
2001	Florida	Levy	82	23	0.65	Salinity	Storm Surge	3	47,218
2001	Florida	Levy	82	23	0.65	Storm Surge		10	432,688
2001	Florida	Levy	82	23	0.7	Salinity		3	58,690
2001	Florida	Levy	82	23	0.7	Storm Surge		7	333,287
2001	Florida	Levy	82	23	0.75	Salinity		2	61,959
2001	Florida	Levy	82	23	0.75	Storm Surge		1	58,300
2001	Massachusetts	Barnstable	82	24	0.5	Freeze		1	150,000
2001	Virginia	Northampton	80	24	0.5	Disease, Aquaculture		0	72,000
2001	Virginia	Northampton	80	24	0.6	Freeze		1	53,186
2001	Virginia	Northampton	82	24	0.5	Disease, Aquaculture		1	79,200
2002	Florida	Brevard	80	22	0.65	Oxygen Depletion	Salinity	0	10,806
2002	Florida	Brevard	80	22	0.7	Oxygen Depletion		1	12,978
2002	Florida	Brevard	80	22	0.7	Oxygen Depletion	Salinity	1	11,062
2002	Florida	Brevard	80	22	0.75	Oxygen Depletion		1	1,668
2002	Florida	Brevard	82	23	0.65	Oxygen Depletion		1	17,620
2002	Florida	Brevard	82	23	0.65	Oxygen Depletion	Salinity	1	47,120
2002	Florida	Brevard	82	23	0.65	Salinity		1	32,137
2002	Florida	Brevard	82	23	0.7	Salinity		1	112,659
2002	Florida	Brevard	82	23	0.75	Salinity		1	27,965
2002	Florida	Dixie	80	22	0.65	Oxygen Depletion		0	5,991
2002	Florida	Dixie	80	22	0.65	Salinity		6	25,555
2002	Florida	Dixie	80	22	0.75	Freeze		1	1,597
2002	Florida	Dixie	80	22	0.75	Storm Surge		1	12,724
2002	Florida	Dixie	82	23	0.6	Salinity		1	13,487

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.2
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Coverage	Primary Cause	Secondary Cause	Policy Count	Indemnity
2002	Florida	Dixie	82	23	0.65	Other		1	10,315
2002	Florida	Dixie	82	23	0.65	Oxygen Depletion		2	10,575
2002	Florida	Dixie	82	23	0.65	Salinity		12	78,476
2002	Florida	Indian River	80	22	0.7	Salinity		1	31,885
2002	Florida	Indian River	80	22	0.75	Salinity		1	65,019
2002	Florida	Indian River	82	23	0.7	Salinity		1	29,784
2002	Florida	Indian River	82	23	0.75	Oxygen Depletion		1	7,062
2002	Florida	Levy	80	22	0.5	Oxygen Depletion	Salinity	1	1,896
2002	Florida	Levy	80	22	0.65	Freeze		1	2,456
2002	Florida	Levy	80	22	0.65	Salinity		7	265,643
2002	Florida	Levy	80	22	0.65	Salinity	Storm Surge	1	34,266
2002	Florida	Levy	80	22	0.65	Storm Surge		4	35,936
2002	Florida	Levy	80	22	0.7	Freeze		1	79,969
2002	Florida	Levy	80	22	0.7	Salinity		1	3,236
2002	Florida	Levy	80	22	0.7	Storm Surge		1	28,763
2002	Florida	Levy	80	22	0.75	Freeze		3	13,809
2002	Florida	Levy	80	22	0.75	Salinity		2	24,470
2002	Florida	Levy	82	23	0.5	Storm Surge		1	25,119
2002	Florida	Levy	82	23	0.65	Oxygen Depletion		3	107,828
2002	Florida	Levy	82	23	0.65	Salinity		26	849,238
2002	Florida	Levy	82	23	0.65	Storm Surge		9	322,678
2002	Florida	Levy	82	23	0.7	Freeze		1	52,766
2002	Florida	Levy	82	23	0.7	Other		1	53,227
2002	Florida	Levy	82	23	0.7	Oxygen Depletion		3	122,388
2002	Florida	Levy	82	23	0.7	Salinity		6	203,735
2002	Florida	Levy	82	23	0.7	Storm Surge		7	383,350
2002	Florida	Levy	82	23	0.75	Freeze		1	60,382
2002	Florida	Levy	82	23	0.75	Oxygen Depletion	Salinity	1	16,252
2002	Florida	Levy	82	23	0.75	Salinity		6	256,118
2002	Florida	Levy	82	23	0.75	Storm Surge		8	414,822
2002	Virginia	Northampton	80	24	0.5	Storm Surge		1	35,700
2002	Virginia	Northampton	82	24	0.5	Storm Surge		1	7,109
2002	Virginia	Northampton	82	24	0.6	Disease, Aquaculture		1	51,607
2003	Florida	Brevard	80	22	0.65	Oxygen Depletion		0	22,062
2003	Florida	Brevard	82	23	0.65	Oxygen Depletion		2	34,727
2003	Florida	Brevard	82	23	0.65	Salinity		1	29,376
2003	Florida	Brevard	82	23	0.75	Salinity		1	126,815
2003	Florida	Dixie	80	22	0.65	Salinity		1	7,508
2003	Florida	Dixie	80	22	0.7	Salinity		1	1,388
2003	Florida	Dixie	82	23	0.65	Salinity		7	73,123
2003	Florida	Dixie	82	23	0.7	Salinity		10	191,887
2003	Florida	Dixie	82	23	0.75	Salinity		1	2,250
2003	Florida	Indian River	80	22	0.7	Salinity		1	1,224
2003	Florida	Indian River	82	23	0.7	Salinity		1	10,616
2003	Florida	Indian River	82	23	0.75	Salinity		3	75,080
2003	Florida	Levy	80	22	0.65	Salinity		1	5,360
2003	Florida	Levy	80	22	0.75	Salinity		2	14,181
2003	Florida	Levy	80	22	0.75	Storm Surge		1	49,245
2003	Florida	Levy	82	23	0.65	Salinity		11	232,979
2003	Florida	Levy	82	23	0.7	Excess Wind		1	15,288

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.2
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Coverage	Primary Cause	Secondary Cause	Policy Count	Indemnity
2003	Florida	Levy	82	23	0.7	Salinity		13	370,105
2003	Florida	Levy	82	23	0.7	Salinity	Excess Wind	1	43,390
2003	Florida	Levy	82	23	0.75	Salinity		18	650,182
2003	Massachusetts	Barnstable	80	24	0.5	Freeze		2	13,547
2003	Massachusetts	Barnstable	82	24	0.6	Freeze		1	4,288
2003	Massachusetts	Barnstable	82	24	0.65	Freeze		3	154,824
2003	Massachusetts	Barnstable	82	24	0.75	Freeze		1	16,861
2003	South Carolina	Charleston	82	23	0.5	Storm Surge		1	77,599
2003	Virginia	Accomack	80	24	0.5	Freeze		1	76,510
2003	Virginia	Accomack	80	24	0.5	Hurricane		1	35,542
2003	Virginia	Accomack	80	24	0.5	Storm Surge		1	35,542
2003	Virginia	Accomack	82	24	0.5	Freeze		1	127,841
2003	Virginia	Northampton	80	24	0.5	Freeze	Hurricane	1	22,950
2003	Virginia	Northampton	80	24	0.6	Storm Surge		1	16,789
2003	Virginia	Northampton	82	24	0.5	Freeze		1	5,853
2003	Virginia	Northampton	82	24	0.5	Freeze	Hurricane	1	46,410
2003	Virginia	Northampton	82	24	0.5	Storm Surge		2	183,178
2004	Florida	Brevard	84	23	0.7	Hurricane		2	15,566
2004	Florida	Brevard	84	23	0.75	Hurricane		1	11,813
2004	Florida	Brevard	85	23	0.7	Hurricane		1	2,031
2004	Florida	Brevard	85	23	0.75	Hurricane		1	14,306
2004	Florida	Brevard	86	23	0.65	Hurricane		2	16,492
2004	Florida	Dixie	84	23	0.65	Hurricane		1	10,103
2004	Florida	Dixie	84	23	0.7	Hurricane		2	4,429
2004	Florida	Dixie	85	23	0.5	Hurricane		1	13,437
2004	Florida	Dixie	85	23	0.65	Hurricane		4	12,689
2004	Florida	Dixie	85	23	0.7	Hurricane		9	67,214
2004	Florida	Dixie	85	23	0.75	Hurricane		1	16,619
2004	Florida	Dixie	86	23	0.65	Storm Surge		1	1,877
2004	Florida	Indian River	84	23	0.75	Hurricane		2	21,419
2004	Florida	Indian River	85	23	0.7	Hurricane		3	28,894
2004	Florida	Indian River	85	23	0.75	Hurricane		4	109,298
2004	Florida	Indian River	85	23	0.75	Hurricane	Oxygen Depletion	1	10,059
2004	Florida	Indian River	85	24	0.5	Hurricane		1	7,845
2004	Florida	Levy	84	23	0.5	Hurricane		4	35,529
2004	Florida	Levy	84	23	0.6	Hurricane		1	12,499
2004	Florida	Levy	84	23	0.65	Hurricane		10	231,859
2004	Florida	Levy	84	23	0.7	Hurricane		3	32,324
2004	Florida	Levy	84	23	0.75	Hurricane		11	122,204
2004	Florida	Levy	84	23	0.75	Salinity		1	40,209
2004	Florida	Levy	85	23	0.5	Hurricane		5	76,858
2004	Florida	Levy	85	23	0.6	Hurricane		2	32,574
2004	Florida	Levy	85	23	0.65	Hurricane		1	7,792
2004	Florida	Levy	85	23	0.7	Hurricane		6	47,620
2004	Florida	Levy	85	23	0.75	Hurricane		3	35,865
2004	Florida	Levy	86	23	0.75	Hurricane		1	7,162
2004	Florida	Levy	86	23	0.75	Salinity		1	3,987
2004	Massachusetts	Barnstable	84	24	0.65	Freeze		2	15,528
2004	Massachusetts	Barnstable	85	24	0.55	Disease, Aquaculture		1	55,788
2004	Massachusetts	Barnstable	85	24	0.65	Freeze		0	6,642

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.2
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Coverage	Primary Cause	Secondary Cause	Policy Count	Indemnity
2004	South Carolina	Charleston	84	23	0.55	Storm Surge		1	31,938
2004	Virginia	Accomack	84	24	0.5	Freeze		2	200,176
2004	Virginia	Accomack	84	24	0.55	Freeze		2	65,554
2004	Virginia	Accomack	84	24	0.6	Freeze		0	19,445
2004	Virginia	Accomack	84	24	0.65	Freeze		1	46,893
2004	Virginia	Accomack	85	24	0.5	Freeze		3	54,819
2004	Virginia	Accomack	85	24	0.55	Freeze		0	43,703
2004	Virginia	Accomack	85	24	0.6	Freeze		3	256,492
2004	Virginia	Northampton	84	24	0.5	Freeze		2	97,370
2004	Virginia	Northampton	84	24	0.5	Storm Surge		3	52,441
2004	Virginia	Northampton	85	24	0.5	Freeze		4	153,494
2004	Virginia	Northampton	85	24	0.6	Freeze		1	31,546
2005	Florida	Dixie	84	23	0.7	Hurricane		1	5,168
2005	Florida	Dixie	85	23	0.7	Storm Surge		1	24,577
2005	Florida	Dixie	86	23	0.7	Hurricane		1	7,659
2005	Florida	Dixie	86	23	0.75	Salinity		1	19,156
2005	Florida	Levy	84	23	0.65	Salinity		1	3,518
2005	Florida	Levy	84	23	0.75	Other		1	53,007
2005	Florida	Levy	85	23	0.5	Storm Surge		1	19,570
2005	Florida	Levy	85	23	0.65	Hurricane		1	4,418
2005	Florida	Levy	86	23	0.65	Hurricane		2	11,922
2005	Florida	Levy	86	23	0.75	Hurricane		1	54,482
2005	Florida	Levy	86	23	0.75	Salinity		1	13,888
2005	Florida	Levy	86	23	0.75	Tidal Wave		1	19,055
2005	Massachusetts	Barnstable	84	24	0.5	Disease, Aquaculture		1	108,936
2005	Massachusetts	Barnstable	84	24	0.65	Storm Surge		1	4,655
2005	Massachusetts	Barnstable	85	24	0.65	Ice Floe		1	265,074
2005	Massachusetts	Barnstable	85	24	0.65	Storm Surge		0	1,609
2005	Massachusetts	Barnstable	85	24	0.7	Freeze		1	7,759
2006	Florida	Levy	84	23	0.65	Oxygen Depletion		1	36,070
2006	Florida	Levy	86	23	0.65	Oxygen Depletion		3	168,160
2006	Florida	Levy	86	23	0.7	Storm Surge		2	89,869
2006	Florida	Levy	86	23	0.75	Oxygen Depletion		1	69,320
2006	Florida	Levy	86	23	0.75	Storm Surge		2	78,444
2006	Massachusetts	Barnstable	84	24	0.65	Freeze		1	3,377
2006	Massachusetts	Barnstable	85	24	0.6	Freeze		1	92,591
2006	Massachusetts	Barnstable	85	24	0.6	Ice Floe		1	16,434
2006	Massachusetts	Barnstable	85	24	0.65	Ice Floe		1	10,631
2006	Virginia	Northampton	84	24	0.5	Hurricane		1	3,401
2006	Virginia	Northampton	85	24	0.5	Hurricane		2	108,916
2007	Florida	Levy	84	23	0.7	Oxygen Depletion		1	9,201
2007	Florida	Levy	85	23	0.5	Oxygen Depletion		1	22,412
2007	Florida	Levy	85	23	0.6	Oxygen Depletion		1	3,396
2007	Florida	Levy	85	23	0.7	Oxygen Depletion		1	12,262
2007	Florida	Levy	86	23	0.6	Oxygen Depletion		1	7,094
2007	Florida	Levy	86	23	0.65	Oxygen Depletion		2	28,905
2007	Florida	Levy	86	23	0.7	Oxygen Depletion		3	118,275
2007	Florida	Levy	86	23	0.75	Oxygen Depletion		1	76,470
2007	Florida	Levy	86	23	0.75	Salinity		1	92,998
2007	Massachusetts	Barnstable	85	24	0.5	Disease, Aquaculture		1	34,411

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Type, Practice, Primary Cause and Secondary Cause
Table 5.2
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Type Code	Practice Code	Coverage	Primary Cause	Secondary Cause	Policy Count	Indemnity
2007	Massachusetts	Barnstable	85	24	0.5	Ice Floe		1	18,605
2007	Massachusetts	Barnstable	85	24	0.6	Freeze		1	3,940
2007	Massachusetts	Barnstable	85	24	0.65	Ice Floe		2	29,562
2007	Virginia	Accomack	84	24	0.65	Freeze		1	22,680
2007	Virginia	Accomack	85	24	0.7	Freeze		1	21,809
2008	Florida	Brevard	85	24	0.65	Salinity		0	9,802
2008	Florida	Brevard	86	24	0.65	Salinity		1	24,488
2008	Florida	Indian River	86	23	0.7	Disease, Aquaculture		1	7,461
2008	Florida	Levy	84	23	0.75	Oxygen Depletion		2	59,276
2008	Florida	Levy	85	23	0.7	Storm Surge		1	31,488
2008	Florida	Levy	85	23	0.75	Oxygen Depletion		0	27,216
2008	Florida	Levy	86	23	0.65	Oxygen Depletion		1	11,088
2008	Florida	Levy	86	23	0.7	Salinity		2	69,505
2008	Florida	Levy	86	23	0.75	Oxygen Depletion		0	11,902
2008	Florida	Levy	86	23	0.75	Salinity		1	93,794
2008	Massachusetts	Barnstable	85	24	0.5	Freeze		1	22,089
2008	Massachusetts	Barnstable	85	24	0.65	Freeze		1	38,936
2009	Florida	Levy	84	23	0.5	Salinity		3	119,439
2009	Florida	Levy	84	23	0.7	Salinity		0	13,699
2009	Florida	Levy	84	23	0.75	Salinity		0	109,650
2009	Florida	Levy	85	23	0.5	Salinity		3	139,031
2009	Florida	Levy	85	23	0.7	Salinity		1	22,952
2009	Florida	Levy	85	23	0.75	Salinity		0	40,232
2009	Florida	Levy	86	23	0.5	Salinity		3	169,415
2009	Florida	Levy	86	23	0.6	Salinity		1	147,838
2009	Florida	Levy	86	23	0.7	Salinity		3	116,580
2009	Florida	Levy	86	23	0.75	Salinity		5	449,589
2009	Virginia	Accomack	84	24	0.65	Storm Surge		1	199,368
2009	Virginia	Accomack	85	24	0.65	Storm Surge		1	28,720
2010	Florida	Brevard	84	24	0.65	Other		0	1,997
2010	Florida	Brevard	86	24	0.65	Other		1	2,574
2010	Florida	Levy	85	23	0.75	Freeze		0	8,134
2010	Florida	Levy	86	23	0.75	Freeze		1	41,656
2010	Massachusetts	Barnstable	85	24	0.65	Oxygen Depletion		1	18,658
2010	Virginia	Accomack	84	24	0.6	Storm Surge		1	24,300
2010	Virginia	Accomack	84	24	0.7	Freeze	Freeze	0	12,362
2010	Virginia	Accomack	85	24	0.7	Freeze		1	16,409
							Total	632	17,819,777

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Coverage Level and Primary Cause
Table 5.3
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Description	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Partial Loss Ratio	Partial Loss Cost Ratio	Earned Premium Ratio
2000	Florida	Brevard	0.65	Disease, Aquaculture	436,477	18,856	9,219	-	12,782	0.678	0.029	0.043
2000	Florida	Brevard	0.65	Excess Wind	436,477	18,856	9,219	-	25,740	1.365	0.059	0.043
2000	Florida	Brevard	0.65	Oxygen Depletion	436,477	18,856	9,219	-	9,492	0.503	0.022	0.043
2000	Florida	Brevard	0.65	Salinity	436,477	18,856	9,219	-	82,690	4.385	0.189	0.043
2000	Florida	Brevard	0.70	Freeze	2,694	153	86	-	899	5.876	0.334	0.057
2000	Florida	Dixie	0.50	Hurricane	691,261	18,180	6,011	-	28,365	1.560	0.041	0.026
2000	Florida	Dixie	0.50	Oxygen Depletion	691,261	18,180	6,011	-	46,855	2.577	0.068	0.026
2000	Florida	Dixie	0.50	Salinity	691,261	18,180	6,011	-	6,171	0.339	0.009	0.026
2000	Florida	Dixie	0.55	Salinity	96,690	2,871	1,211	-	7,742	2.697	0.080	0.030
2000	Florida	Dixie	0.65	Freeze	1,594,845	71,572	34,984	-	18,332	0.256	0.011	0.045
2000	Florida	Dixie	0.65	Oxygen Depletion	1,594,845	71,572	34,984	-	64,798	0.905	0.041	0.045
2000	Florida	Dixie	0.65	Salinity	1,594,845	71,572	34,984	-	525,294	7.339	0.329	0.045
2000	Florida	Indian River	0.50	Disease, Aquaculture	39,243	1,024	-	-	9,749	9.521	0.248	0.026
2000	Florida	Indian River	0.65	Disease, Aquaculture	1,891,955	84,134	41,140	-	183,227	2.178	0.097	0.044
2000	Florida	Indian River	0.65	Hurricane	1,891,955	84,134	41,140	-	33,183	0.394	0.018	0.044
2000	Florida	Indian River	0.65	Salinity	1,891,955	84,134	41,140	-	34,398	0.409	0.018	0.044
2000	Florida	Levy	0.50	Hurricane	3,544,686	95,688	30,191	-	30,639	0.320	0.009	0.027
2000	Florida	Levy	0.50	Salinity	3,544,686	95,688	30,191	-	5,279	0.055	0.001	0.027
2000	Florida	Levy	0.60	Oxygen Depletion	398,880	14,430	7,131	-	41,840	2.900	0.105	0.036
2000	Florida	Levy	0.65	Freeze	6,785,639	296,443	144,937	-	6,900	0.023	0.001	0.044
2000	Florida	Levy	0.65	Hurricane	6,785,639	296,443	144,937	-	362,971	1.224	0.053	0.044
2000	Florida	Levy	0.65	Other	6,785,639	296,443	144,937	-	14,160	0.048	0.002	0.044
2000	Florida	Levy	0.65	Oxygen Depletion	6,785,639	296,443	144,937	-	81,407	0.275	0.012	0.044
2000	Florida	Levy	0.65	Salinity	6,785,639	296,443	144,937	-	83,795	0.283	0.012	0.044
2000	Florida	Levy	0.65	Storm Surge	6,785,639	296,443	144,937	-	39,984	0.135	0.006	0.044
2000	Florida	Levy	0.70	Salinity	173,250	10,703	6,022	-	34,964	3.267	0.202	0.062
2000	Florida	Levy	0.75	Freeze	1,402,988	106,366	65,812	-	14,942	0.140	0.011	0.076
2000	Florida	Levy	0.75	Hurricane	1,402,988	106,366	65,812	-	17,370	0.163	0.012	0.076
2000	Florida	Levy	0.75	Oxygen Depletion	1,402,988	106,366	65,812	-	100,249	0.942	0.071	0.076
2000	Florida	Levy	0.75	Salinity	1,402,988	106,366	65,812	-	37,552	0.353	0.027	0.076
2000	Massachusetts	Barnstable	0.60	Freeze	924,891	23,269	11,497	-	13,822	0.594	0.015	0.025
2000	Massachusetts	Barnstable	0.65	Freeze	975,220	29,270	14,311	-	85,992	2.938	0.088	0.030
2000	Massachusetts	Barnstable	0.75	Freeze	8,910	458	283	-	7,992	17.450	0.897	0.051
2001	Florida	Brevard	0.65	Oxygen Depletion	134,296	5,802	2,379	3,423	18,448	3.180	0.137	0.043
2001	Florida	Brevard	0.65	Salinity	134,296	5,802	2,379	3,423	16,622	2.865	0.124	0.043
2001	Florida	Brevard	0.70	Hurricane	1,133,991	65,532	26,866	38,666	379,332	5.789	0.335	0.058
2001	Florida	Brevard	0.70	Salinity	1,133,991	65,532	26,866	38,666	85,445	1.304	0.075	0.058
2001	Florida	Brevard	0.75	Salinity	43,875	3,277	1,474	1,803	20,229	6.173	0.461	0.075
2001	Florida	Dixie	0.50	Salinity	174,661	4,558	1,506	3,052	17,075	3.746	0.098	0.026
2001	Florida	Dixie	0.50	Storm Surge	174,661	4,558	1,506	3,052	16,112	3.535	0.092	0.026
2001	Florida	Dixie	0.65	Salinity	1,499,829	66,325	27,193	39,132	51,215	0.772	0.034	0.044
2001	Florida	Dixie	0.70	Storm Surge	258,923	15,905	6,521	9,384	19,904	1.251	0.077	0.061
2001	Florida	Dixie	0.75	Storm Surge	240,525	19,739	8,882	10,857	11,878	0.602	0.049	0.082
2001	Florida	Indian River	0.65	Salinity	137,061	6,348	2,603	3,745	10,726	1.690	0.078	0.046

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Coverage Level and Primary Cause
Table 5.3
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Description	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Partial Loss Ratio	Partial Loss Cost Ratio	Earned Premium Ratio
2001	Florida	Indian River	0.70	Hurricane	1,494,584	87,751	35,974	51,777	178,307	2.032	0.119	0.059
2001	Florida	Indian River	0.70	Salinity	1,494,584	87,751	35,974	51,777	161,625	1.842	0.108	0.059
2001	Florida	Indian River	0.75	Hurricane	15,123	1,129	508	621	3,880	3.437	0.257	0.075
2001	Florida	Indian River	0.75	Salinity	15,123	1,129	508	621	5,752	5.095	0.380	0.075
2001	Florida	Levy	0.50	Salinity	1,479,017	40,006	11,658	28,348	6,263	0.157	0.004	0.027
2001	Florida	Levy	0.50	Storm Surge	1,479,017	40,006	11,658	28,348	42,941	1.073	0.029	0.027
2001	Florida	Levy	0.60	Salinity	601,980	21,522	7,750	13,772	18,111	0.842	0.030	0.036
2001	Florida	Levy	0.65	Hurricane	5,710,068	258,062	105,805	152,257	133,151	0.516	0.023	0.045
2001	Florida	Levy	0.65	Salinity	5,710,068	258,062	105,805	152,257	181,401	0.703	0.032	0.045
2001	Florida	Levy	0.65	Storm Surge	5,710,068	258,062	105,805	152,257	432,688	1.677	0.076	0.045
2001	Florida	Levy	0.70	Freeze	4,204,796	250,942	102,890	148,052	1,535	0.006	0.000	0.060
2001	Florida	Levy	0.70	Salinity	4,204,796	250,942	102,890	148,052	67,426	0.269	0.016	0.060
2001	Florida	Levy	0.70	Storm Surge	4,204,796	250,942	102,890	148,052	490,614	1.955	0.117	0.060
2001	Florida	Levy	0.75	Freeze	758,500	61,632	27,736	33,896	10,107	0.164	0.013	0.081
2001	Florida	Levy	0.75	Salinity	758,500	61,632	27,736	33,896	66,476	1.079	0.088	0.081
2001	Florida	Levy	0.75	Storm Surge	758,500	61,632	27,736	33,896	79,049	1.283	0.104	0.081
2001	Massachusetts	Barnstable	0.50	Freeze	1,187,968	21,383	73	21,310	150,000	7.015	0.126	0.018
2001	Virginia	Northampton	0.50	Disease, Aquaculture	15,734,262	302,859	99,946	202,913	151,200	0.499	0.010	0.019
2001	Virginia	Northampton	0.60	Freeze	320,256	8,070	2,905	5,165	53,186	6.591	0.166	0.025
2002	Florida	Brevard	0.65	Oxygen Depletion	251,820	10,881	4,462	6,419	75,546	6.943	0.300	0.043
2002	Florida	Brevard	0.65	Salinity	251,820	10,881	4,462	6,419	32,137	2.953	0.128	0.043
2002	Florida	Brevard	0.70	Oxygen Depletion	632,450	35,861	14,702	21,159	24,040	0.670	0.038	0.057
2002	Florida	Brevard	0.70	Salinity	632,450	35,861	14,702	21,159	112,659	3.142	0.178	0.057
2002	Florida	Brevard	0.75	Oxygen Depletion	339,788	25,683	11,557	14,126	1,668	0.065	0.005	0.076
2002	Florida	Brevard	0.75	Salinity	339,788	25,683	11,557	14,126	27,965	1.089	0.082	0.076
2002	Florida	Dixie	0.60	Salinity	80,280	3,034	1,093	1,941	13,487	4.445	0.168	0.038
2002	Florida	Dixie	0.65	Other	2,484,900	114,702	47,025	67,677	10,315	0.090	0.004	0.046
2002	Florida	Dixie	0.65	Oxygen Depletion	2,484,900	114,702	47,025	67,677	16,566	0.144	0.007	0.046
2002	Florida	Dixie	0.65	Salinity	2,484,900	114,702	47,025	67,677	104,031	0.907	0.042	0.046
2002	Florida	Dixie	0.75	Freeze	101,400	7,574	3,408	4,166	1,597	0.211	0.016	0.075
2002	Florida	Dixie	0.75	Storm Surge	101,400	7,574	3,408	4,166	12,724	1.680	0.125	0.075
2002	Florida	Indian River	0.70	Salinity	1,136,281	68,096	27,917	40,179	61,669	0.906	0.054	0.060
2002	Florida	Indian River	0.75	Oxygen Depletion	739,016	55,991	25,196	30,795	7,062	0.126	0.010	0.076
2002	Florida	Indian River	0.75	Salinity	739,016	55,991	25,196	30,795	65,019	1.161	0.088	0.076
2002	Florida	Levy	0.50	Oxygen Depletion	674,528	18,789	5,971	12,818	1,896	0.101	0.003	0.028
2002	Florida	Levy	0.50	Storm Surge	674,528	18,789	5,971	12,818	25,119	1.337	0.037	0.028
2002	Florida	Levy	0.65	Freeze	10,150,065	466,511	191,271	275,240	2,456	0.005	0.000	0.046
2002	Florida	Levy	0.65	Oxygen Depletion	10,150,065	466,511	191,271	275,240	107,828	0.231	0.011	0.046
2002	Florida	Levy	0.65	Salinity	10,150,065	466,511	191,271	275,240	1,149,147	2.463	0.113	0.046
2002	Florida	Levy	0.65	Storm Surge	10,150,065	466,511	191,271	275,240	358,614	0.769	0.035	0.046
2002	Florida	Levy	0.70	Freeze	5,610,347	336,067	137,792	198,275	132,735	0.395	0.024	0.060
2002	Florida	Levy	0.70	Other	5,610,347	336,067	137,792	198,275	53,227	0.158	0.009	0.060
2002	Florida	Levy	0.70	Oxygen Depletion	5,610,347	336,067	137,792	198,275	122,388	0.364	0.022	0.060
2002	Florida	Levy	0.70	Salinity	5,610,347	336,067	137,792	198,275	206,971	0.616	0.037	0.060

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Coverage Level and Primary Cause
Table 5.3
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Description	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Partial Loss Ratio	Partial Loss Cost Ratio	Earned Premium Ratio
2002	Florida	Levy	0.70	Storm Surge	5,610,347	336,067	137,792	198,275	412,113	1.226	0.073	0.060
2002	Florida	Levy	0.75	Freeze	2,503,029	198,597	89,370	109,227	74,191	0.374	0.030	0.079
2002	Florida	Levy	0.75	Oxygen Depletion	2,503,029	198,597	89,370	109,227	16,252	0.082	0.006	0.079
2002	Florida	Levy	0.75	Salinity	2,503,029	198,597	89,370	109,227	280,588	1.413	0.112	0.079
2002	Florida	Levy	0.75	Storm Surge	2,503,029	198,597	89,370	109,227	414,822	2.089	0.166	0.079
2002	Virginia	Northampton	0.50	Storm Surge	16,114,340	334,796	110,479	224,317	42,809	0.128	0.003	0.021
2002	Virginia	Northampton	0.60	Disease, Aquaculture	3,745,267	104,867	37,752	67,115	51,607	0.492	0.014	0.028
2003	Florida	Brevard	0.65	Oxygen Depletion	159,379	6,884	2,823	4,061	56,789	8.249	0.356	0.043
2003	Florida	Brevard	0.65	Salinity	159,379	6,884	2,823	4,061	29,376	4.267	0.184	0.043
2003	Florida	Brevard	0.75	Salinity	199,557	14,907	6,710	8,197	126,815	8.507	0.635	0.075
2003	Florida	Dixie	0.65	Salinity	1,128,357	52,061	21,342	30,719	80,631	1.549	0.071	0.046
2003	Florida	Dixie	0.70	Salinity	1,473,711	89,491	36,686	52,805	193,275	2.160	0.131	0.061
2003	Florida	Dixie	0.75	Salinity	151,125	11,289	5,079	6,210	2,250	0.199	0.015	0.075
2003	Florida	Indian River	0.70	Salinity	802,168	48,245	19,779	28,466	11,840	0.245	0.015	0.060
2003	Florida	Indian River	0.75	Salinity	619,482	48,444	21,799	26,645	75,080	1.550	0.121	0.078
2003	Florida	Levy	0.65	Salinity	4,776,480	219,837	90,131	129,706	238,339	1.084	0.050	0.046
2003	Florida	Levy	0.70	Excess Wind	6,772,112	407,400	167,033	240,367	15,288	0.038	0.002	0.060
2003	Florida	Levy	0.70	Salinity	6,772,112	407,400	167,033	240,367	413,495	1.015	0.061	0.060
2003	Florida	Levy	0.75	Salinity	2,924,263	232,951	104,830	128,121	664,363	2.852	0.227	0.080
2003	Florida	Levy	0.75	Storm Surge	2,924,263	232,951	104,830	128,121	49,245	0.211	0.017	0.080
2003	Massachusetts	Barnstable	0.50	Freeze	1,317,943	23,724	1,757	21,967	13,547	0.571	0.010	0.018
2003	Massachusetts	Barnstable	0.60	Freeze	378,526	9,383	3,379	6,004	4,288	0.457	0.011	0.025
2003	Massachusetts	Barnstable	0.65	Freeze	525,073	15,593	6,393	9,200	154,824	9.929	0.295	0.030
2003	Massachusetts	Barnstable	0.75	Freeze	32,490	1,667	750	917	16,861	10.115	0.519	0.051
2003	South Carolina	Charleston	0.50	Storm Surge	483,762	9,807	3,039	6,768	77,599	7.913	0.160	0.020
2003	Virginia	Accomack	0.50	Freeze	6,570,251	135,969	44,863	91,106	204,351	1.503	0.031	0.021
2003	Virginia	Accomack	0.50	Hurricane	6,570,251	135,969	44,863	91,106	35,542	0.261	0.005	0.021
2003	Virginia	Accomack	0.50	Storm Surge	6,570,251	135,969	44,863	91,106	35,542	0.261	0.005	0.021
2003	Virginia	Northampton	0.50	Freeze	16,935,458	353,106	116,520	236,586	75,213	0.213	0.004	0.021
2003	Virginia	Northampton	0.50	Storm Surge	16,935,458	353,106	116,520	236,586	183,178	0.519	0.011	0.021
2003	Virginia	Northampton	0.60	Storm Surge	518,609	14,350	5,166	9,184	16,789	1.170	0.032	0.028
2004	Florida	Brevard	0.65	Hurricane	71,663	5,418	2,222	3,196	16,492	3.044	0.230	0.076
2004	Florida	Brevard	0.70	Hurricane	19,664	2,555	1,048	1,507	17,597	6.887	0.895	0.130
2004	Florida	Brevard	0.75	Hurricane	33,210	4,537	2,042	2,495	26,119	5.757	0.786	0.137
2004	Florida	Dixie	0.50	Hurricane	88,131	5,405	865	4,540	13,437	2.486	0.152	0.061
2004	Florida	Dixie	0.65	Hurricane	336,546	32,652	13,388	19,264	22,792	0.698	0.068	0.097
2004	Florida	Dixie	0.65	Storm Surge	336,546	32,652	13,388	19,264	1,877	0.057	0.006	0.097
2004	Florida	Dixie	0.70	Hurricane	231,045	26,646	10,924	15,722	71,643	2.689	0.310	0.115
2004	Florida	Dixie	0.75	Hurricane	33,496	4,010	1,804	2,206	16,619	4.144	0.496	0.120
2004	Florida	Indian River	0.50	Hurricane	54,034	3,583	1,182	2,401	7,845	2.190	0.145	0.066
2004	Florida	Indian River	0.70	Hurricane	131,936	14,919	6,119	8,800	28,894	1.937	0.219	0.113
2004	Florida	Indian River	0.75	Hurricane	241,763	30,843	13,879	16,964	140,776	4.564	0.582	0.128
2004	Florida	Levy	0.50	Hurricane	1,531,008	105,546	27,093	78,453	112,387	1.065	0.073	0.069
2004	Florida	Levy	0.60	Hurricane	352,271	33,626	12,105	21,521	45,073	1.340	0.128	0.095

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Coverage Level and Primary Cause
Table 5.3
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Description	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Partial Loss Ratio	Partial Loss Cost Ratio	Earned Premium Ratio
2004	Florida	Levy	0.65	Hurricane	953,667	101,504	41,616	59,888	239,651	2.361	0.251	0.106
2004	Florida	Levy	0.70	Hurricane	704,520	80,786	33,122	47,664	79,944	0.990	0.113	0.115
2004	Florida	Levy	0.75	Hurricane	522,523	69,800	31,410	38,390	165,231	2.367	0.316	0.134
2004	Florida	Levy	0.75	Salinity	522,523	69,800	31,410	38,390	44,196	0.633	0.085	0.134
2004	Massachusetts	Barnstable	0.55	Disease, Aquaculture	117,018	2,446	881	1,565	55,788	22.808	0.477	0.021
2004	Massachusetts	Barnstable	0.65	Freeze	361,745	11,172	4,580	6,592	22,170	1.984	0.061	0.031
2004	South Carolina	Charleston	0.55	Storm Surge	189,925	4,386	1,579	2,807	31,938	7.282	0.168	0.023
2004	Virginia	Accomack	0.50	Freeze	3,036,943	54,473	4,287	50,186	254,995	4.681	0.084	0.018
2004	Virginia	Accomack	0.55	Freeze	115,500	2,558	920	1,638	109,257	42.712	0.946	0.022
2004	Virginia	Accomack	0.60	Freeze	1,069,488	25,874	9,314	16,560	275,937	10.665	0.258	0.024
2004	Virginia	Accomack	0.65	Freeze	87,360	2,019	828	1,191	46,893	23.226	0.537	0.023
2004	Virginia	Northampton	0.50	Freeze	12,032,932	222,438	73,037	149,401	250,864	1.128	0.021	0.018
2004	Virginia	Northampton	0.50	Storm Surge	12,032,932	222,438	73,037	149,401	52,441	0.236	0.004	0.018
2004	Virginia	Northampton	0.60	Freeze	2,858,219	62,412	22,468	39,944	31,546	0.505	0.011	0.022
2005	Florida	Dixie	0.70	Hurricane	117,650	11,305	4,634	6,671	12,827	1.135	0.109	0.096
2005	Florida	Dixie	0.70	Storm Surge	117,650	11,305	4,634	6,671	24,577	2.174	0.209	0.096
2005	Florida	Dixie	0.75	Salinity	39,376	2,806	1,263	1,543	19,156	6.827	0.486	0.071
2005	Florida	Levy	0.50	Storm Surge	1,095,768	65,269	7,077	58,192	19,570	0.300	0.018	0.060
2005	Florida	Levy	0.65	Hurricane	1,347,780	99,753	40,901	58,852	16,340	0.164	0.012	0.074
2005	Florida	Levy	0.65	Salinity	1,347,780	99,753	40,901	58,852	3,518	0.035	0.003	0.074
2005	Florida	Levy	0.75	Hurricane	677,462	68,978	31,039	37,939	54,482	0.790	0.080	0.102
2005	Florida	Levy	0.75	Other	677,462	68,978	31,039	37,939	53,007	0.768	0.078	0.102
2005	Florida	Levy	0.75	Salinity	677,462	68,978	31,039	37,939	13,888	0.201	0.021	0.102
2005	Florida	Levy	0.75	Tidal Wave	677,462	68,978	31,039	37,939	19,055	0.276	0.028	0.102
2005	Massachusetts	Barnstable	0.50	Disease, Aquaculture	622,953	10,289	406	9,883	108,936	10.588	0.175	0.017
2005	Massachusetts	Barnstable	0.65	Ice Floe	721,998	19,910	8,162	11,748	265,074	13.314	0.367	0.028
2005	Massachusetts	Barnstable	0.65	Storm Surge	721,998	19,910	8,162	11,748	6,264	0.315	0.009	0.028
2005	Massachusetts	Barnstable	0.70	Freeze	71,820	2,521	1,033	1,488	7,759	3.078	0.108	0.035
2006	Florida	Levy	0.65	Oxygen Depletion	2,877,946	249,562	102,319	147,243	204,230	0.818	0.071	0.087
2006	Florida	Levy	0.70	Storm Surge	517,629	50,722	20,797	29,925	89,869	1.772	0.174	0.098
2006	Florida	Levy	0.75	Oxygen Depletion	726,128	76,407	34,384	42,023	69,320	0.907	0.095	0.105
2006	Florida	Levy	0.75	Storm Surge	726,128	76,407	34,384	42,023	78,444	1.027	0.108	0.105
2006	Massachusetts	Barnstable	0.60	Freeze	586,440	15,484	5,574	9,910	92,591	5.980	0.158	0.026
2006	Massachusetts	Barnstable	0.60	Ice Floe	586,440	15,484	5,574	9,910	16,434	1.061	0.028	0.026
2006	Massachusetts	Barnstable	0.65	Freeze	385,067	13,141	5,386	7,755	3,377	0.257	0.009	0.034
2006	Massachusetts	Barnstable	0.65	Ice Floe	385,067	13,141	5,386	7,755	10,631	0.809	0.028	0.034
2006	Virginia	Northampton	0.50	Hurricane	11,785,021	216,944	71,141	145,803	112,317	0.518	0.010	0.018
2007	Florida	Levy	0.50	Oxygen Depletion	1,273,144	74,426	6,266	68,160	22,412	0.301	0.018	0.058
2007	Florida	Levy	0.60	Oxygen Depletion	1,269,282	93,973	33,830	60,143	10,490	0.112	0.008	0.074
2007	Florida	Levy	0.65	Oxygen Depletion	1,912,275	169,739	69,588	100,151	28,905	0.170	0.015	0.089
2007	Florida	Levy	0.70	Oxygen Depletion	1,034,340	103,459	42,421	61,038	139,738	1.351	0.135	0.100
2007	Florida	Levy	0.75	Oxygen Depletion	627,777	59,996	26,999	32,997	76,470	1.275	0.122	0.096
2007	Florida	Levy	0.75	Salinity	627,777	59,996	26,999	32,997	92,998	1.550	0.148	0.096
2007	Massachusetts	Barnstable	0.50	Disease, Aquaculture	639,768	11,679	1,810	9,869	34,411	2.946	0.054	0.018

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Coverage Level and Primary Cause
Table 5.3
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State	County Name	Coverage Level	Description	Liability	Total Premium	Producer Premium	Subsidy	Indemnity	Partial Loss Ratio	Partial Loss Cost Ratio	Earned Premium Ratio
2007	Massachusetts	Barnstable	0.50	Ice Floe	639,768	11,679	1,810	9,869	18,605	1.593	0.029	0.018
2007	Massachusetts	Barnstable	0.60	Freeze	543,024	13,332	4,798	8,534	3,940	0.296	0.007	0.025
2007	Massachusetts	Barnstable	0.65	Ice Floe	379,115	12,035	4,934	7,101	29,562	2.456	0.078	0.032
2007	Virginia	Accomack	0.65	Freeze	915,707	27,950	11,460	16,490	22,680	0.811	0.025	0.031
2007	Virginia	Accomack	0.70	Freeze	269,325	11,869	4,867	7,002	21,809	1.837	0.081	0.044
2008	Florida	Brevard	0.65	Salinity	75,724	6,764	2,773	3,991	34,290	5.069	0.453	0.089
2008	Florida	Indian River	0.70	Disease, Aquaculture	23,520	2,223	911	1,312	7,461	3.356	0.317	0.095
2008	Florida	Levy	0.65	Oxygen Depletion	843,738	108,369	44,432	63,937	11,088	0.102	0.013	0.128
2008	Florida	Levy	0.70	Salinity	405,614	40,837	16,742	24,095	69,505	1.702	0.171	0.101
2008	Florida	Levy	0.70	Storm Surge	405,614	40,837	16,742	24,095	31,488	0.771	0.078	0.101
2008	Florida	Levy	0.75	Oxygen Depletion	985,302	85,204	38,342	46,862	98,394	1.155	0.100	0.086
2008	Florida	Levy	0.75	Salinity	985,302	85,204	38,342	46,862	93,794	1.101	0.095	0.086
2008	Massachusetts	Barnstable	0.50	Freeze	480,418	10,152	1,878	8,274	22,089	2.176	0.046	0.021
2008	Massachusetts	Barnstable	0.65	Freeze	391,049	14,524	5,955	8,569	38,936	2.681	0.100	0.037
2009	Florida	Levy	0.50	Salinity	3,061,921	124,360	19,081	105,279	427,885	3.441	0.140	0.041
2009	Florida	Levy	0.60	Salinity	151,200	8,981	3,233	5,748	147,838	16.461	0.978	0.059
2009	Florida	Levy	0.70	Salinity	343,476	29,186	11,966	17,220	153,231	5.250	0.446	0.085
2009	Florida	Levy	0.75	Salinity	735,767	59,316	26,692	32,624	599,471	10.106	0.815	0.081
2009	Virginia	Accomack	0.65	Storm Surge	2,097,591	54,205	22,226	31,979	228,088	4.208	0.109	0.026
2010	Florida	Brevard	0.65	Other	4,571	378	155	223	4,571	12.093	1.000	0.083
2010	Florida	Levy	0.75	Freeze	141,531	13,591	6,116	7,475	49,790	3.663	0.352	0.096
2010	Massachusetts	Barnstable	0.65	Oxygen Depletion	470,521	13,955	5,723	8,232	18,658	1.337	0.040	0.030
2010	Virginia	Accomack	0.60	Storm Surge	106,110	2,546	917	1,629	24,300	9.544	0.229	0.024
2010	Virginia	Accomack	0.70	Freeze	182,070	6,070	2,490	3,580	28,771	4.740	0.158	0.033

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, Practice Code and Cause of Loss
Table 5.4
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Practice Code	Type Code	Description	Liability	Total Premium	Indemnity	Partial Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	22	80	Disease, Aquaculture	1,466,046	59,978	5,027	0.084	0.003	0.041
2000	22	80	Freeze	1,466,046	59,978	6,900	0.115	0.005	0.041
2000	22	80	Hurricane	1,466,046	59,978	140,284	2.339	0.096	0.041
2000	22	80	Salinity	1,466,046	59,978	263,518	4.394	0.180	0.041
2000	23	82	Disease, Aquaculture	16,048,482	672,821	200,731	0.298	0.013	0.042
2000	23	82	Excess Wind	16,048,482	672,821	25,740	0.038	0.002	0.042
2000	23	82	Freeze	16,048,482	672,821	34,173	0.051	0.002	0.042
2000	23	82	Hurricane	16,048,482	672,821	332,244	0.494	0.021	0.042
2000	23	82	Other	16,048,482	672,821	14,160	0.021	0.001	0.042
2000	23	82	Oxygen Depletion	16,048,482	672,821	344,641	0.512	0.021	0.042
2000	23	82	Salinity	16,048,482	672,821	554,367	0.824	0.035	0.042
2000	23	82	Storm Surge	16,048,482	672,821	39,984	0.059	0.002	0.042
2000	24	82	Freeze	11,091,810	250,408	107,806	0.431	0.010	0.023
2001	22	80	Freeze	1,198,498	67,953	11,642	0.171	0.010	0.057
2001	22	80	Hurricane	1,198,498	67,953	11,772	0.173	0.010	0.057
2001	22	80	Oxygen Depletion	1,198,498	67,953	18,448	0.271	0.015	0.057
2001	22	80	Salinity	1,198,498	67,953	71,006	1.045	0.059	0.057
2001	22	80	Storm Surge	1,198,498	67,953	183,184	2.696	0.153	0.057
2001	23	82	Hurricane	17,001,781	847,821	682,898	0.805	0.040	0.050
2001	23	82	Salinity	17,001,781	847,821	605,514	0.714	0.036	0.050
2001	23	82	Storm Surge	17,001,781	847,821	910,002	1.073	0.054	0.050
2001	24	80	Disease, Aquaculture	12,248,175	260,332	72,000	0.277	0.006	0.021
2001	24	80	Freeze	12,248,175	260,332	53,186	0.204	0.004	0.021
2001	24	82	Disease, Aquaculture	10,766,814	224,500	79,200	0.353	0.007	0.021
2001	24	82	Freeze	10,766,814	224,500	150,000	0.668	0.014	0.021
2001	24	82	Salinity	10,766,814	224,500	31,846	0.142	0.003	0.021
2002	22	80	Freeze	1,937,973	110,218	97,831	0.888	0.050	0.057
2002	22	80	Oxygen Depletion	1,937,973	110,218	44,401	0.403	0.023	0.057
2002	22	80	Salinity	1,937,973	110,218	450,074	4.083	0.232	0.057
2002	22	80	Storm Surge	1,937,973	110,218	77,423	0.702	0.040	0.057
2002	23	82	Freeze	25,665,858	1,329,504	113,148	0.085	0.004	0.052
2002	23	82	Other	25,665,858	1,329,504	63,542	0.048	0.002	0.052
2002	23	82	Oxygen Depletion	25,665,858	1,329,504	328,845	0.247	0.013	0.052
2002	23	82	Salinity	25,665,858	1,329,504	1,603,599	1.206	0.062	0.052
2002	23	82	Storm Surge	25,665,858	1,329,504	1,145,969	0.862	0.045	0.052
2002	24	80	Storm Surge	16,230,272	379,346	35,700	0.094	0.002	0.023
2002	24	82	Disease, Aquaculture	16,118,510	361,635	51,607	0.143	0.003	0.022
2002	24	82	Storm Surge	16,118,510	361,635	7,109	0.020	0.000	0.022
2003	22	80	Oxygen Depletion	789,460	44,897	22,062	0.491	0.028	0.057
2003	22	80	Salinity	789,460	44,897	29,661	0.661	0.038	0.057
2003	22	80	Storm Surge	789,460	44,897	49,245	1.097	0.062	0.057

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, Practice Code and Cause of Loss
Table 5.4
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Practice Code	Type Code	Description	Liability	Total Premium	Indemnity	Partial Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2003	23	82	Excess Wind	21,148,636	1,180,994	15,288	0.013	0.001	0.056
2003	23	82	Oxygen Depletion	21,148,636	1,180,994	34,727	0.029	0.002	0.056
2003	23	82	Salinity	21,148,636	1,180,994	1,805,803	1.529	0.085	0.056
2003	23	82	Storm Surge	21,148,636	1,180,994	77,599	0.066	0.004	0.056
2003	24	80	Freeze	14,493,649	323,681	113,007	0.349	0.008	0.022
2003	24	80	Hurricane	14,493,649	323,681	35,542	0.110	0.002	0.022
2003	24	80	Storm Surge	14,493,649	323,681	52,331	0.162	0.004	0.022
2003	24	82	Freeze	14,745,578	310,826	356,077	1.146	0.024	0.021
2003	24	82	Storm Surge	14,745,578	310,826	183,178	0.589	0.012	0.021
2004	23	84	Hurricane	1,774,328	188,998	497,745	2.634	0.281	0.107
2004	23	84	Salinity	1,774,328	188,998	40,209	0.213	0.023	0.107
2004	23	84	Storm Surge	1,774,328	188,998	31,938	0.169	0.018	0.107
2004	23	85	Hurricane	4,045,556	334,483	475,256	1.421	0.117	0.083
2004	23	86	Hurricane	286,206	18,839	23,654	1.256	0.083	0.066
2004	23	86	Salinity	286,206	18,839	3,987	0.212	0.014	0.066
2004	23	86	Storm Surge	286,206	18,839	1,877	0.100	0.007	0.066
2004	24	84	Freeze	5,918,514	113,096	444,966	3.934	0.075	0.019
2004	24	84	Storm Surge	5,918,514	113,096	52,441	0.464	0.009	0.019
2004	24	85	Disease, Aquaculture	15,676,738	313,765	55,788	0.178	0.004	0.020
2004	24	85	Freeze	15,676,738	313,765	546,696	1.742	0.035	0.020
2004	24	85	Hurricane	15,676,738	313,765	7,845	0.025	0.001	0.020
2005	23	84	Hurricane	492,548	48,594	5,168	0.106	0.010	0.099
2005	23	84	Other	492,548	48,594	53,007	1.091	0.108	0.099
2005	23	84	Salinity	492,548	48,594	3,518	0.072	0.007	0.099
2005	23	85	Hurricane	791,794	60,077	4,418	0.074	0.006	0.076
2005	23	85	Storm Surge	791,794	60,077	44,147	0.735	0.056	0.076
2005	23	86	Hurricane	3,872,225	257,082	74,063	0.288	0.019	0.066
2005	23	86	Salinity	3,872,225	257,082	33,044	0.129	0.009	0.066
2005	23	86	Tidal Wave	3,872,225	257,082	19,055	0.074	0.005	0.066
2005	24	84	Disease, Aquaculture	2,862,236	61,789	108,936	1.763	0.038	0.022
2005	24	84	Storm Surge	2,862,236	61,789	4,655	0.075	0.002	0.022
2005	24	85	Freeze	10,131,360	197,480	7,759	0.039	0.001	0.019
2005	24	85	Ice Floe	10,131,360	197,480	265,074	1.342	0.026	0.019
2005	24	85	Storm Surge	10,131,360	197,480	1,609	0.008	0.000	0.019
2006	23	84	Oxygen Depletion	343,166	44,853	36,070	0.804	0.105	0.131
2006	23	86	Oxygen Depletion	5,973,564	451,803	237,480	0.526	0.040	0.076
2006	23	86	Storm Surge	5,973,564	451,803	168,313	0.373	0.028	0.076
2006	24	84	Freeze	5,312,898	119,545	3,377	0.028	0.001	0.023
2006	24	84	Hurricane	5,312,898	119,545	3,401	0.028	0.001	0.023
2006	24	85	Freeze	14,276,824	297,979	92,591	0.311	0.006	0.021
2006	24	85	Hurricane	14,276,824	297,979	108,916	0.366	0.008	0.021

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, Practice Code and Cause of Loss
Table 5.4
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Practice Code	Type Code	Description	Liability	Total Premium	Indemnity	Partial Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2006	24	85	Ice Floe	14,276,824	297,979	27,065	0.091	0.002	0.021
2007	23	84	Oxygen Depletion	371,723	28,484	9,201	0.323	0.025	0.077
2007	23	85	Oxygen Depletion	764,948	71,288	38,070	0.534	0.050	0.093
2007	23	86	Oxygen Depletion	5,442,413	423,811	230,744	0.544	0.042	0.078
2007	23	86	Salinity	5,442,413	423,811	92,998	0.219	0.017	0.078
2007	24	84	Freeze	5,417,288	127,962	22,680	0.177	0.004	0.024
2007	24	85	Disease, Aquaculture	14,783,839	321,518	34,411	0.107	0.002	0.022
2007	24	85	Freeze	14,783,839	321,518	25,749	0.080	0.002	0.022
2007	24	85	Ice Floe	14,783,839	321,518	48,167	0.150	0.003	0.022
2008	23	84	Oxygen Depletion	699,715	94,923	59,276	0.624	0.085	0.136
2008	23	85	Oxygen Depletion	1,721,174	167,278	27,216	0.163	0.016	0.097
2008	23	85	Storm Surge	1,721,174	167,278	31,488	0.188	0.018	0.097
2008	23	86	Disease, Aquaculture	2,223,606	173,624	7,461	0.043	0.003	0.078
2008	23	86	Oxygen Depletion	2,223,606	173,624	22,990	0.132	0.010	0.078
2008	23	86	Salinity	2,223,606	173,624	163,299	0.941	0.073	0.078
2008	24	85	Freeze	20,124,846	471,548	61,025	0.129	0.003	0.023
2008	24	85	Salinity	20,124,846	471,548	9,802	0.021	0.000	0.023
2008	24	86	Salinity	46,410	3,843	24,488	6.372	0.528	0.083
2009	23	84	Salinity	877,010	41,800	242,788	5.808	0.277	0.048
2009	23	85	Salinity	1,122,451	60,088	202,215	3.365	0.180	0.054
2009	23	86	Salinity	2,348,973	124,619	883,422	7.089	0.376	0.053
2009	24	84	Storm Surge	4,951,475	95,592	199,368	2.086	0.040	0.019
2009	24	85	Storm Surge	18,580,585	352,295	28,720	0.082	0.002	0.019
2010	23	85	Freeze	11,946	1,410	8,134	5.769	0.681	0.118
2010	23	86	Freeze	208,510	15,733	41,656	2.648	0.200	0.075
2010	24	84	Freeze	3,077,565	62,576	12,362	0.198	0.004	0.020
2010	24	84	Other	3,077,565	62,576	1,997	0.032	0.001	0.020
2010	24	84	Storm Surge	3,077,565	62,576	24,300	0.388	0.008	0.020
2010	24	85	Freeze	18,829,024	346,356	16,409	0.047	0.001	0.018
2010	24	85	Oxygen Depletion	18,829,024	346,356	18,658	0.054	0.001	0.018
2010	24	86	Other	2,574	171	2,574	15.053	1.000	0.066

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Practice Code, Coverage Level and Cause of Loss
Table 5.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Practice Code	Type Code	Coverage Level	Description	Liability	Premium	Indemnity	Partial Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2000	Florida	Brevard	22	80	0.65	Salinity	209,076	9,033	82,690	9.154	0.396	0.043
2000	Florida	Brevard	23	82	0.65	Disease, Aquaculture	227,401	9,823	12,782	1.301	0.056	0.043
2000	Florida	Brevard	23	82	0.65	Excess Wind	227,401	9,823	25,740	2.620	0.113	0.043
2000	Florida	Brevard	23	82	0.65	Oxygen Depletion	227,401	9,823	9,492	0.966	0.042	0.043
2000	Florida	Brevard	23	82	0.70	Freeze	2,694	153	899	5.876	0.334	0.057
2000	Florida	Dixie	22	80	0.50	Salinity	61,842	1,625	2,250	1.385	0.036	0.026
2000	Florida	Dixie	22	80	0.65	Salinity	97,309	4,331	168,675	38.946	1.733	0.045
2000	Florida	Dixie	23	82	0.50	Hurricane	629,419	16,555	28,365	1.713	0.045	0.026
2000	Florida	Dixie	23	82	0.50	Oxygen Depletion	629,419	16,555	46,855	2.830	0.074	0.026
2000	Florida	Dixie	23	82	0.50	Salinity	629,419	16,555	3,921	0.237	0.006	0.026
2000	Florida	Dixie	23	82	0.55	Salinity	95,040	2,822	7,742	2.743	0.081	0.030
2000	Florida	Dixie	23	82	0.65	Freeze	1,497,536	67,241	18,332	0.273	0.012	0.045
2000	Florida	Dixie	23	82	0.65	Oxygen Depletion	1,497,536	67,241	64,798	0.964	0.043	0.045
2000	Florida	Dixie	23	82	0.65	Salinity	1,497,536	67,241	356,619	5.304	0.238	0.045
2000	Florida	Indian River	22	80	0.65	Disease, Aquaculture	164,775	7,394	5,027	0.680	0.031	0.045
2000	Florida	Indian River	23	82	0.50	Disease, Aquaculture	37,180	970	9,749	10.051	0.262	0.026
2000	Florida	Indian River	23	82	0.65	Disease, Aquaculture	1,659,580	73,820	178,200	2.414	0.107	0.044
2000	Florida	Indian River	23	82	0.65	Hurricane	1,659,580	73,820	33,183	0.450	0.020	0.044
2000	Florida	Indian River	23	82	0.65	Salinity	1,659,580	73,820	34,398	0.466	0.021	0.044
2000	Florida	Levy	22	80	0.50	Salinity	223,904	6,115	5,279	0.863	0.024	0.027
2000	Florida	Levy	22	80	0.65	Freeze	599,609	26,032	6,900	0.265	0.012	0.043
2000	Florida	Levy	22	80	0.65	Hurricane	599,609	26,032	140,284	5.389	0.234	0.043
2000	Florida	Levy	22	80	0.65	Salinity	599,609	26,032	4,570	0.176	0.008	0.043
2000	Florida	Levy	22	80	0.75	Salinity	42,188	3,221	54	0.017	0.001	0.076
2000	Florida	Levy	23	82	0.50	Hurricane	3,320,782	89,573	30,639	0.342	0.009	0.027
2000	Florida	Levy	23	82	0.60	Oxygen Depletion	377,280	13,647	41,840	3.066	0.111	0.036
2000	Florida	Levy	23	82	0.65	Hurricane	6,186,030	270,411	222,687	0.824	0.036	0.044
2000	Florida	Levy	23	82	0.65	Other	6,186,030	270,411	14,160	0.052	0.002	0.044
2000	Florida	Levy	23	82	0.65	Oxygen Depletion	6,186,030	270,411	81,407	0.301	0.013	0.044
2000	Florida	Levy	23	82	0.65	Salinity	6,186,030	270,411	79,225	0.293	0.013	0.044
2000	Florida	Levy	23	82	0.65	Storm Surge	6,186,030	270,411	39,984	0.148	0.006	0.044
2000	Florida	Levy	23	82	0.70	Salinity	168,000	10,373	34,964	3.371	0.208	0.062
2000	Florida	Levy	23	82	0.75	Freeze	1,360,800	103,145	14,942	0.145	0.011	0.076
2000	Florida	Levy	23	82	0.75	Hurricane	1,360,800	103,145	17,370	0.168	0.013	0.076
2000	Florida	Levy	23	82	0.75	Oxygen Depletion	1,360,800	103,145	100,249	0.972	0.074	0.076
2000	Florida	Levy	23	82	0.75	Salinity	1,360,800	103,145	37,498	0.364	0.028	0.076
2000	Massachusetts	Barnstable	24	82	0.60	Freeze	924,891	23,269	13,822	0.594	0.015	0.025
2000	Massachusetts	Barnstable	24	82	0.65	Freeze	975,220	29,270	85,992	2.938	0.088	0.030
2000	Massachusetts	Barnstable	24	82	0.75	Freeze	8,910	458	7,992	17.450	0.897	0.051
2001	Florida	Brevard	22	80	0.65	Oxygen Depletion	19,652	850	18,448	21.704	0.939	0.043
2001	Florida	Brevard	22	80	0.70	Hurricane	75,530	4,352	3,902	0.897	0.052	0.058
2001	Florida	Brevard	22	80	0.70	Salinity	75,530	4,352	7,867	1.808	0.104	0.058
2001	Florida	Brevard	22	80	0.75	Salinity	43,875	3,277	20,229	6.173	0.461	0.075
2001	Florida	Brevard	23	82	0.65	Salinity	114,644	4,952	16,622	3.357	0.145	0.043
2001	Florida	Brevard	23	82	0.70	Hurricane	1,058,461	61,180	375,430	6.136	0.355	0.058
2001	Florida	Brevard	23	82	0.70	Salinity	1,058,461	61,180	77,578	1.268	0.073	0.058
2001	Florida	Dixie	22	80	0.65	Salinity	69,764	3,068	-	0.000	0.000	0.044
2001	Florida	Dixie	22	80	0.75	Storm Surge	26,325	2,170	5,108	2.354	0.194	0.082

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Practice Code, Coverage Level and Cause of Loss
Table 5.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Practice Code	Type Code	Coverage Level	Description	Liability	Premium	Indemnity	Partial Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2001	Florida	Dixie	23	82	0.50	Salinity	160,506	4,189	17,075	4.076	0.106	0.026
2001	Florida	Dixie	23	82	0.50	Storm Surge	160,506	4,189	16,112	3.846	0.100	0.026
2001	Florida	Dixie	23	82	0.65	Salinity	1,430,065	63,257	51,215	0.810	0.036	0.044
2001	Florida	Dixie	23	82	0.70	Storm Surge	254,373	15,618	19,904	1.274	0.078	0.061
2001	Florida	Dixie	23	82	0.75	Storm Surge	214,200	17,569	6,770	0.385	0.032	0.082
2001	Florida	Indian River	22	80	0.70	Hurricane	61,334	3,793	3,990	1.052	0.065	0.062
2001	Florida	Indian River	22	80	0.75	Hurricane	12,734	951	3,880	4.080	0.305	0.075
2001	Florida	Indian River	22	80	0.75	Salinity	12,734	951	5,752	6.048	0.452	0.075
2001	Florida	Indian River	23	82	0.65	Salinity	133,089	6,176	10,726	1.737	0.081	0.046
2001	Florida	Indian River	23	82	0.70	Hurricane	1,305,850	76,734	174,317	2.272	0.133	0.059
2001	Florida	Indian River	23	82	0.70	Salinity	1,305,850	76,734	129,779	1.691	0.099	0.059
2001	Florida	Indian River	24	82	0.70	Salinity	127,400	7,224	31,846	4.408	0.250	0.057
2001	Florida	Levy	22	80	0.65	Salinity	306,585	13,859	23,905	1.725	0.078	0.045
2001	Florida	Levy	22	80	0.65	Storm Surge	306,585	13,859	-	0.000	0.000	0.045
2001	Florida	Levy	22	80	0.70	Freeze	231,386	13,706	1,535	0.112	0.007	0.059
2001	Florida	Levy	22	80	0.70	Salinity	231,386	13,706	8,736	0.637	0.038	0.059
2001	Florida	Levy	22	80	0.70	Storm Surge	231,386	13,706	157,327	11.479	0.680	0.059
2001	Florida	Levy	22	80	0.75	Freeze	228,638	18,128	10,107	0.558	0.044	0.079
2001	Florida	Levy	22	80	0.75	Salinity	228,638	18,128	4,517	0.249	0.020	0.079
2001	Florida	Levy	22	80	0.75	Storm Surge	228,638	18,128	20,749	1.145	0.091	0.079
2001	Florida	Levy	23	82	0.50	Salinity	1,412,819	38,208	6,263	0.164	0.004	0.027
2001	Florida	Levy	23	82	0.50	Storm Surge	1,412,819	38,208	42,941	1.124	0.030	0.027
2001	Florida	Levy	23	82	0.60	Salinity	587,160	20,984	18,111	0.863	0.031	0.036
2001	Florida	Levy	23	82	0.65	Hurricane	5,403,483	244,203	133,151	0.545	0.025	0.045
2001	Florida	Levy	23	82	0.65	Salinity	5,403,483	244,203	157,496	0.645	0.029	0.045
2001	Florida	Levy	23	82	0.65	Storm Surge	5,403,483	244,203	432,688	1.772	0.080	0.045
2001	Florida	Levy	23	82	0.70	Salinity	3,973,410	237,236	58,690	0.247	0.015	0.060
2001	Florida	Levy	23	82	0.70	Storm Surge	3,973,410	237,236	333,287	1.405	0.084	0.060
2001	Florida	Levy	23	82	0.75	Salinity	529,862	43,504	61,959	1.424	0.117	0.082
2001	Florida	Levy	23	82	0.75	Storm Surge	529,862	43,504	58,300	1.340	0.110	0.082
2001	Massachusetts	Barnstable	24	82	0.50	Freeze	909,084	16,363	150,000	9.167	0.165	0.018
2001	Virginia	Northampton	24	80	0.50	Disease, Aquaculture	8,519,140	164,600	72,000	0.437	0.008	0.019
2001	Virginia	Northampton	24	80	0.60	Freeze	273,600	6,894	53,186	7.715	0.194	0.025
2001	Virginia	Northampton	24	82	0.50	Disease, Aquaculture	7,215,122	138,259	79,200	0.573	0.011	0.019
2002	Florida	Brevard	22	80	0.65	Oxygen Depletion	27,759	1,200	10,806	9.005	0.389	0.043
2002	Florida	Brevard	22	80	0.70	Oxygen Depletion	27,300	1,548	24,040	15.530	0.881	0.057
2002	Florida	Brevard	22	80	0.75	Oxygen Depletion	46,313	3,479	1,668	0.479	0.036	0.075
2002	Florida	Brevard	23	82	0.65	Oxygen Depletion	224,061	9,681	64,740	6.687	0.289	0.043
2002	Florida	Brevard	23	82	0.65	Salinity	224,061	9,681	32,137	3.320	0.143	0.043
2002	Florida	Brevard	23	82	0.70	Salinity	605,150	34,313	112,659	3.283	0.186	0.057
2002	Florida	Brevard	23	82	0.75	Salinity	293,475	22,204	27,965	1.259	0.095	0.076
2002	Florida	Dixie	22	80	0.65	Oxygen Depletion	150,278	7,015	5,991	0.854	0.040	0.047
2002	Florida	Dixie	22	80	0.65	Salinity	150,278	7,015	25,555	3.643	0.170	0.047
2002	Florida	Dixie	22	80	0.75	Freeze	19,500	1,456	1,597	1.097	0.082	0.075
2002	Florida	Dixie	22	80	0.75	Storm Surge	19,500	1,456	12,724	8.739	0.653	0.075
2002	Florida	Dixie	23	82	0.60	Salinity	75,600	2,851	13,487	4.731	0.178	0.038
2002	Florida	Dixie	23	82	0.65	Other	2,334,622	107,687	10,315	0.096	0.004	0.046
2002	Florida	Dixie	23	82	0.65	Oxygen Depletion	2,334,622	107,687	10,575	0.098	0.005	0.046

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Practice Code, Coverage Level and Cause of Loss
Table 5.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Practice Code	Type Code	Coverage Level	Description	Liability	Premium	Indemnity	Partial Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2002	Florida	Dixie	23	82	0.65	Salinity	2,334,622	107,687	78,476	0.729	0.034	0.046
2002	Florida	Indian River	22	80	0.70	Salinity	38,220	2,281	31,885	13.979	0.834	0.060
2002	Florida	Indian River	22	80	0.75	Salinity	315,525	24,074	65,019	2.701	0.206	0.076
2002	Florida	Indian River	23	82	0.70	Salinity	1,098,061	65,815	29,784	0.453	0.027	0.060
2002	Florida	Indian River	23	82	0.75	Oxygen Depletion	423,491	31,917	7,062	0.221	0.017	0.075
2002	Florida	Levy	22	80	0.50	Oxygen Depletion	28,568	803	1,896	2.361	0.066	0.028
2002	Florida	Levy	22	80	0.65	Freeze	617,638	28,389	2,456	0.087	0.004	0.046
2002	Florida	Levy	22	80	0.65	Salinity	617,638	28,389	299,909	10.564	0.486	0.046
2002	Florida	Levy	22	80	0.65	Storm Surge	617,638	28,389	35,936	1.266	0.058	0.046
2002	Florida	Levy	22	80	0.70	Freeze	222,167	13,675	79,969	5.848	0.360	0.062
2002	Florida	Levy	22	80	0.70	Salinity	222,167	13,675	3,236	0.237	0.015	0.062
2002	Florida	Levy	22	80	0.70	Storm Surge	222,167	13,675	28,763	2.103	0.129	0.062
2002	Florida	Levy	22	80	0.75	Freeze	221,326	16,962	13,809	0.814	0.062	0.077
2002	Florida	Levy	22	80	0.75	Salinity	221,326	16,962	24,470	1.443	0.111	0.077
2002	Florida	Levy	23	82	0.50	Storm Surge	645,960	17,986	25,119	1.397	0.039	0.028
2002	Florida	Levy	23	82	0.65	Oxygen Depletion	9,532,427	438,122	107,828	0.246	0.011	0.046
2002	Florida	Levy	23	82	0.65	Salinity	9,532,427	438,122	849,238	1.938	0.089	0.046
2002	Florida	Levy	23	82	0.65	Storm Surge	9,532,427	438,122	322,678	0.737	0.034	0.046
2002	Florida	Levy	23	82	0.70	Freeze	5,388,180	322,392	52,766	0.164	0.010	0.060
2002	Florida	Levy	23	82	0.70	Other	5,388,180	322,392	53,227	0.165	0.010	0.060
2002	Florida	Levy	23	82	0.70	Oxygen Depletion	5,388,180	322,392	122,388	0.380	0.023	0.060
2002	Florida	Levy	23	82	0.70	Salinity	5,388,180	322,392	203,735	0.632	0.038	0.060
2002	Florida	Levy	23	82	0.70	Storm Surge	5,388,180	322,392	383,350	1.189	0.071	0.060
2002	Florida	Levy	23	82	0.75	Freeze	2,281,703	181,635	60,382	0.332	0.026	0.080
2002	Florida	Levy	23	82	0.75	Oxygen Depletion	2,281,703	181,635	16,252	0.089	0.007	0.080
2002	Florida	Levy	23	82	0.75	Salinity	2,281,703	181,635	256,118	1.410	0.112	0.080
2002	Florida	Levy	23	82	0.75	Storm Surge	2,281,703	181,635	414,822	2.284	0.182	0.080
2002	Virginia	Northampton	24	80	0.50	Storm Surge	5,796,114	119,677	35,700	0.298	0.006	0.021
2002	Virginia	Northampton	24	82	0.50	Storm Surge	10,318,226	215,119	7,109	0.033	0.001	0.021
2002	Virginia	Northampton	24	82	0.60	Disease, Aquaculture	2,218,296	62,113	51,607	0.831	0.023	0.028
2003	Florida	Brevard	22	80	0.65	Oxygen Depletion	38,078	1,644	22,062	13.420	0.579	0.043
2003	Florida	Brevard	23	82	0.65	Oxygen Depletion	121,301	5,240	34,727	6.627	0.286	0.043
2003	Florida	Brevard	23	82	0.65	Salinity	121,301	5,240	29,376	5.606	0.242	0.043
2003	Florida	Brevard	23	82	0.75	Salinity	193,463	14,452	126,815	8.775	0.656	0.075
2003	Florida	Dixie	22	80	0.65	Salinity	42,408	1,990	7,508	3.773	0.177	0.047
2003	Florida	Dixie	22	80	0.70	Salinity	36,688	2,258	1,388	0.615	0.038	0.062
2003	Florida	Dixie	23	82	0.65	Salinity	1,085,949	50,071	73,123	1.460	0.067	0.046
2003	Florida	Dixie	23	82	0.70	Salinity	1,437,023	87,233	191,887	2.200	0.134	0.061
2003	Florida	Dixie	23	82	0.75	Salinity	144,375	10,785	2,250	0.209	0.016	0.075
2003	Florida	Indian River	22	80	0.70	Salinity	24,174	1,489	1,224	0.822	0.051	0.062
2003	Florida	Indian River	23	82	0.70	Salinity	777,994	46,756	10,616	0.227	0.014	0.060
2003	Florida	Indian River	23	82	0.75	Salinity	570,918	44,565	75,080	1.685	0.132	0.078
2003	Florida	Levy	22	80	0.65	Salinity	240,845	11,097	5,360	0.483	0.022	0.046
2003	Florida	Levy	22	80	0.75	Salinity	106,693	8,441	14,181	1.680	0.133	0.079
2003	Florida	Levy	22	80	0.75	Storm Surge	106,693	8,441	49,245	5.834	0.462	0.079
2003	Florida	Levy	23	82	0.65	Salinity	4,535,635	208,740	232,979	1.116	0.051	0.046
2003	Florida	Levy	23	82	0.70	Excess Wind	6,604,010	397,091	15,288	0.038	0.002	0.060
2003	Florida	Levy	23	82	0.70	Salinity	6,604,010	397,091	413,495	1.041	0.063	0.060

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Practice Code, Coverage Level and Cause of Loss
Table 5.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Practice Code	Type Code	Coverage Level	Description	Liability	Premium	Indemnity	Partial Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2003	Florida	Levy	23	82	0.75	Salinity	2,817,570	224,510	650,182	2.896	0.231	0.080
2003	Massachusetts	Barnstable	24	80	0.50	Freeze	734,305	13,218	13,547	1.025	0.018	0.018
2003	Massachusetts	Barnstable	24	82	0.60	Freeze	158,688	3,948	4,288	1.086	0.027	0.025
2003	Massachusetts	Barnstable	24	82	0.65	Freeze	249,717	7,416	154,824	20.877	0.620	0.030
2003	Massachusetts	Barnstable	24	82	0.75	Freeze	20,520	1,053	16,861	16.012	0.822	0.051
2003	South Carolina	Charleston	23	82	0.50	Storm Surge	483,762	9,807	77,599	7.913	0.160	0.020
2003	Virginia	Accomack	24	80	0.50	Freeze	4,551,671	94,320	76,510	0.811	0.017	0.021
2003	Virginia	Accomack	24	80	0.50	Hurricane	4,551,671	94,320	35,542	0.377	0.008	0.021
2003	Virginia	Accomack	24	80	0.50	Storm Surge	4,551,671	94,320	35,542	0.377	0.008	0.021
2003	Virginia	Accomack	24	82	0.50	Freeze	2,018,580	41,649	127,841	3.069	0.063	0.021
2003	Virginia	Northampton	24	80	0.50	Freeze	5,687,112	118,443	22,950	0.194	0.004	0.021
2003	Virginia	Northampton	24	80	0.60	Storm Surge	457,409	12,808	16,789	1.311	0.037	0.028
2003	Virginia	Northampton	24	82	0.50	Freeze	11,248,346	234,663	52,263	0.223	0.005	0.021
2003	Virginia	Northampton	24	82	0.50	Storm Surge	11,248,346	234,663	183,178	0.781	0.016	0.021
2004	Florida	Brevard	23	84	0.70	Hurricane	16,538	2,217	15,566	7.021	0.941	0.134
2004	Florida	Brevard	23	84	0.75	Hurricane	18,901	2,824	11,813	4.183	0.625	0.149
2004	Florida	Brevard	23	85	0.70	Hurricane	3,126	338	2,031	6.009	0.650	0.108
2004	Florida	Brevard	23	85	0.75	Hurricane	14,309	1,713	14,306	8.351	1.000	0.120
2004	Florida	Brevard	23	86	0.65	Hurricane	71,663	5,418	16,492	3.044	0.230	0.076
2004	Florida	Dixie	23	84	0.65	Hurricane	53,809	6,523	10,103	1.549	0.188	0.121
2004	Florida	Dixie	23	84	0.70	Hurricane	25,512	3,784	4,429	1.170	0.174	0.148
2004	Florida	Dixie	23	85	0.50	Hurricane	77,022	4,853	13,437	2.769	0.174	0.063
2004	Florida	Dixie	23	85	0.65	Hurricane	214,487	21,571	12,689	0.588	0.059	0.101
2004	Florida	Dixie	23	85	0.70	Hurricane	205,533	22,862	67,214	2.940	0.327	0.111
2004	Florida	Dixie	23	85	0.75	Hurricane	33,496	4,010	16,619	4.144	0.496	0.120
2004	Florida	Dixie	23	86	0.65	Storm Surge	68,250	4,558	1,877	0.412	0.028	0.067
2004	Florida	Indian River	23	84	0.75	Hurricane	31,493	4,226	21,419	5.068	0.680	0.134
2004	Florida	Indian River	23	85	0.70	Hurricane	117,235	13,225	28,894	2.185	0.246	0.113
2004	Florida	Indian River	23	85	0.75	Hurricane	210,270	26,617	119,357	4.484	0.568	0.127
2004	Florida	Indian River	24	85	0.50	Hurricane	8,397	529	7,845	14.830	0.934	0.063
2004	Florida	Levy	23	84	0.50	Hurricane	261,310	21,836	35,529	1.627	0.136	0.084
2004	Florida	Levy	23	84	0.60	Hurricane	92,477	10,376	12,499	1.205	0.135	0.112
2004	Florida	Levy	23	84	0.65	Hurricane	423,946	51,128	231,859	4.535	0.547	0.121
2004	Florida	Levy	23	84	0.70	Hurricane	237,392	30,961	32,324	1.044	0.136	0.130
2004	Florida	Levy	23	84	0.75	Hurricane	334,639	46,557	122,204	2.625	0.365	0.139
2004	Florida	Levy	23	84	0.75	Salinity	334,639	46,557	40,209	0.864	0.120	0.139
2004	Florida	Levy	23	85	0.50	Hurricane	1,257,039	83,116	76,858	0.925	0.061	0.066
2004	Florida	Levy	23	85	0.60	Hurricane	259,794	23,250	32,574	1.401	0.125	0.089
2004	Florida	Levy	23	85	0.65	Hurricane	463,942	45,403	7,792	0.172	0.017	0.098
2004	Florida	Levy	23	85	0.70	Hurricane	463,453	49,511	47,620	0.962	0.103	0.107
2004	Florida	Levy	23	85	0.75	Hurricane	175,228	21,985	35,865	1.631	0.205	0.125
2004	Florida	Levy	23	86	0.75	Hurricane	12,656	1,258	7,162	5.693	0.566	0.099
2004	Florida	Levy	23	86	0.75	Salinity	12,656	1,258	3,987	3.169	0.315	0.099
2004	Massachusetts	Barnstable	24	84	0.65	Freeze	150,930	4,981	15,528	3.117	0.103	0.033
2004	Massachusetts	Barnstable	24	85	0.55	Disease, Aquaculture	81,675	1,633	55,788	34.163	0.683	0.020
2004	Massachusetts	Barnstable	24	85	0.65	Freeze	210,815	6,191	6,642	1.073	0.032	0.029
2004	South Carolina	Charleston	23	84	0.55	Storm Surge	137,532	3,300	31,938	9.678	0.232	0.024
2004	Virginia	Accomack	24	84	0.50	Freeze	1,413,095	26,599	200,176	7.526	0.142	0.019

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Practice Code, Coverage Level and Cause of Loss
Table 5.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Practice Code	Type Code	Coverage Level	Description	Liability	Premium	Indemnity	Partial Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2004	Virginia	Accomack	24	84	0.55	Freeze	69,300	1,588	65,554	41.281	0.946	0.023
2004	Virginia	Accomack	24	84	0.60	Freeze	74,340	1,807	19,445	10.761	0.262	0.024
2004	Virginia	Accomack	24	84	0.65	Freeze	87,360	2,019	46,893	23.226	0.537	0.023
2004	Virginia	Accomack	24	85	0.50	Freeze	1,623,848	27,874	54,819	1.967	0.034	0.017
2004	Virginia	Accomack	24	85	0.55	Freeze	46,200	970	43,703	45.055	0.946	0.021
2004	Virginia	Accomack	24	85	0.60	Freeze	995,148	24,067	256,492	10.657	0.258	0.024
2004	Virginia	Northampton	24	84	0.50	Freeze	2,704,806	47,343	97,370	2.057	0.036	0.018
2004	Virginia	Northampton	24	84	0.50	Storm Surge	2,704,806	47,343	52,441	1.108	0.019	0.018
2004	Virginia	Northampton	24	85	0.50	Freeze	9,328,126	175,095	153,494	0.877	0.016	0.019
2004	Virginia	Northampton	24	85	0.60	Freeze	1,818,264	44,416	31,546	0.710	0.017	0.024
2005	Florida	Dixie	23	84	0.70	Hurricane	9,631	1,292	5,168	4.000	0.537	0.134
2005	Florida	Dixie	23	85	0.70	Storm Surge	31,424	3,394	24,577	7.241	0.782	0.108
2005	Florida	Dixie	23	86	0.70	Hurricane	76,595	6,619	7,659	1.157	0.100	0.086
2005	Florida	Dixie	23	86	0.75	Salinity	39,376	2,806	19,156	6.827	0.486	0.071
2005	Florida	Levy	23	84	0.65	Salinity	32,986	4,008	3,518	0.878	0.107	0.122
2005	Florida	Levy	23	84	0.75	Other	72,011	10,759	53,007	4.927	0.736	0.149
2005	Florida	Levy	23	85	0.50	Storm Surge	172,104	10,841	19,570	1.805	0.114	0.063
2005	Florida	Levy	23	85	0.65	Hurricane	137,482	13,175	4,418	0.335	0.032	0.096
2005	Florida	Levy	23	86	0.65	Hurricane	1,177,312	82,570	11,922	0.144	0.010	0.070
2005	Florida	Levy	23	86	0.75	Hurricane	571,956	54,210	54,482	1.005	0.095	0.095
2005	Florida	Levy	23	86	0.75	Salinity	571,956	54,210	13,888	0.256	0.024	0.095
2005	Florida	Levy	23	86	0.75	Tidal Wave	571,956	54,210	19,055	0.352	0.033	0.095
2005	Massachusetts	Barnstable	24	84	0.50	Disease, Aquaculture	109,675	1,975	108,936	55.157	0.993	0.018
2005	Massachusetts	Barnstable	24	84	0.65	Storm Surge	178,133	5,225	4,655	0.891	0.026	0.029
2005	Massachusetts	Barnstable	24	85	0.65	Ice Floe	543,865	14,685	265,074	18.051	0.487	0.027
2005	Massachusetts	Barnstable	24	85	0.65	Storm Surge	543,865	14,685	1,609	0.110	0.003	0.027
2005	Massachusetts	Barnstable	24	85	0.70	Freeze	71,820	2,521	7,759	3.078	0.108	0.035
2006	Florida	Levy	23	84	0.65	Oxygen Depletion	198,034	25,666	36,070	1.405	0.182	0.130
2006	Florida	Levy	23	86	0.65	Oxygen Depletion	2,679,912	223,896	168,160	0.751	0.063	0.084
2006	Florida	Levy	23	86	0.70	Storm Surge	469,910	44,408	89,869	2.024	0.191	0.095
2006	Florida	Levy	23	86	0.75	Oxygen Depletion	647,063	64,596	69,320	1.073	0.107	0.100
2006	Florida	Levy	23	86	0.75	Storm Surge	647,063	64,596	78,444	1.214	0.121	0.100
2006	Massachusetts	Barnstable	24	84	0.65	Freeze	153,036	5,509	3,377	0.613	0.022	0.036
2006	Massachusetts	Barnstable	24	85	0.60	Freeze	505,764	13,158	92,591	7.037	0.183	0.026
2006	Massachusetts	Barnstable	24	85	0.60	Ice Floe	505,764	13,158	16,434	1.249	0.032	0.026
2006	Massachusetts	Barnstable	24	85	0.65	Ice Floe	232,031	7,632	10,631	1.393	0.046	0.033
2006	Virginia	Northampton	24	84	0.50	Hurricane	2,183,051	43,358	3,401	0.078	0.002	0.020
2006	Virginia	Northampton	24	85	0.50	Hurricane	9,601,970	173,586	108,916	0.627	0.011	0.018
2007	Florida	Levy	23	84	0.70	Oxygen Depletion	20,075	2,134	9,201	4.312	0.458	0.106
2007	Florida	Levy	23	85	0.50	Oxygen Depletion	69,346	4,862	22,412	4.610	0.323	0.070
2007	Florida	Levy	23	85	0.60	Oxygen Depletion	92,820	4,051	3,396	0.838	0.037	0.044
2007	Florida	Levy	23	85	0.70	Oxygen Depletion	218,329	26,057	12,262	0.471	0.056	0.119
2007	Florida	Levy	23	86	0.60	Oxygen Depletion	1,176,462	89,922	7,094	0.079	0.006	0.076
2007	Florida	Levy	23	86	0.65	Oxygen Depletion	1,393,012	120,134	28,905	0.241	0.021	0.086
2007	Florida	Levy	23	86	0.70	Oxygen Depletion	795,936	75,268	118,275	1.571	0.149	0.095
2007	Florida	Levy	23	86	0.75	Oxygen Depletion	560,490	54,622	76,470	1.400	0.136	0.097
2007	Florida	Levy	23	86	0.75	Salinity	560,490	54,622	92,998	1.703	0.166	0.097
2007	Massachusetts	Barnstable	24	85	0.50	Disease, Aquaculture	549,992	9,901	34,411	3.476	0.063	0.018

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Crop Year, County, Practice Code, Coverage Level and Cause of Loss
Table 5.5
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Practice Code	Type Code	Coverage Level	Description	Liability	Premium	Indemnity	Partial Loss Ratio	Loss Cost Ratio	Earned Premium Ratio
2007	Massachusetts	Barnstable	24	85	0.50	Ice Floe	549,992	9,901	18,605	1.879	0.034	0.018
2007	Massachusetts	Barnstable	24	85	0.60	Freeze	467,208	11,354	3,940	0.347	0.008	0.024
2007	Massachusetts	Barnstable	24	85	0.65	Ice Floe	324,008	10,083	29,562	2.932	0.091	0.031
2007	Virginia	Accomack	24	84	0.65	Freeze	514,994	14,918	22,680	1.520	0.044	0.029
2007	Virginia	Accomack	24	85	0.70	Freeze	264,726	11,648	21,809	1.872	0.082	0.044
2008	Florida	Brevard	24	85	0.65	Salinity	9,802	450	9,802	21.782	1.000	0.046
2008	Florida	Brevard	24	86	0.65	Salinity	46,410	3,843	24,488	6.372	0.528	0.083
2008	Florida	Indian River	23	86	0.70	Disease, Aquaculture	23,520	2,223	7,461	3.356	0.317	0.095
2008	Florida	Levy	23	84	0.75	Oxygen Depletion	85,050	14,007	59,276	4.232	0.697	0.165
2008	Florida	Levy	23	85	0.70	Storm Surge	90,164	10,711	31,488	2.940	0.349	0.119
2008	Florida	Levy	23	85	0.75	Oxygen Depletion	40,163	5,314	27,216	5.122	0.678	0.132
2008	Florida	Levy	23	86	0.65	Oxygen Depletion	84,873	7,808	11,088	1.420	0.131	0.092
2008	Florida	Levy	23	86	0.70	Salinity	309,523	29,251	69,505	2.376	0.225	0.095
2008	Florida	Levy	23	86	0.75	Oxygen Depletion	860,089	65,883	11,902	0.181	0.014	0.077
2008	Florida	Levy	23	86	0.75	Salinity	860,089	65,883	93,794	1.424	0.109	0.077
2008	Massachusetts	Barnstable	24	85	0.50	Freeze	423,313	8,792	22,089	2.512	0.052	0.021
2008	Massachusetts	Barnstable	24	85	0.65	Freeze	279,817	10,074	38,936	3.865	0.139	0.036
2009	Florida	Levy	23	84	0.50	Salinity	735,310	31,189	119,439	3.830	0.162	0.042
2009	Florida	Levy	23	84	0.70	Salinity	19,228	2,267	13,699	6.043	0.712	0.118
2009	Florida	Levy	23	84	0.75	Salinity	122,472	8,344	109,650	13.141	0.895	0.068
2009	Florida	Levy	23	85	0.50	Salinity	883,943	37,741	139,031	3.684	0.157	0.043
2009	Florida	Levy	23	85	0.70	Salinity	121,552	11,596	22,952	1.979	0.189	0.095
2009	Florida	Levy	23	85	0.75	Salinity	116,956	10,751	40,232	3.742	0.344	0.092
2009	Florida	Levy	23	86	0.50	Salinity	1,442,668	55,430	169,415	3.056	0.117	0.038
2009	Florida	Levy	23	86	0.60	Salinity	151,200	8,981	147,838	16.461	0.978	0.059
2009	Florida	Levy	23	86	0.70	Salinity	202,696	15,323	116,580	7.608	0.575	0.076
2009	Florida	Levy	23	86	0.75	Salinity	496,339	40,221	449,589	11.178	0.906	0.081
2009	Virginia	Accomack	24	84	0.65	Storm Surge	663,000	17,244	199,368	11.562	0.301	0.026
2009	Virginia	Accomack	24	85	0.65	Storm Surge	1,434,591	36,961	28,720	0.777	0.020	0.026
2010	Florida	Brevard	24	84	0.65	Other	1,997	207	1,997	9.647	1.000	0.104
2010	Florida	Brevard	24	86	0.65	Other	2,574	171	2,574	15.053	1.000	0.066
2010	Florida	Levy	23	85	0.75	Freeze	11,946	1,410	8,134	5.769	0.681	0.118
2010	Florida	Levy	23	86	0.75	Freeze	129,585	12,181	41,656	3.420	0.321	0.094
2010	Massachusetts	Barnstable	24	85	0.65	Oxygen Depletion	366,816	10,637	18,658	1.754	0.051	0.029
2010	Virginia	Accomack	24	84	0.60	Storm Surge	106,110	2,546	24,300	9.544	0.229	0.024
2010	Virginia	Accomack	24	84	0.70	Freeze	22,050	848	12,362	14.578	0.561	0.038
2010	Virginia	Accomack	24	85	0.70	Freeze	160,020	5,222	16,409	3.142	0.103	0.033

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Primary and Secondary Cause of Loss
Table 5.6
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Type Code	Primary Cause	Primary Percent	Secondary Cause	Policy Count	Indemnity
2000	80	Disease, Aquaculture	100%		-	5,027
2000	80	Freeze	100%		1	6,900
2000	80	Hurricane	70%	Salinity	1	37,855
2000	80	Hurricane	100%		1	102,429
2000	80	Salinity	100%		6	263,518
2000	82	Disease, Aquaculture	100%		6	200,731
2000	82	Excess Wind	100%		1	25,740
2000	82	Freeze	100%		14	141,979
2000	82	Hurricane	100%		18	332,244
2000	82	Other	100%		1	14,160
2000	82	Oxygen Depletion	100%		14	344,641
2000	82	Salinity	100%		27	554,367
2000	82	Storm Surge	100%		1	39,984
2001	80	Disease, Aquaculture	100%		-	72,000
2001	80	Freeze	100%		3	64,828
2001	80	Hurricane	100%		3	11,772
2001	80	Oxygen Depletion	100%		1	18,448
2001	80	Salinity	90%	Storm Surge	-	-
2001	80	Salinity	100%		8	71,006
2001	80	Storm Surge	100%		10	183,184
2001	82	Disease, Aquaculture	100%		1	79,200
2001	82	Freeze	100%		1	150,000
2001	82	Hurricane	100%		21	682,898
2001	82	Salinity	75%	Storm Surge	1	32,539
2001	82	Salinity	90%	Storm Surge	3	17,391
2001	82	Salinity	100%		38	587,430
2001	82	Storm Surge	100%		22	910,002
2002	80	Freeze	70%		1	2,456
2002	80	Freeze	100%		5	95,375
2002	80	Oxygen Depletion	60%	Salinity	2	23,764
2002	80	Oxygen Depletion	100%		2	20,637
2002	80	Salinity	100%		18	415,808
2002	80	Salinity	100%	Storm Surge	1	34,266
2002	80	Storm Surge	100%		7	113,123
2002	82	Disease, Aquaculture	100%		1	51,607
2002	82	Freeze	100%		2	113,148
2002	82	Other	100%		2	63,542
2002	82	Oxygen Depletion	60%	Salinity	2	63,372
2002	82	Oxygen Depletion	70%		1	38,952
2002	82	Oxygen Depletion	100%		9	226,521
2002	82	Salinity	100%		55	1,603,599

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Primary and Secondary Cause of Loss
Table 5.6
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Type Code	Primary Cause	Primary Percent	Secondary Cause	Policy Count	Indemnity
2002	82	Storm Surge	100%		26	1,153,078
2003	80	Freeze	51%	Hurricane	1	22,950
2003	80	Freeze	100%		3	90,057
2003	80	Hurricane	100%		1	35,542
2003	80	Oxygen Depletion	100%		-	22,062
2003	80	Salinity	100%		6	29,661
2003	80	Storm Surge	100%		3	101,576
2003	82	Excess Wind	100%		1	15,288
2003	82	Freeze	51%	Hurricane	1	46,410
2003	82	Freeze	100%		7	309,667
2003	82	Oxygen Depletion	100%		2	34,727
2003	82	Salinity	70%	Excess Wind	1	43,390
2003	82	Salinity	100%		66	1,762,413
2003	82	Storm Surge	100%		3	260,777
2004	84	Freeze	100%		9	444,966
2004	84	Hurricane	100%		37	497,745
2004	84	Salinity	100%		1	40,209
2004	84	Storm Surge	100%		4	84,379
2004	85	Disease, Aquaculture	100%		1	55,788
2004	85	Freeze	100%		11	546,696
2004	85	Hurricane	90%	Oxygen Depletion	1	10,059
2004	85	Hurricane	100%		42	473,042
2004	86	Hurricane	100%		3	23,654
2004	86	Salinity	100%		1	3,987
2004	86	Storm Surge	100%		1	1,877
2005	84	Disease, Aquaculture	100%		1	108,936
2005	84	Hurricane	100%		1	5,168
2005	84	Other	100%		1	53,007
2005	84	Salinity	100%		1	3,518
2005	84	Storm Surge	100%		1	4,655
2005	85	Freeze	100%		1	7,759
2005	85	Hurricane	100%		1	4,418
2005	85	Ice Floe	100%		1	265,074
2005	85	Storm Surge	100%		2	45,756
2005	86	Hurricane	100%		4	74,063
2005	86	Salinity	100%		2	33,044
2005	86	Tidal Wave	100%		1	19,055
2006	84	Freeze	100%		1	3,377
2006	84	Hurricane	100%		1	3,401
2006	84	Oxygen Depletion	100%		1	36,070
2006	85	Freeze	100%		1	92,591

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Primary and Secondary Cause of Loss
Table 5.6
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	Type Code	Primary Cause	Primary Percent	Secondary Cause	Policy Count	Indemnity
2006	85	Hurricane	100%		2	108,916
2006	85	Ice Floe	100%		2	27,065
2006	86	Oxygen Depletion	100%		4	237,480
2006	86	Storm Surge	100%		4	168,313
2007	84	Freeze	100%		1	22,680
2007	84	Oxygen Depletion	100%		1	9,201
2007	85	Disease, Aquaculture	100%		1	34,411
2007	85	Freeze	100%		2	25,749
2007	85	Ice Floe	100%		3	48,167
2007	85	Oxygen Depletion	100%		3	38,070
2007	86	Oxygen Depletion	100%		7	230,744
2007	86	Salinity	100%		1	92,998
2008	84	Oxygen Depletion	100%		2	59,276
2008	85	Freeze	100%		2	61,025
2008	85	Oxygen Depletion	100%		-	27,216
2008	85	Salinity	100%		-	9,802
2008	85	Storm Surge	100%		1	31,488
2008	86	Disease, Aquaculture	100%		1	7,461
2008	86	Oxygen Depletion	100%		1	22,990
2008	86	Salinity	100%		4	187,787
2009	84	Salinity	100%		3	242,788
2009	84	Storm Surge	100%		1	199,368
2009	85	Salinity	100%		4	202,215
2009	85	Storm Surge	100%		1	28,720
2009	86	Salinity	100%		12	883,422
2010	84	Freeze	50%	Freeze	-	12,362
2010	84	Other	100%		-	1,997
2010	84	Storm Surge	100%		1	24,300
2010	85	Freeze	100%		1	24,543
2010	85	Oxygen Depletion	100%		1	18,658
2010	86	Freeze	100%		1	41,656
2010	86	Other	100%		1	2,574

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Primary and Secondary Cause of Loss by County and Coverage Level
Table 5.7
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Type Code	Coverage Level	Primary Cause	Primary Percent	Secondary Cause	Policy Count	Indemnity
2000	Florida	Brevard	80	0.65	Salinity	100%		1	82,690
2000	Florida	Brevard	82	0.65	Disease, Aquaculture	100%		1	12,782
2000	Florida	Brevard	82	0.65	Excess Wind	100%		1	25,740
2000	Florida	Brevard	82	0.65	Oxygen Depletion	100%		1	9,492
2000	Florida	Brevard	82	0.70	Freeze	100%		1	899
2000	Florida	Dixie	80	0.50	Salinity	100%		1	2,250
2000	Florida	Dixie	80	0.65	Salinity	100%		2	168,675
2000	Florida	Dixie	82	0.50	Hurricane	100%		1	28,365
2000	Florida	Dixie	82	0.50	Oxygen Depletion	100%		4	46,855
2000	Florida	Dixie	82	0.50	Salinity	100%		3	3,921
2000	Florida	Dixie	82	0.55	Salinity	100%		1	7,742
2000	Florida	Dixie	82	0.65	Freeze	100%		1	18,332
2000	Florida	Dixie	82	0.65	Oxygen Depletion	100%		3	64,798
2000	Florida	Dixie	82	0.65	Salinity	100%		14	356,619
2000	Florida	Indian River	80	0.65	Disease, Aquaculture	100%		-	5,027
2000	Florida	Indian River	82	0.50	Disease, Aquaculture	100%		1	9,749
2000	Florida	Indian River	82	0.65	Disease, Aquaculture	100%		4	178,200
2000	Florida	Indian River	82	0.65	Hurricane	100%		1	33,183
2000	Florida	Indian River	82	0.65	Salinity	100%		1	34,398
2000	Florida	Levy	80	0.50	Salinity	100%		1	5,279
2000	Florida	Levy	80	0.65	Freeze	100%		1	6,900
2000	Florida	Levy	80	0.65	Hurricane	70%	Salinity	1	37,855
2000	Florida	Levy	80	0.65	Hurricane	100%		1	102,429
2000	Florida	Levy	80	0.65	Salinity	100%		1	4,570
2000	Florida	Levy	80	0.75	Salinity	100%		-	54
2000	Florida	Levy	82	0.50	Hurricane	100%		4	30,639
2000	Florida	Levy	82	0.60	Oxygen Depletion	100%		1	41,840
2000	Florida	Levy	82	0.65	Hurricane	100%		11	222,687
2000	Florida	Levy	82	0.65	Other	100%		1	14,160
2000	Florida	Levy	82	0.65	Oxygen Depletion	100%		2	81,407
2000	Florida	Levy	82	0.65	Salinity	100%		4	79,225
2000	Florida	Levy	82	0.65	Storm Surge	100%		1	39,984
2000	Florida	Levy	82	0.70	Salinity	100%		2	34,964
2000	Florida	Levy	82	0.75	Freeze	100%		1	14,942
2000	Florida	Levy	82	0.75	Hurricane	100%		1	17,370
2000	Florida	Levy	82	0.75	Oxygen Depletion	100%		3	100,249
2000	Florida	Levy	82	0.75	Salinity	100%		2	37,498
2000	assachuset	Barnstable	82	0.60	Freeze	100%		2	13,822
2000	assachuset	Barnstable	82	0.65	Freeze	100%		8	85,992
2000	assachuset	Barnstable	82	0.75	Freeze	100%		1	7,992
2001	Florida	Brevard	80	0.65	Oxygen Depletion	100%		1	18,448
2001	Florida	Brevard	80	0.70	Hurricane	100%		1	3,902
2001	Florida	Brevard	80	0.70	Salinity	100%		2	7,867
2001	Florida	Brevard	80	0.75	Salinity	100%		2	20,229
2001	Florida	Brevard	82	0.65	Salinity	100%		2	16,622
2001	Florida	Brevard	82	0.70	Hurricane	100%		11	375,430
2001	Florida	Brevard	82	0.70	Salinity	100%		3	77,578
2001	Florida	Dixie	80	0.65	Salinity	100%		-	-
2001	Florida	Dixie	80	0.75	Storm Surge	100%		2	5,108
2001	Florida	Dixie	82	0.50	Salinity	100%		5	17,075
2001	Florida	Dixie	82	0.50	Storm Surge	100%		1	16,112

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Primary and Secondary Cause of Loss by County and Coverage Level
Table 5.7
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Type Code	Coverage Level	Primary Cause	Primary Percent	Secondary Cause	Policy Count	Indemnity
2001	Florida	Dixie	82	0.65	Salinity	100%		10	51,215
2001	Florida	Dixie	82	0.70	Storm Surge	100%		1	19,904
2001	Florida	Dixie	82	0.75	Storm Surge	100%		1	6,770
2001	Florida	Indian River	80	0.70	Hurricane	100%		1	3,990
2001	Florida	Indian River	80	0.75	Hurricane	100%		1	3,880
2001	Florida	Indian River	80	0.75	Salinity	100%		1	5,752
2001	Florida	Indian River	82	0.65	Salinity	100%		1	10,726
2001	Florida	Indian River	82	0.70	Hurricane	100%		7	174,317
2001	Florida	Indian River	82	0.70	Salinity	100%		3	161,625
2001	Florida	Levy	80	0.65	Salinity	90%	Storm Surge	-	-
2001	Florida	Levy	80	0.65	Salinity	100%		2	23,905
2001	Florida	Levy	80	0.65	Storm Surge	100%		-	-
2001	Florida	Levy	80	0.70	Freeze	100%		1	1,535
2001	Florida	Levy	80	0.70	Salinity	100%		-	8,736
2001	Florida	Levy	80	0.70	Storm Surge	100%		4	157,327
2001	Florida	Levy	80	0.75	Freeze	100%		1	10,107
2001	Florida	Levy	80	0.75	Salinity	100%		1	4,517
2001	Florida	Levy	80	0.75	Storm Surge	100%		4	20,749
2001	Florida	Levy	82	0.50	Salinity	90%	Storm Surge	1	2,712
2001	Florida	Levy	82	0.50	Salinity	100%		1	3,551
2001	Florida	Levy	82	0.50	Storm Surge	100%		1	42,941
2001	Florida	Levy	82	0.60	Salinity	100%		1	18,111
2001	Florida	Levy	82	0.65	Hurricane	100%		3	133,151
2001	Florida	Levy	82	0.65	Salinity	75%	Storm Surge	1	32,539
2001	Florida	Levy	82	0.65	Salinity	90%	Storm Surge	2	14,679
2001	Florida	Levy	82	0.65	Salinity	100%		7	110,278
2001	Florida	Levy	82	0.65	Storm Surge	100%		10	432,688
2001	Florida	Levy	82	0.70	Salinity	100%		3	58,690
2001	Florida	Levy	82	0.70	Storm Surge	100%		7	333,287
2001	Florida	Levy	82	0.75	Salinity	100%		2	61,959
2001	Florida	Levy	82	0.75	Storm Surge	100%		1	58,300
2001	assachuset	Barnstable	82	0.50	Freeze	100%		1	150,000
2001	Virginia	Northampton	80	0.50	Disease, Aquaculture	100%		-	72,000
2001	Virginia	Northampton	80	0.60	Freeze	100%		1	53,186
2001	Virginia	Northampton	82	0.50	Disease, Aquaculture	100%		1	79,200
2002	Florida	Brevard	80	0.65	Oxygen Depletion	60%	Salinity	-	10,806
2002	Florida	Brevard	80	0.70	Oxygen Depletion	60%	Salinity	1	11,062
2002	Florida	Brevard	80	0.70	Oxygen Depletion	100%		1	12,978
2002	Florida	Brevard	80	0.75	Oxygen Depletion	100%		1	1,668
2002	Florida	Brevard	82	0.65	Oxygen Depletion	60%	Salinity	1	47,120
2002	Florida	Brevard	82	0.65	Oxygen Depletion	100%		1	17,620
2002	Florida	Brevard	82	0.65	Salinity	100%		1	32,137
2002	Florida	Brevard	82	0.70	Salinity	100%		1	112,659
2002	Florida	Brevard	82	0.75	Salinity	100%		1	27,965
2002	Florida	Dixie	80	0.65	Oxygen Depletion	100%		-	5,991
2002	Florida	Dixie	80	0.65	Salinity	100%		6	25,555
2002	Florida	Dixie	80	0.75	Freeze	100%		1	1,597

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Primary and Secondary Cause of Loss by County and Coverage Level
Table 5.7
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Type Code	Coverage Level	Primary Cause	Primary Percent	Secondary Cause	Policy Count	Indemnity
2002	Florida	Dixie	80	0.75	Storm Surge	100%		1	12,724
2002	Florida	Dixie	82	0.60	Salinity	100%		1	13,487
2002	Florida	Dixie	82	0.65	Other	100%		1	10,315
2002	Florida	Dixie	82	0.65	Oxygen Depletion	100%		2	10,575
2002	Florida	Dixie	82	0.65	Salinity	100%		12	78,476
2002	Florida	Indian River	80	0.70	Salinity	100%		1	31,885
2002	Florida	Indian River	80	0.75	Salinity	100%		1	65,019
2002	Florida	Indian River	82	0.70	Salinity	100%		1	29,784
2002	Florida	Indian River	82	0.75	Oxygen Depletion	100%		1	7,062
2002	Florida	Levy	80	0.50	Oxygen Depletion	60%	Salinity	1	1,896
2002	Florida	Levy	80	0.65	Freeze	70%		1	2,456
2002	Florida	Levy	80	0.65	Salinity	100%		7	265,643
2002	Florida	Levy	80	0.65	Salinity	100%	Storm Surge	1	34,266
2002	Florida	Levy	80	0.65	Storm Surge	100%		4	35,936
2002	Florida	Levy	80	0.70	Freeze	100%		1	79,969
2002	Florida	Levy	80	0.70	Salinity	100%		1	3,236
2002	Florida	Levy	80	0.70	Storm Surge	100%		1	28,763
2002	Florida	Levy	80	0.75	Freeze	100%		3	13,809
2002	Florida	Levy	80	0.75	Salinity	100%		2	24,470
2002	Florida	Levy	82	0.50	Storm Surge	100%		1	25,119
2002	Florida	Levy	82	0.65	Oxygen Depletion	70%		1	38,952
2002	Florida	Levy	82	0.65	Oxygen Depletion	100%		2	68,876
2002	Florida	Levy	82	0.65	Salinity	100%		26	849,238
2002	Florida	Levy	82	0.65	Storm Surge	100%		9	322,678
2002	Florida	Levy	82	0.70	Freeze	100%		1	52,766
2002	Florida	Levy	82	0.70	Other	100%		1	53,227
2002	Florida	Levy	82	0.70	Oxygen Depletion	100%		3	122,388
2002	Florida	Levy	82	0.70	Salinity	100%		6	203,735
2002	Florida	Levy	82	0.70	Storm Surge	100%		7	383,350
2002	Florida	Levy	82	0.75	Freeze	100%		1	60,382
2002	Florida	Levy	82	0.75	Oxygen Depletion	60%	Salinity	1	16,252
2002	Florida	Levy	82	0.75	Salinity	100%		6	256,118
2002	Florida	Levy	82	0.75	Storm Surge	100%		8	414,822
2002	Virginia	Northampton	80	0.50	Storm Surge	100%		1	35,700
2002	Virginia	Northampton	82	0.50	Storm Surge	100%		1	7,109
2002	Virginia	Northampton	82	0.60	Disease, Aquaculture	100%		1	51,607
2003	Florida	Brevard	80	0.65	Oxygen Depletion	100%		-	22,062
2003	Florida	Brevard	82	0.65	Oxygen Depletion	100%		2	34,727
2003	Florida	Brevard	82	0.65	Salinity	100%		1	29,376
2003	Florida	Brevard	82	0.75	Salinity	100%		1	126,815
2003	Florida	Dixie	80	0.65	Salinity	100%		1	7,508
2003	Florida	Dixie	80	0.70	Salinity	100%		1	1,388
2003	Florida	Dixie	82	0.65	Salinity	100%		7	73,123
2003	Florida	Dixie	82	0.70	Salinity	100%		10	191,887
2003	Florida	Dixie	82	0.75	Salinity	100%		1	2,250
2003	Florida	Indian River	80	0.70	Salinity	100%		1	1,224
2003	Florida	Indian River	82	0.70	Salinity	100%		1	10,616
2003	Florida	Indian River	82	0.75	Salinity	100%		3	75,080
2003	Florida	Levy	80	0.65	Salinity	100%		1	5,360
2003	Florida	Levy	80	0.75	Salinity	100%		2	14,181

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Primary and Secondary Cause of Loss by County and Coverage Level
Table 5.7
Clams
Florida, Massachusetts, South Carolina, Virginia

Crop Year	State Abbrev	County Name	Type Code	Coverage Level	Primary Cause	Primary Percent	Secondary Cause	Policy Count	Indemnity
2003	Florida	Levy	80	0.75	Storm Surge	100%		1	49,245
2003	Florida	Levy	82	0.65	Salinity	100%		11	232,979
2003	Florida	Levy	82	0.70	Excess Wind	100%		1	15,288
2003	Florida	Levy	82	0.70	Salinity	70%	Excess Wind	1	43,390
2003	Florida	Levy	82	0.70	Salinity	100%		13	370,105
2003	Florida	Levy	82	0.75	Salinity	100%		18	650,182
2003	assachuset	Barnstable	80	0.50	Freeze	100%		2	13,547
2003	assachuset	Barnstable	82	0.60	Freeze	100%		1	4,288
2003	assachuset	Barnstable	82	0.65	Freeze	100%		3	154,824
2003	assachuset	Barnstable	82	0.75	Freeze	100%		1	16,861
2003	outh Carolir	Charleston	82	0.50	Storm Surge	100%		1	77,599
2003	Virginia	Accomack	80	0.50	Freeze	100%		1	76,510
2003	Virginia	Accomack	80	0.50	Hurricane	100%		1	35,542
2003	Virginia	Accomack	80	0.50	Storm Surge	100%		1	35,542
2003	Virginia	Accomack	82	0.50	Freeze	100%		1	127,841
2003	Virginia	Northampton	80	0.50	Freeze	51%	Hurricane	1	22,950
2003	Virginia	Northampton	80	0.60	Storm Surge	100%		1	16,789
2003	Virginia	Northampton	82	0.50	Freeze	51%	Hurricane	1	46,410
2003	Virginia	Northampton	82	0.50	Freeze	100%		1	5,853
2003	Virginia	Northampton	82	0.50	Storm Surge	100%		2	183,178
2004	Florida	Brevard	84	0.70	Hurricane	100%		2	15,566
2004	Florida	Brevard	84	0.75	Hurricane	100%		1	11,813
2004	Florida	Brevard	85	0.70	Hurricane	100%		1	2,031
2004	Florida	Brevard	85	0.75	Hurricane	100%		1	14,306
2004	Florida	Brevard	86	0.65	Hurricane	100%		2	16,492
2004	Florida	Dixie	84	0.65	Hurricane	100%		1	10,103
2004	Florida	Dixie	84	0.70	Hurricane	100%		2	4,429
2004	Florida	Dixie	85	0.50	Hurricane	100%		1	13,437
2004	Florida	Dixie	85	0.65	Hurricane	100%		4	12,689
2004	Florida	Dixie	85	0.70	Hurricane	100%		9	67,214
2004	Florida	Dixie	85	0.75	Hurricane	100%		1	16,619
2004	Florida	Dixie	86	0.65	Storm Surge	100%		1	1,877
2004	Florida	Indian River	84	0.75	Hurricane	100%		2	21,419
2004	Florida	Indian River	85	0.50	Hurricane	100%		1	7,845
2004	Florida	Indian River	85	0.70	Hurricane	100%		3	28,894
2004	Florida	Indian River	85	0.75	Hurricane	90%	Oxygen Depletion	1	10,059
2004	Florida	Indian River	85	0.75	Hurricane	100%		4	109,298
2004	Florida	Levy	84	0.50	Hurricane	100%		4	35,529
2004	Florida	Levy	84	0.60	Hurricane	100%		1	12,499
2004	Florida	Levy	84	0.65	Hurricane	100%		10	231,859
2004	Florida	Levy	84	0.70	Hurricane	100%		3	32,324
2004	Florida	Levy	84	0.75	Hurricane	100%		11	122,204
2004	Florida	Levy	84	0.75	Salinity	100%		1	40,209
2004	Florida	Levy	85	0.50	Hurricane	100%		5	76,858
2004	Florida	Levy	85	0.60	Hurricane	100%		2	32,574
2004	Florida	Levy	85	0.65	Hurricane	100%		1	7,792
2004	Florida	Levy	85	0.70	Hurricane	100%		6	47,620
2004	Florida	Levy	85	0.75	Hurricane	100%		3	35,865
2004	Florida	Levy	86	0.75	Hurricane	100%		1	7,162

Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Primary and Secondary Cause of Loss by County and Coverage Level
Table 5.7
Clams
Florida, Massachusetts, South Carolina, Virginia

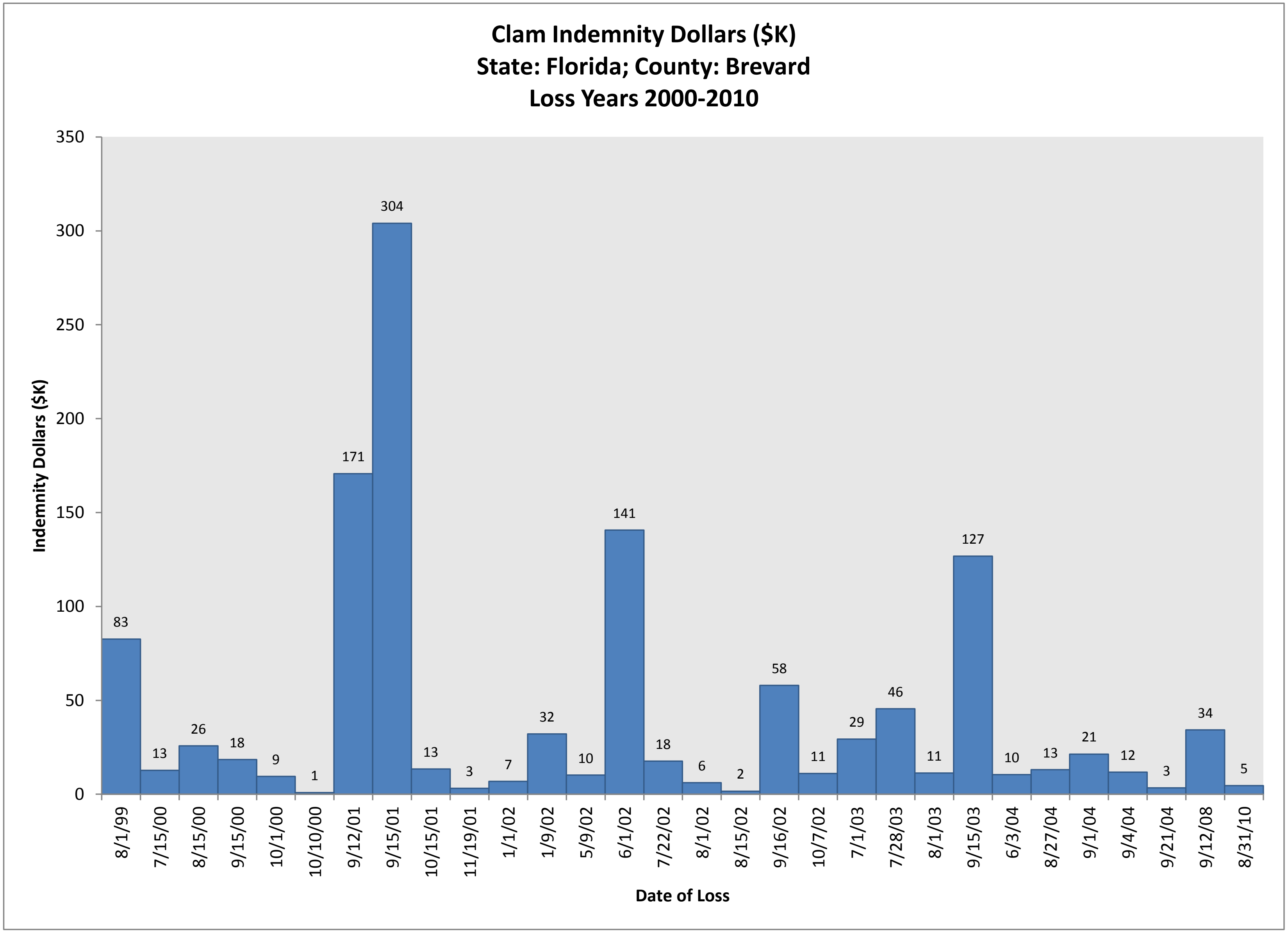
Crop Year	State Abbrev	County Name	Type Code	Coverage Level	Primary Cause	Primary Percent	Secondary Cause	Policy Count	Indemnity
2004	Florida	Levy	86	0.75	Salinity	100%		1	3,987
2004	assachuset	Barnstable	84	0.65	Freeze	100%		2	15,528
2004	assachuset	Barnstable	85	0.55	Disease, Aquaculture	100%		1	55,788
2004	assachuset	Barnstable	85	0.65	Freeze	100%		-	6,642
2004	outh Carolir	Charleston	84	0.55	Storm Surge	100%		1	31,938
2004	Virginia	Accomack	84	0.50	Freeze	100%		2	200,176
2004	Virginia	Accomack	84	0.55	Freeze	100%		2	65,554
2004	Virginia	Accomack	84	0.60	Freeze	100%		-	19,445
2004	Virginia	Accomack	84	0.65	Freeze	100%		1	46,893
2004	Virginia	Accomack	85	0.50	Freeze	100%		3	54,819
2004	Virginia	Accomack	85	0.55	Freeze	100%		-	43,703
2004	Virginia	Accomack	85	0.60	Freeze	100%		3	256,492
2004	Virginia	Northampton	84	0.50	Freeze	100%		2	97,370
2004	Virginia	Northampton	84	0.50	Storm Surge	100%		3	52,441
2004	Virginia	Northampton	85	0.50	Freeze	100%		4	153,494
2004	Virginia	Northampton	85	0.60	Freeze	100%		1	31,546
2005	Florida	Dixie	84	0.70	Hurricane	100%		1	5,168
2005	Florida	Dixie	85	0.70	Storm Surge	100%		1	24,577
2005	Florida	Dixie	86	0.70	Hurricane	100%		1	7,659
2005	Florida	Dixie	86	0.75	Salinity	100%		1	19,156
2005	Florida	Levy	84	0.65	Salinity	100%		1	3,518
2005	Florida	Levy	84	0.75	Other	100%		1	53,007
2005	Florida	Levy	85	0.50	Storm Surge	100%		1	19,570
2005	Florida	Levy	85	0.65	Hurricane	100%		1	4,418
2005	Florida	Levy	86	0.65	Hurricane	100%		2	11,922
2005	Florida	Levy	86	0.75	Hurricane	100%		1	54,482
2005	Florida	Levy	86	0.75	Salinity	100%		1	13,888
2005	Florida	Levy	86	0.75	Tidal Wave	100%		1	19,055
2005	assachuset	Barnstable	84	0.50	Disease, Aquaculture	100%		1	108,936
2005	assachuset	Barnstable	84	0.65	Storm Surge	100%		1	4,655
2005	assachuset	Barnstable	85	0.65	Ice Floe	100%		1	265,074
2005	assachuset	Barnstable	85	0.65	Storm Surge	100%		-	1,609
2005	assachuset	Barnstable	85	0.70	Freeze	100%		1	7,759
2006	Florida	Levy	84	0.65	Oxygen Depletion	100%		1	36,070
2006	Florida	Levy	86	0.65	Oxygen Depletion	100%		3	168,160
2006	Florida	Levy	86	0.70	Storm Surge	100%		2	89,869
2006	Florida	Levy	86	0.75	Oxygen Depletion	100%		1	69,320
2006	Florida	Levy	86	0.75	Storm Surge	100%		2	78,444
2006	assachuset	Barnstable	84	0.65	Freeze	100%		1	3,377
2006	assachuset	Barnstable	85	0.60	Freeze	100%		1	92,591
2006	assachuset	Barnstable	85	0.60	Ice Floe	100%		1	16,434
2006	assachuset	Barnstable	85	0.65	Ice Floe	100%		1	10,631
2006	Virginia	Northampton	84	0.50	Hurricane	100%		1	3,401
2006	Virginia	Northampton	85	0.50	Hurricane	100%		2	108,916
2007	Florida	Levy	84	0.70	Oxygen Depletion	100%		1	9,201
2007	Florida	Levy	85	0.50	Oxygen Depletion	100%		1	22,412
2007	Florida	Levy	85	0.60	Oxygen Depletion	100%		1	3,396
2007	Florida	Levy	85	0.70	Oxygen Depletion	100%		1	12,262
2007	Florida	Levy	86	0.60	Oxygen Depletion	100%		1	7,094
2007	Florida	Levy	86	0.65	Oxygen Depletion	100%		2	28,905
2007	Florida	Levy	86	0.70	Oxygen Depletion	100%		3	118,275

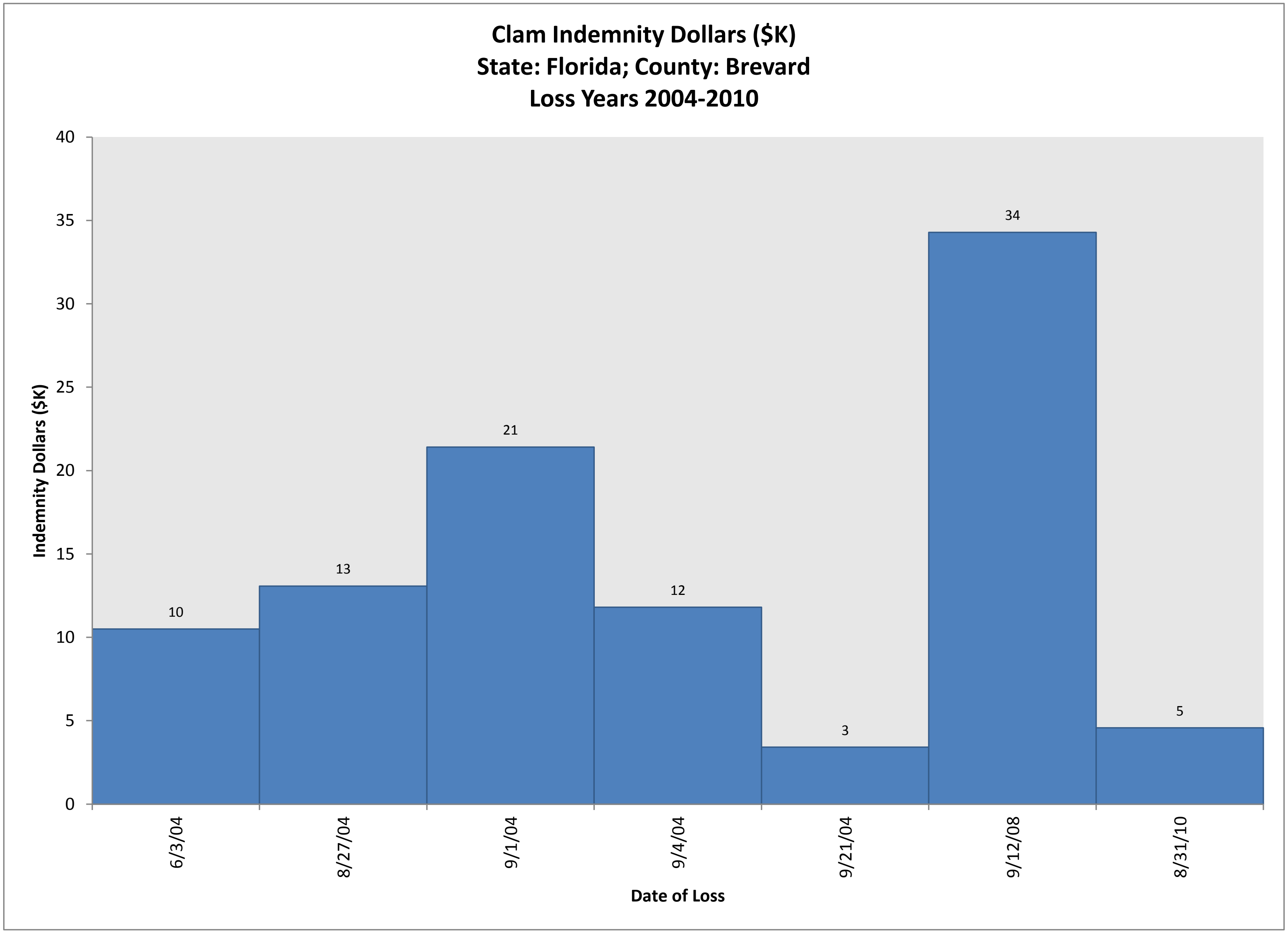
Evaluation of Clams Plans of Insurance
Analysis of Cause of Loss Information by Primary and Secondary Cause of Loss by County and Coverage Level
Table 5.7
Clams
Florida, Massachusetts, South Carolina, Virginia

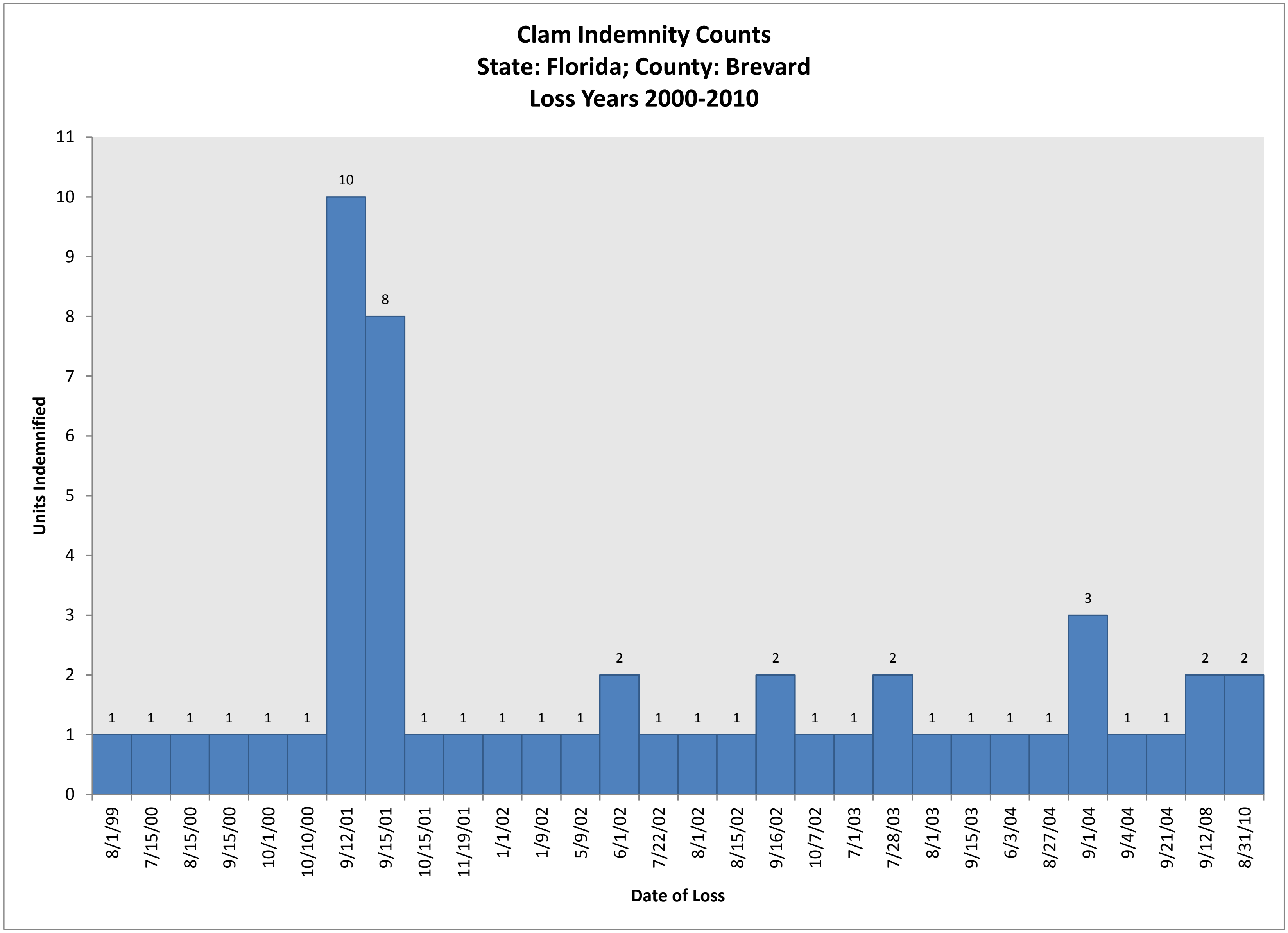
Crop Year	State Abbrev	County Name	Type Code	Coverage Level	Primary Cause	Primary Percent	Secondary Cause	Policy Count	Indemnity
2007	Florida	Levy	86	0.75	Oxygen Depletion	100%		1	76,470
2007	Florida	Levy	86	0.75	Salinity	100%		1	92,998
2007	assachuset	Barnstable	85	0.50	Disease, Aquaculture	100%		1	34,411
2007	assachuset	Barnstable	85	0.50	Ice Floe	100%		1	18,605
2007	assachuset	Barnstable	85	0.60	Freeze	100%		1	3,940
2007	assachuset	Barnstable	85	0.65	Ice Floe	100%		2	29,562
2007	Virginia	Accomack	84	0.65	Freeze	100%		1	22,680
2007	Virginia	Accomack	85	0.70	Freeze	100%		1	21,809
2008	Florida	Brevard	85	0.65	Salinity	100%		-	9,802
2008	Florida	Brevard	86	0.65	Salinity	100%		1	24,488
2008	Florida	Indian River	86	0.70	Disease, Aquaculture	100%		1	7,461
2008	Florida	Levy	84	0.75	Oxygen Depletion	100%		2	59,276
2008	Florida	Levy	85	0.70	Storm Surge	100%		1	31,488
2008	Florida	Levy	85	0.75	Oxygen Depletion	100%		-	27,216
2008	Florida	Levy	86	0.65	Oxygen Depletion	100%		1	11,088
2008	Florida	Levy	86	0.70	Salinity	100%		2	69,505
2008	Florida	Levy	86	0.75	Oxygen Depletion	100%		-	11,902
2008	Florida	Levy	86	0.75	Salinity	100%		1	93,794
2008	assachuset	Barnstable	85	0.50	Freeze	100%		1	22,089
2008	assachuset	Barnstable	85	0.65	Freeze	100%		1	38,936
2009	Florida	Levy	84	0.50	Salinity	100%		3	119,439
2009	Florida	Levy	84	0.70	Salinity	100%		-	13,699
2009	Florida	Levy	84	0.75	Salinity	100%		-	109,650
2009	Florida	Levy	85	0.50	Salinity	100%		3	139,031
2009	Florida	Levy	85	0.70	Salinity	100%		1	22,952
2009	Florida	Levy	85	0.75	Salinity	100%		-	40,232
2009	Florida	Levy	86	0.50	Salinity	100%		3	169,415
2009	Florida	Levy	86	0.60	Salinity	100%		1	147,838
2009	Florida	Levy	86	0.70	Salinity	100%		3	116,580
2009	Florida	Levy	86	0.75	Salinity	100%		5	449,589
2009	Virginia	Accomack	84	0.65	Storm Surge	100%		1	199,368
2009	Virginia	Accomack	85	0.65	Storm Surge	100%		1	28,720
2010	Florida	Brevard	84	0.65	Other	100%		-	1,997
2010	Florida	Brevard	86	0.65	Other	100%		1	2,574
2010	Florida	Levy	85	0.75	Freeze	100%		-	8,134
2010	Florida	Levy	86	0.75	Freeze	100%		1	41,656
2010	assachuset	Barnstable	85	0.65	Oxygen Depletion	100%		1	18,658
2010	Virginia	Accomack	84	0.60	Storm Surge	100%		1	24,300
2010	Virginia	Accomack	84	0.70	Freeze	50%	Freeze	-	12,362
2010	Virginia	Accomack	85	0.70	Freeze	100%		1	16,409

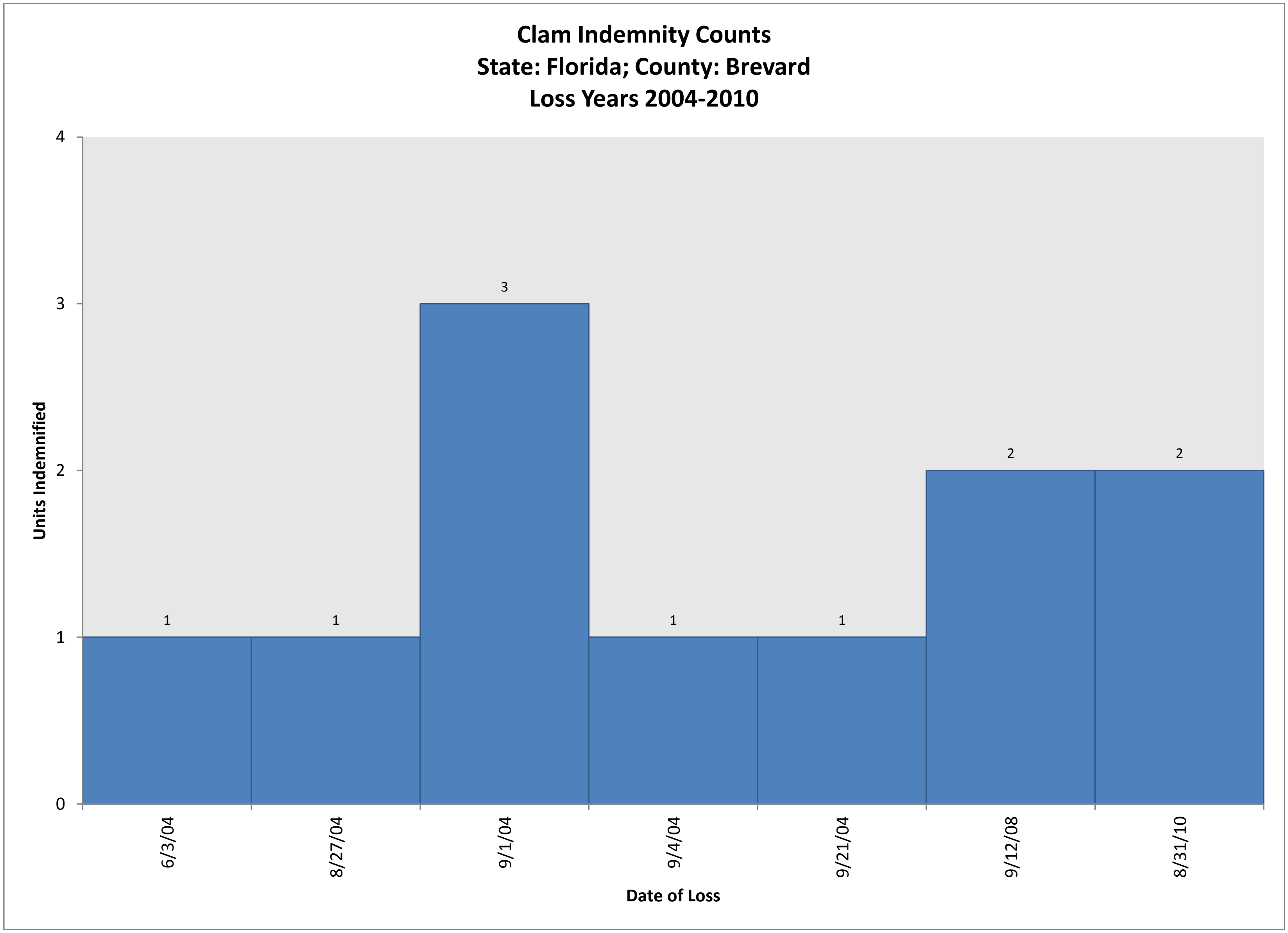
Evaluation of Clams Plans of Insurance
Appendix D: Analysis of Loss Experience By Day
Table of Contents

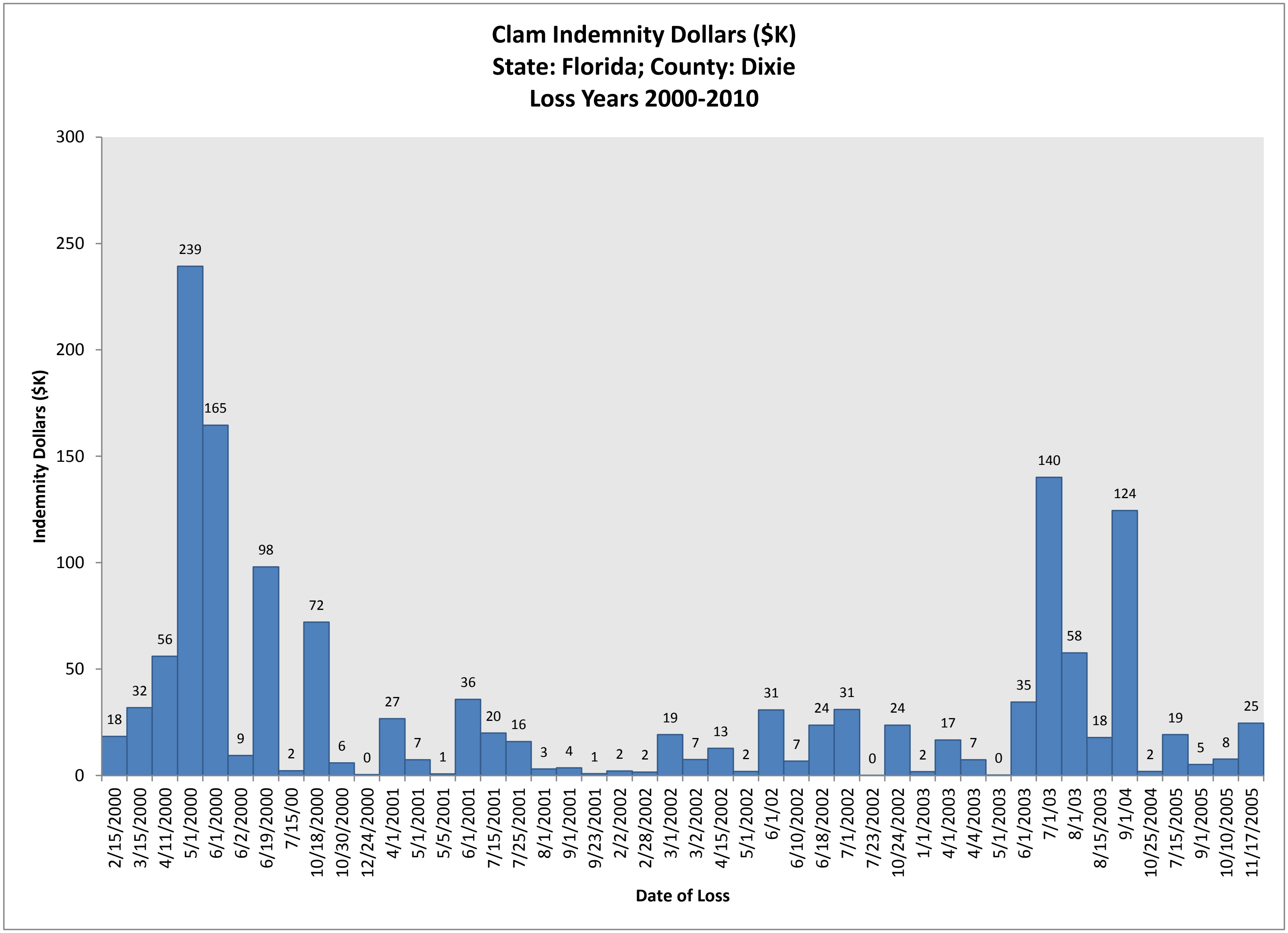
All data for the figures in Appendix D is contained in Appendix E.

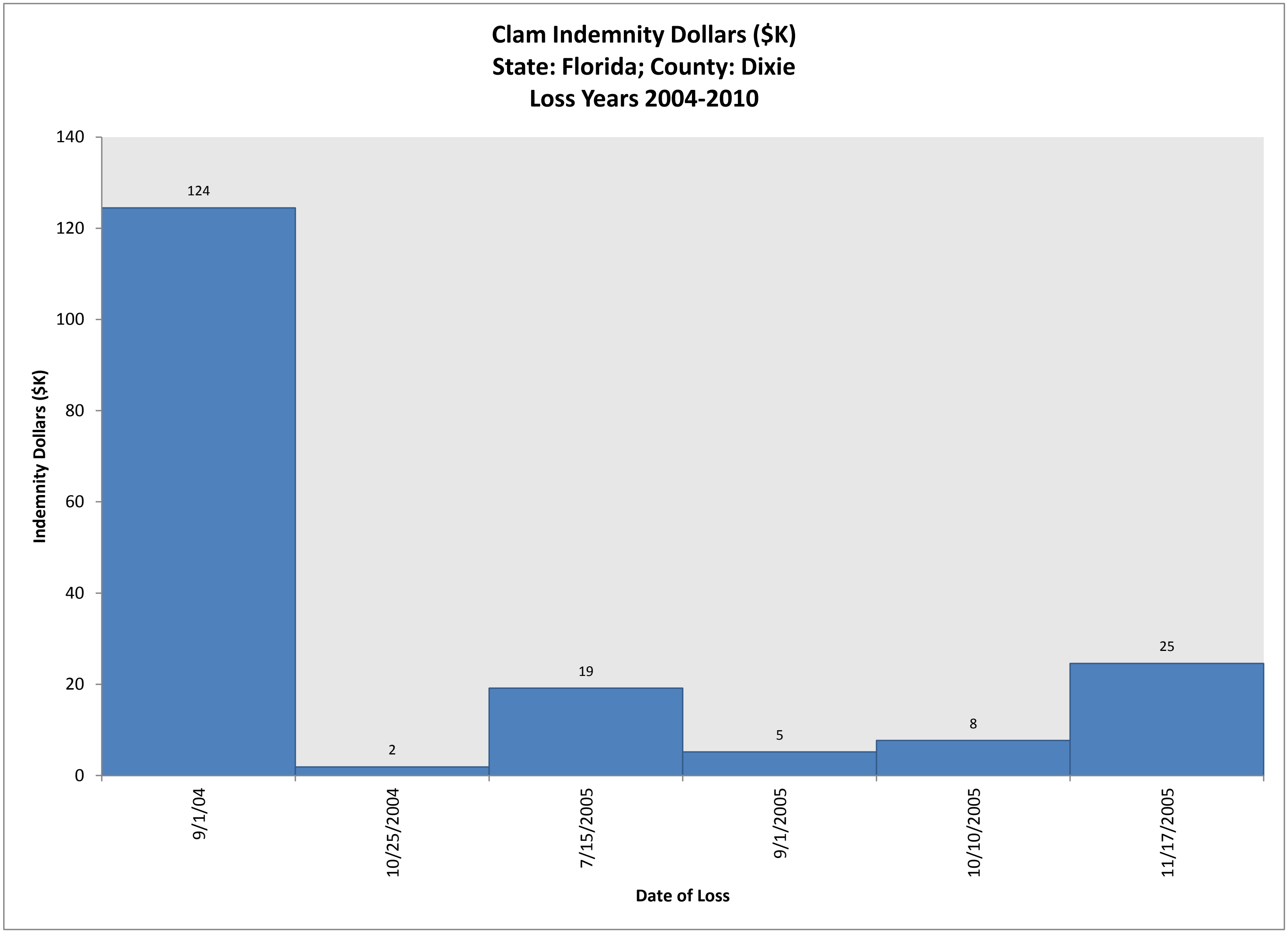

Clam Indemnity Dollars ($K)
State: Florida; County: Brevard
Loss Years 2000-2010
Indemnity Dollars ($K)
Date of Loss
0
50
100
150
200
250
300
350
83
13
26
18
9
1
171
304
13
3
7
32
10
141
18
6
2
58
11
29
46
11
127
10
13
21
12
3
34
5
8/1/99
7/15/00
8/15/00
9/15/00
10/1/00
10/10/00
9/12/01
9/15/01
10/15/01
11/19/01
1/1/02
1/9/02
5/9/02
6/1/02
7/22/02
8/1/02
8/15/02
9/16/02
10/7/02
7/1/03
7/28/03
8/1/03
9/15/03
6/3/04
8/27/04
9/1/04
9/4/04
9/21/04
9/12/08
8/31/10

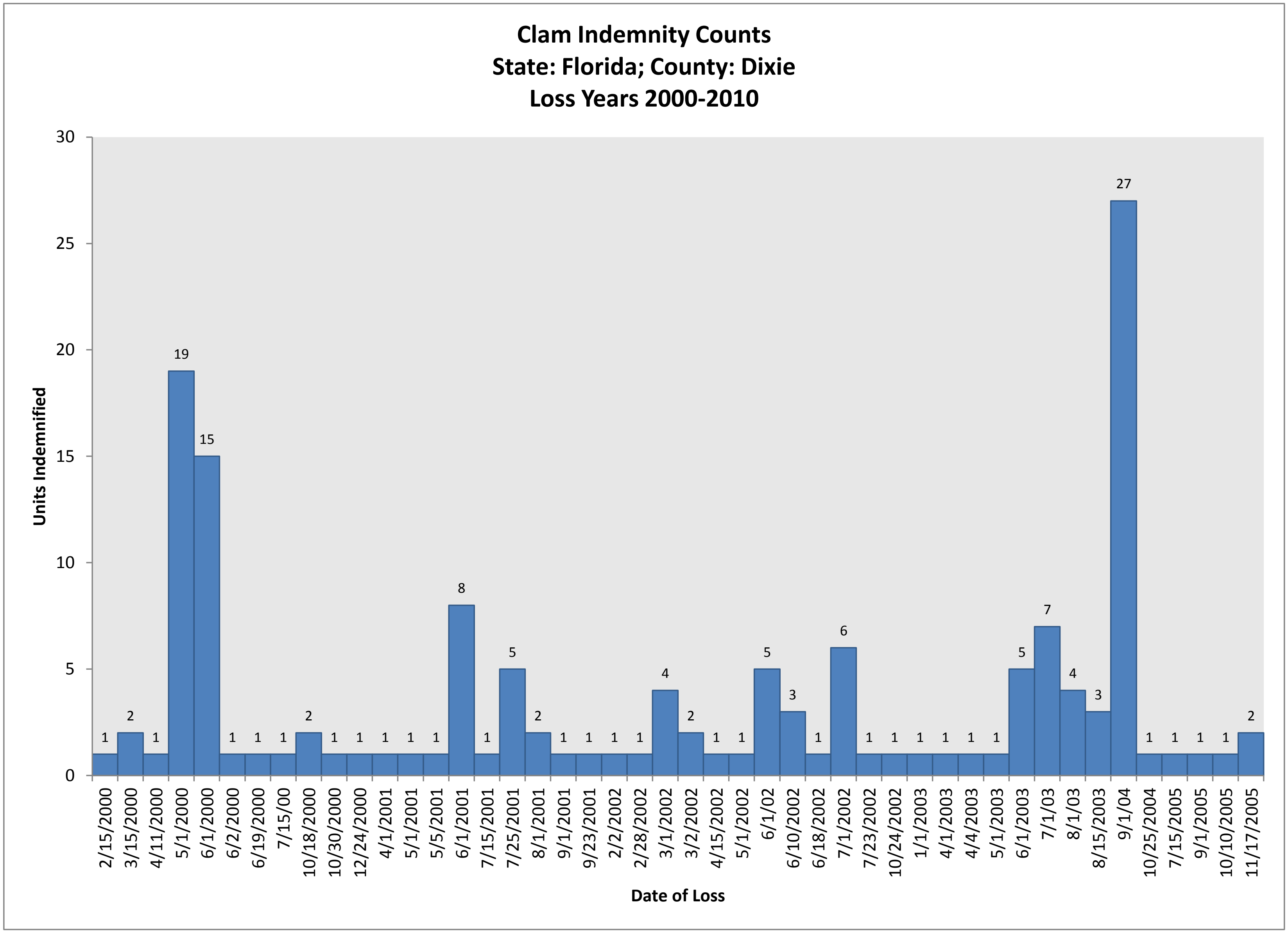

Clam Indemnity Dollars ($K)
State: Florida; County: Brevard
Loss Years 2004-2010
Indemnity Dollars ($K)
0
5
10
15
20
25
30
35
40
10
13
21
12
3
34
5
6/3/04
8/27/04
9/1/04
9/4/04
9/21/04
9/12/08
8/31/10
Date of Loss

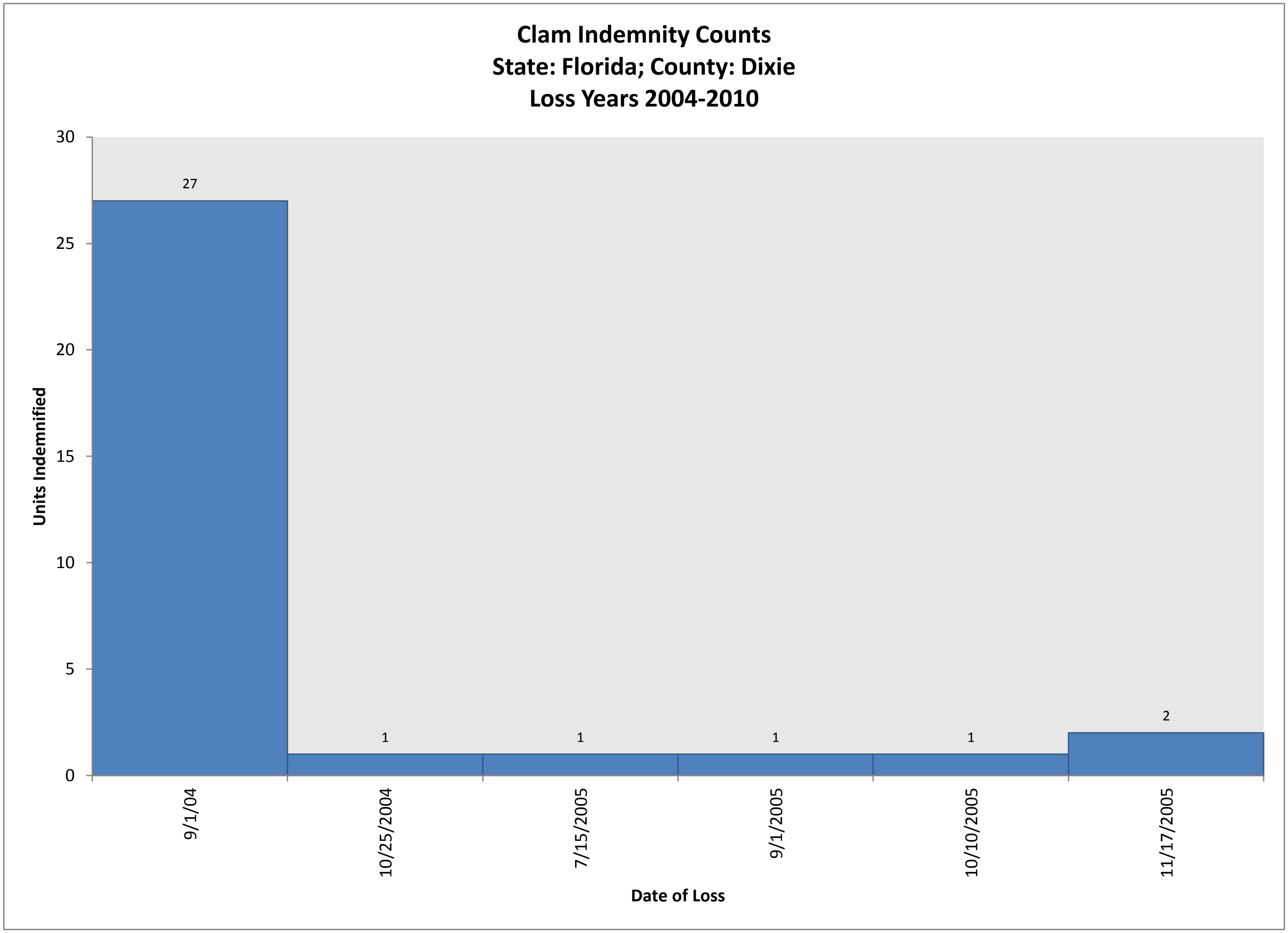

Clam Indemnity Counts
State: Florida; County: Brevard
Loss Years 2000-2010
Units Indemnified
Date of Loss
0
1
2
3
4
5
6
7
8
9
10
11
8/1/99
7/15/00
8/15/00
9/15/00
10/1/00
10/10/00
9/12/01
9/15/01
10/15/01
11/19/01
1/1/02
1/9/02
5/9/02
6/1/02
7/22/02
8/1/02
8/15/02
9/16/02
10/7/02
7/1/03
7/28/03
8/1/03
9/15/03
6/3/04
8/27/04
9/1/04
9/4/04
9/21/04
9/12/08
8/31/10
1
1
1
1
1
1
10
8
1
1
1
1
1
2
1
1
1
2
1
1
2
1
1
1
1
3
1
1
2
2

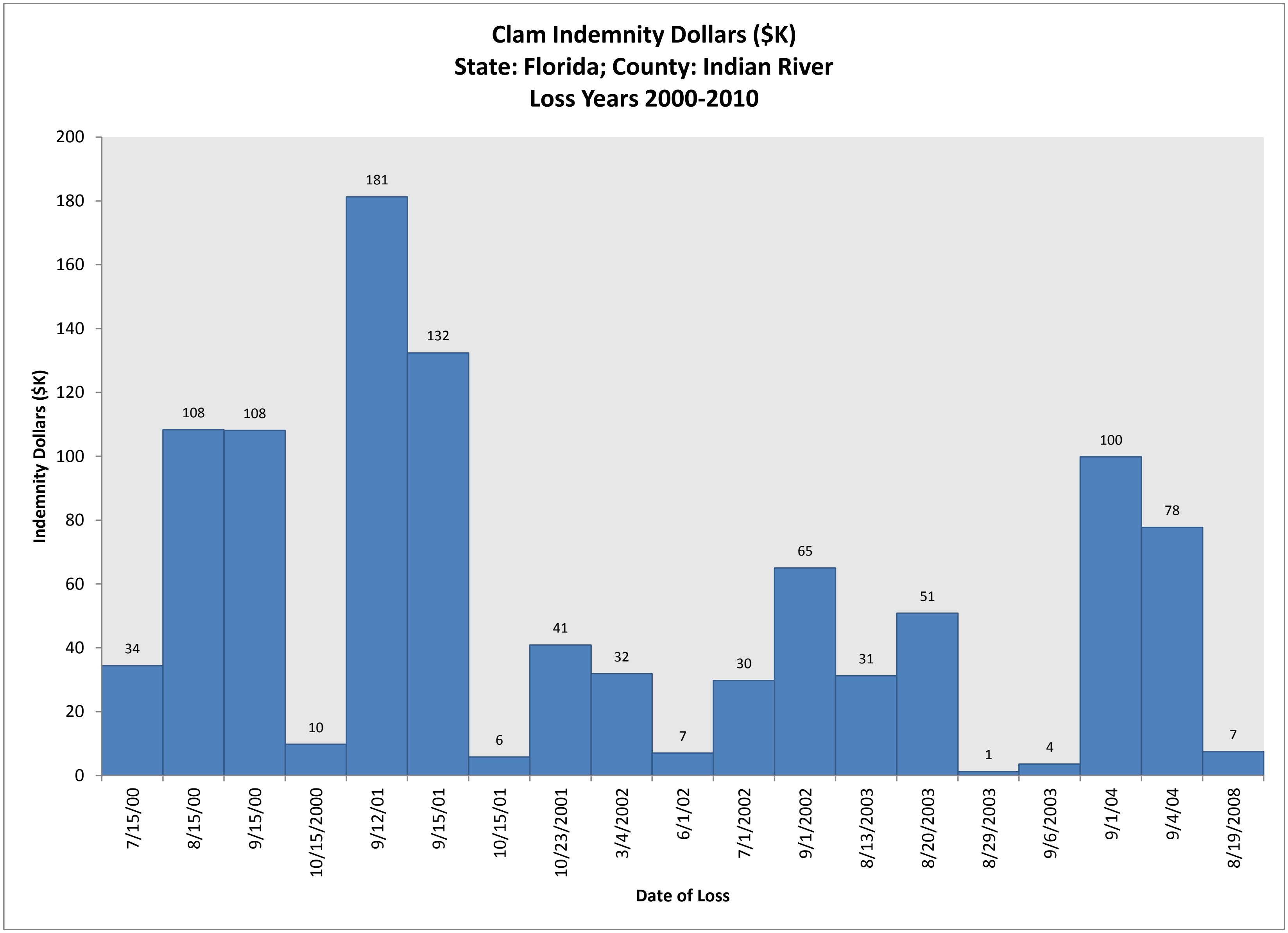

Clam Indemnity Counts
State: Florida; County: Brevard
Loss Years 2004-2010
Units Indemnified
Date of Loss
0
1
2
3
4
6/3/04
8/27/04
9/1/04
9/4/04
9/21/04
9/12/08
8/31/10
1
1
3
1
1
2
2


Clam Indemnity Dollars ($K)
State: Florida; County: Dixie
Loss Years 2000-2010
Indemnity Dollars ($K)
Date of Loss
0
50
100
150
200
250
300
2/15/2000 18
3/15/2000 32
4/11/2000 56
5/1/2000 239
6/1/2000 165
6/2/2000 9
6/19/2000 98
7/15/00 2
10/18/2000 72
10/30/2000 6
12/24/2000 0
4/1/2001 27
5/1/2001 7
5/5/2001 1
6/1/2001 36
7/15/2001 20
7/25/2001 16
8/1/2001 3
9/1/2001 4
9/23/2001 1
2/2/2002 2
2/28/2002 2
3/1/2002 19
3/2/2002 7
4/15/2002 13
5/1/2002 2
6/1/02 31
6/10/2002 7
6/18/2002 24
7/1/2002 31
7/23/2002 0
10/24/2002 24
1/1/2003 2
4/1/2003 17
4/4/2003 7
5/1/2003 0
6/1/2003 35
7/1/03 140
8/1/03 58
8/15/2003 18
9/1/04 124
10/25/2004 2
7/15/2005 19
9/1/2005 5
10/10/2005 8
11/17/2005 25

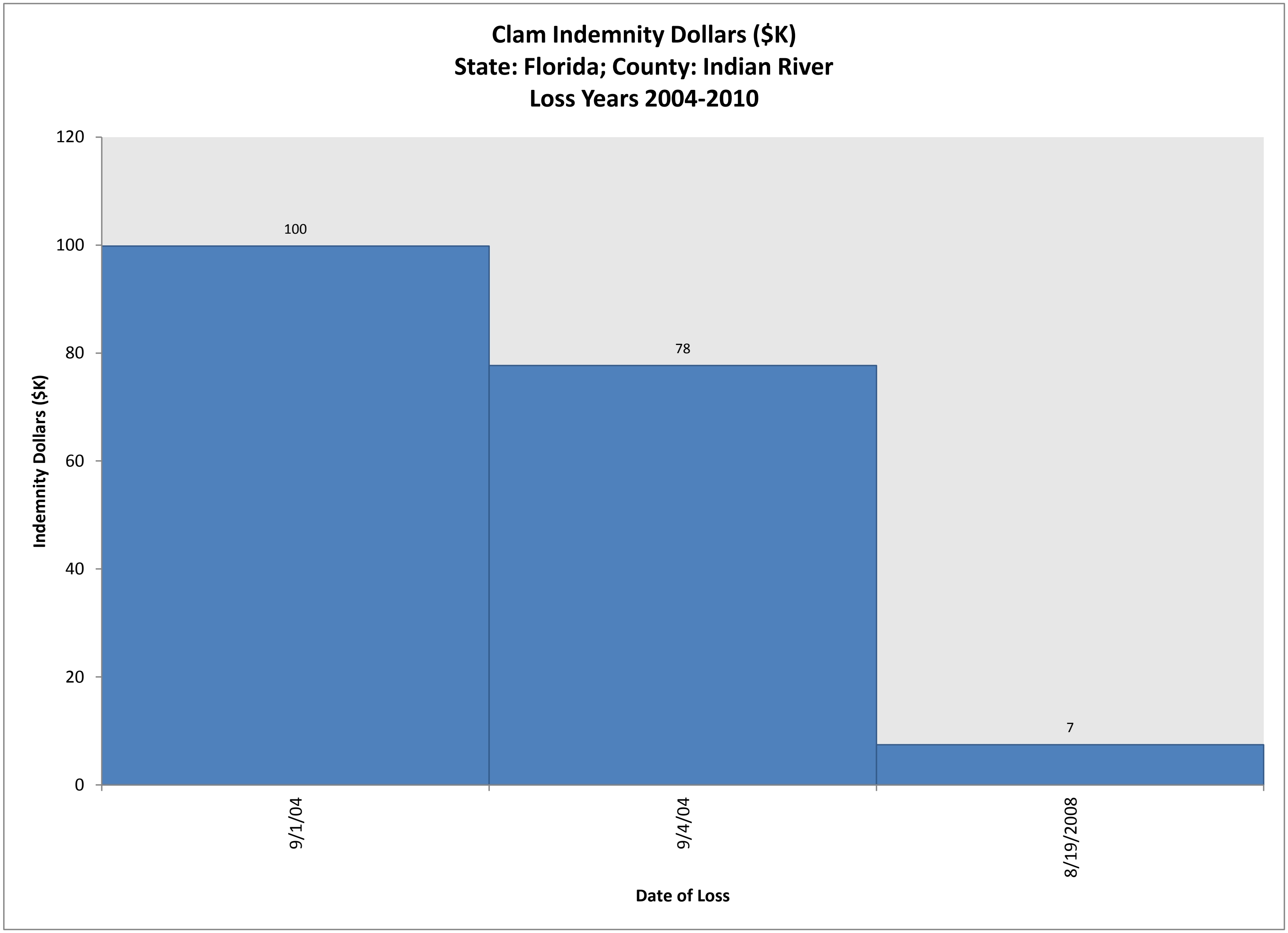

Clam Indemnity Dollars ($K)
State: Florida; County: Dixie
Loss Years 2004-2010
Indemnity Dollars ($K)
140
120
100
80
60
40
20
0
124
2
19
5
8
25
9/1/04
10/25/2004
7/15/2005
9/1/2005
10/10/2005
11/17/2005
Date of Loss

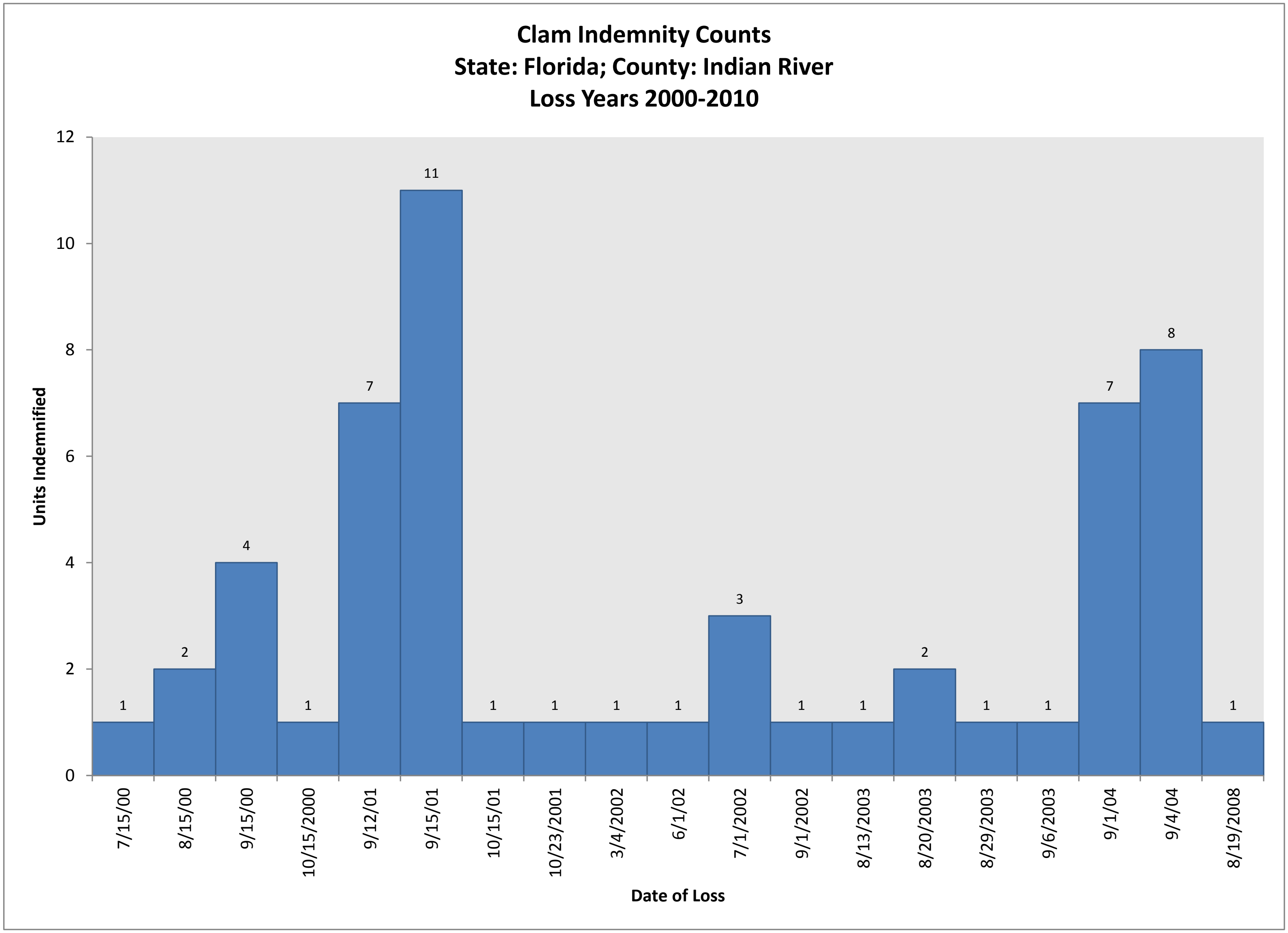

Clam Indemnity Counts
State: Florida; County: Dixie
Loss Years 2000-2010
Units Indemnified
Date of Loss
0
5
10
15
20
25
30
1
2
1
19
15
1
1
1
2
1
1
1
1
1
8
1
5
2
1
1
1
1
4
2
1
1
5
3
1
6
1
1
1
1
1
1
5
7
4
3
27
1
1
1
1
2
2/15/2000
3/15/2000
4/11/2000
5/1/2000
6/1/2000
6/2/2000
6/19/2000
7/15/00
10/18/2000
10/30/2000
12/24/2000
4/1/2001
5/1/2001
5/5/2001
6/1/2001
7/15/2001
7/25/2001
8/1/2001
9/1/2001
9/23/2001
2/2/2002
2/28/2002
3/1/2002
3/2/2002
4/15/2002
5/1/2002
6/1/02
6/10/2002
6/18/2002
7/1/2002
7/23/2002
10/24/2002
1/1/2003
4/1/2003
4/4/2003
5/1/2003
6/1/2003
7/1/03
8/1/03
8/15/2003
9/1/04
10/25/2004
7/15/2005
9/1/2005
10/10/2005
11/17/2005


Clam Indemnity Counts
State: Florida; County: Dixie
Loss Years 2004-2010
Units Indemnified
Date of Loss
0
5
10
15
20
25
30
27
1
1
1
1
2
9/1/04
10/25/2004
7/15/2005
9/1/2005
10/10/2005
11/17/2005

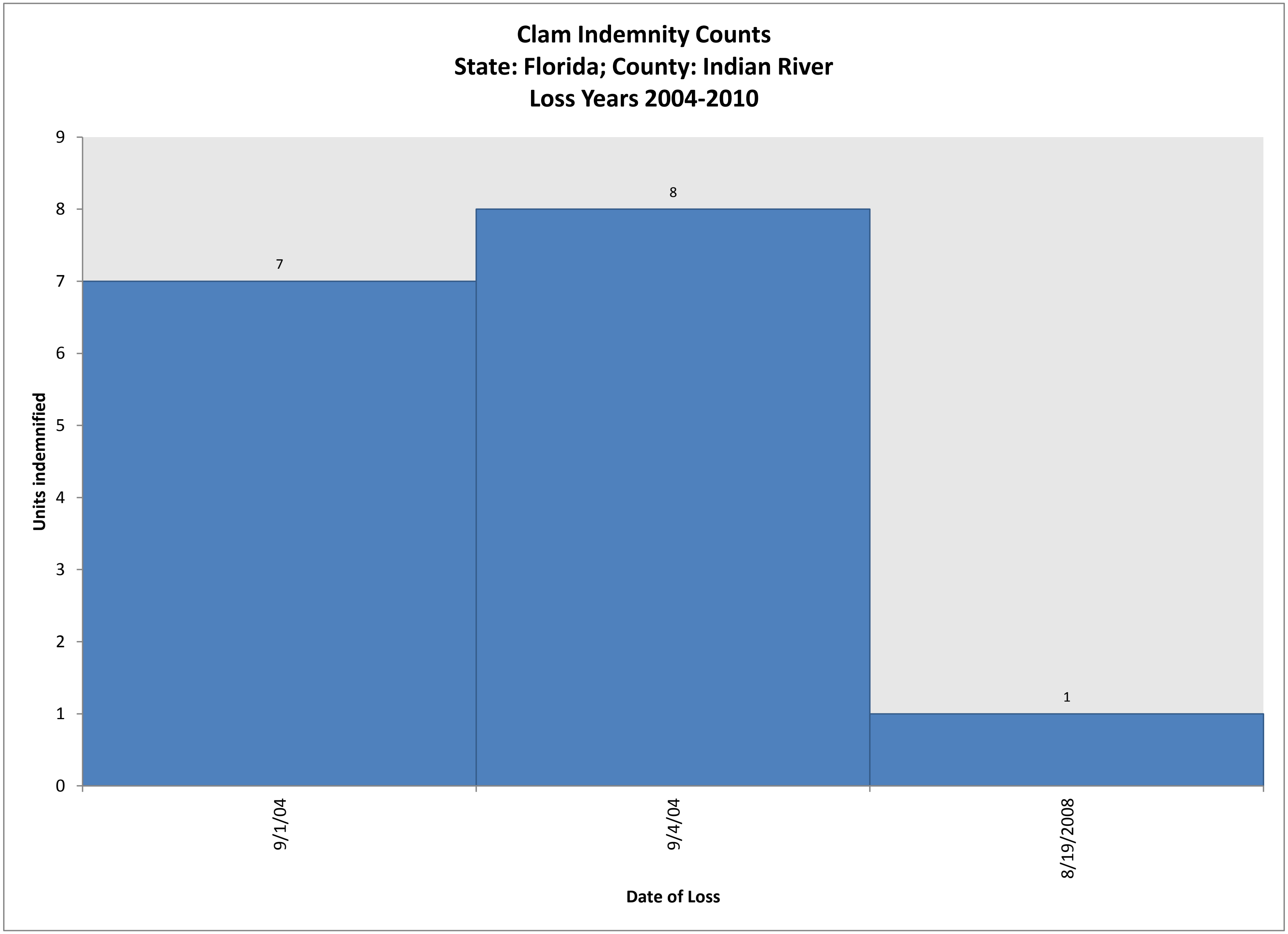


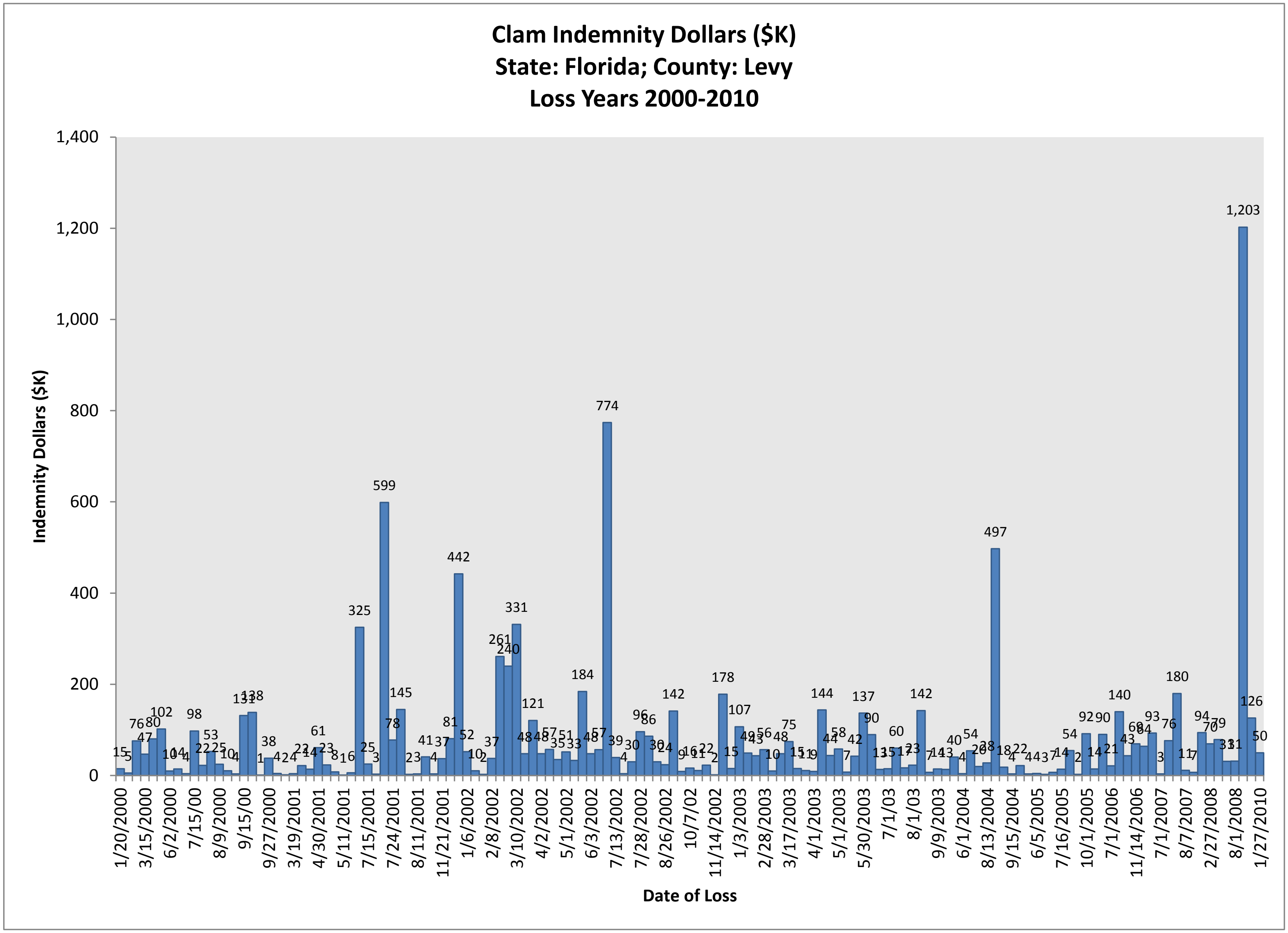
Clam Indemnity Dollars ($K)
State: Florida; County: Indian River
Loss Years 2000-2010
Indemnity Dollars ($K)
200
180
160
140
120
100
80
60
40
20
0
34
108
108
10
181
132
6
41
32
7
30
65
31
51
1
4
100
78
7
7/15/00
8/15/00
9/15/00
10/15/2000
9/12/01
9/15/01
10/15/01
10/23/2001
3/4/2002
6/1/02
7/1/2002
9/1/2002
8/13/2003
8/20/2003
8/29/2003
9/6/2003
9/1/04
9/4/04
8/19/2008
Date of Loss

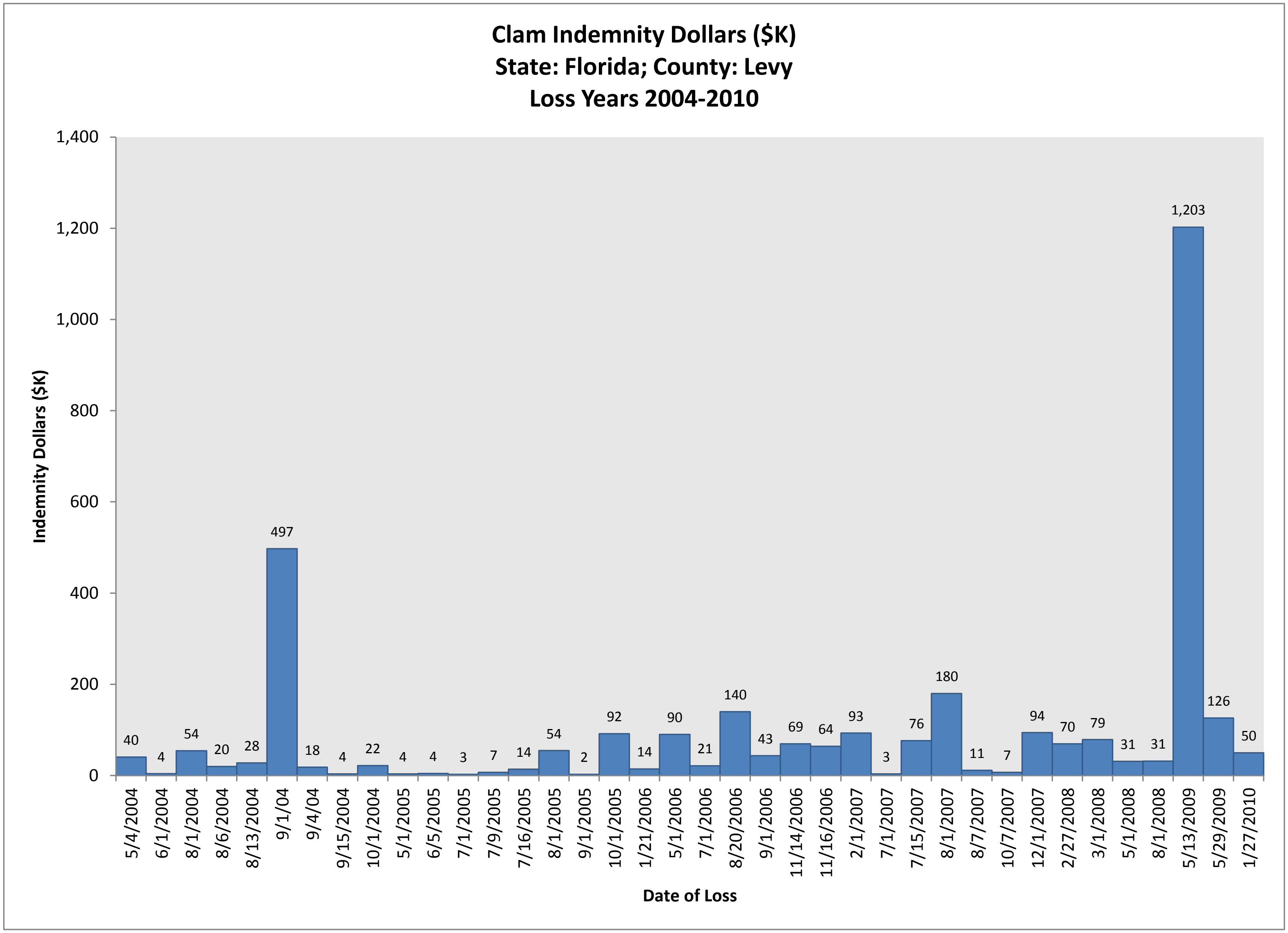

Clam Indemnity Dollars ($K)
State: Florida; County: Indian River
Loss Years 2004-2010
Indemnity Dollars ($K)
120
100
80
60
40
20
0
100
78
7
9/1/04
9/4/04
8/19/2008
Date of Loss

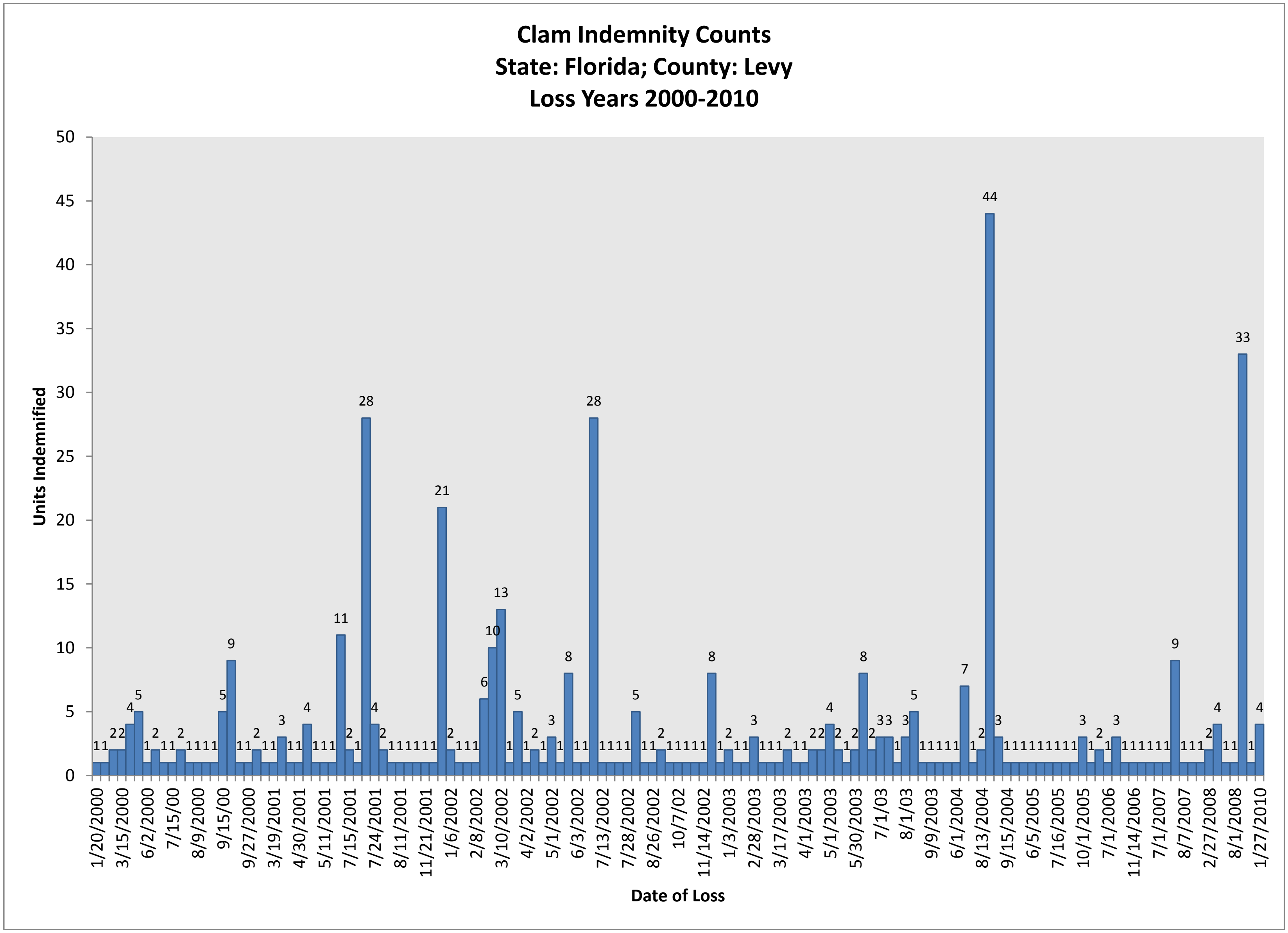


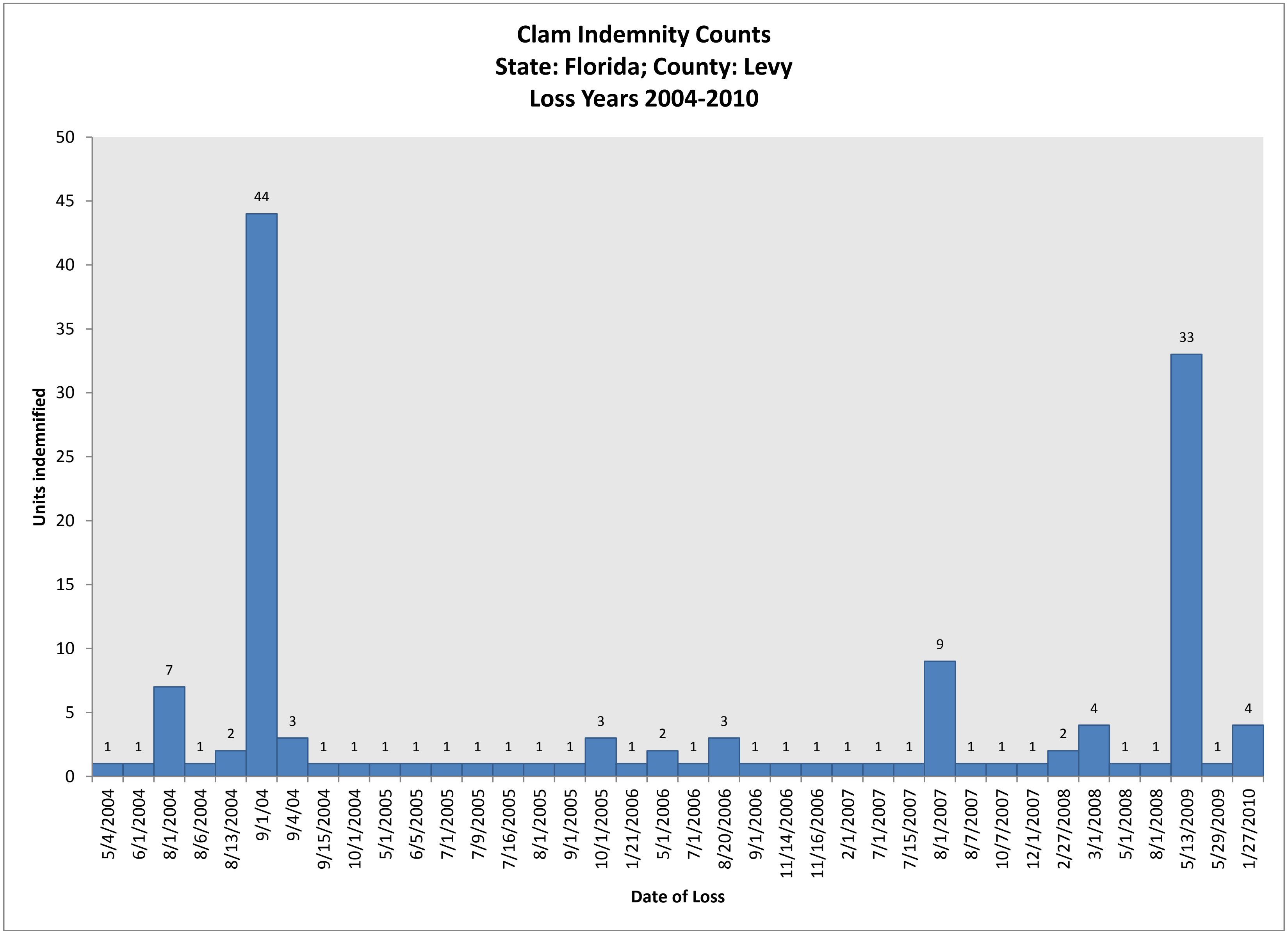
Clam Indemnity Counts
State: Florida; County: Indian River
Loss Years 2000-2010
Units Indemnified
Date of Loss
0
2
4
6
8
10
12
1
2
4
1
7
11
1
1
1
1
3
1
1
2
1
1
7
8
1
7/15/00
8/15/00
9/15/00
10/15/2000
9/12/01
9/15/01
10/15/01
10/23/2001
3/4/2002
6/1/02
7/1/2002
9/1/2002
8/13/2003
8/20/2003
8/29/2003
9/6/2003
9/1/04
9/4/04
8/19/2008

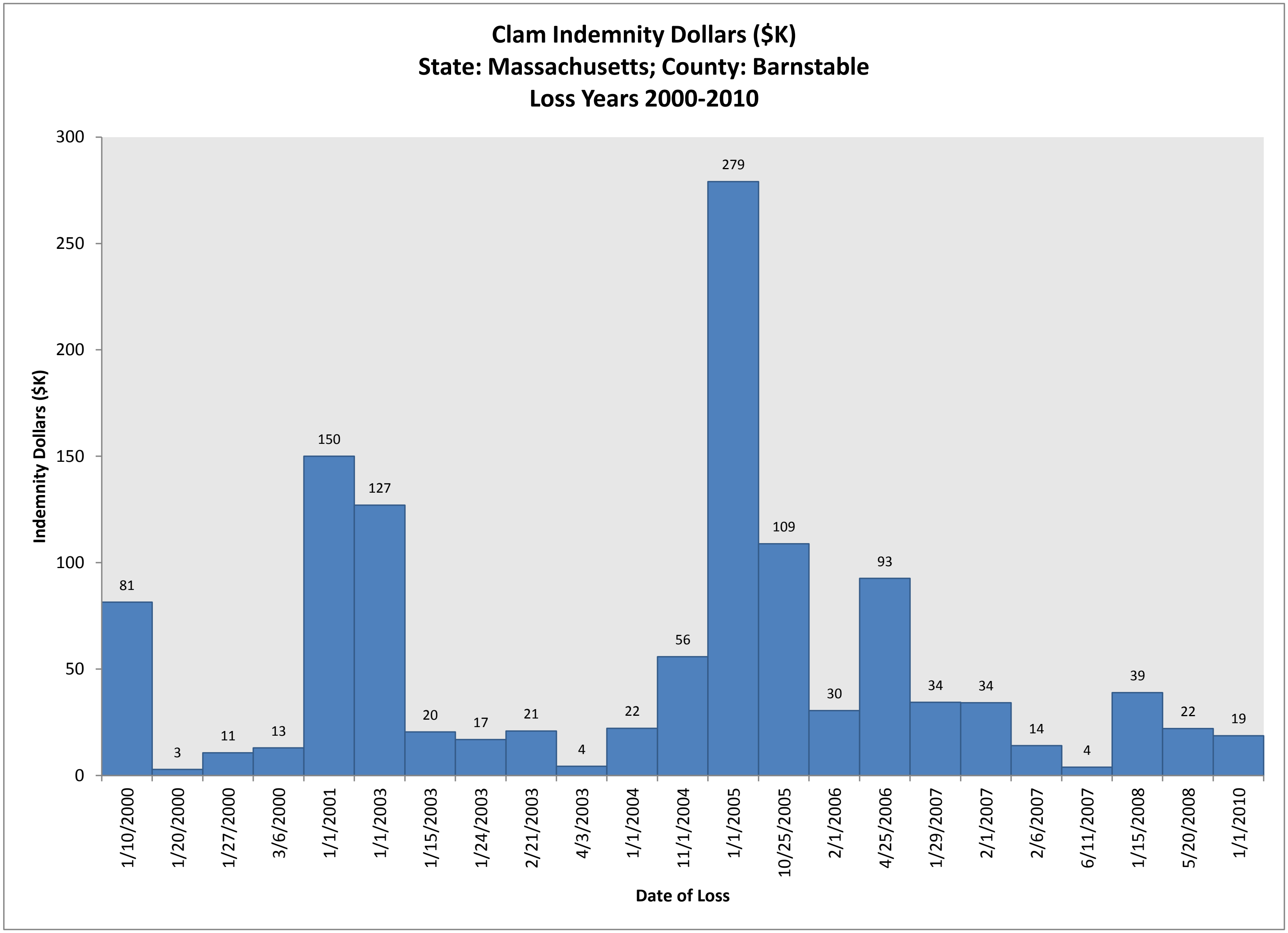

Clam Indemnity Counts
State: Florida; County: Indian River
Loss Years 2004-2010
Units indemnified
Date of Loss
9/1/04
9/4/04
8/19/2008
7
8
1
0
1
2
3
4
5
6
7
8
9

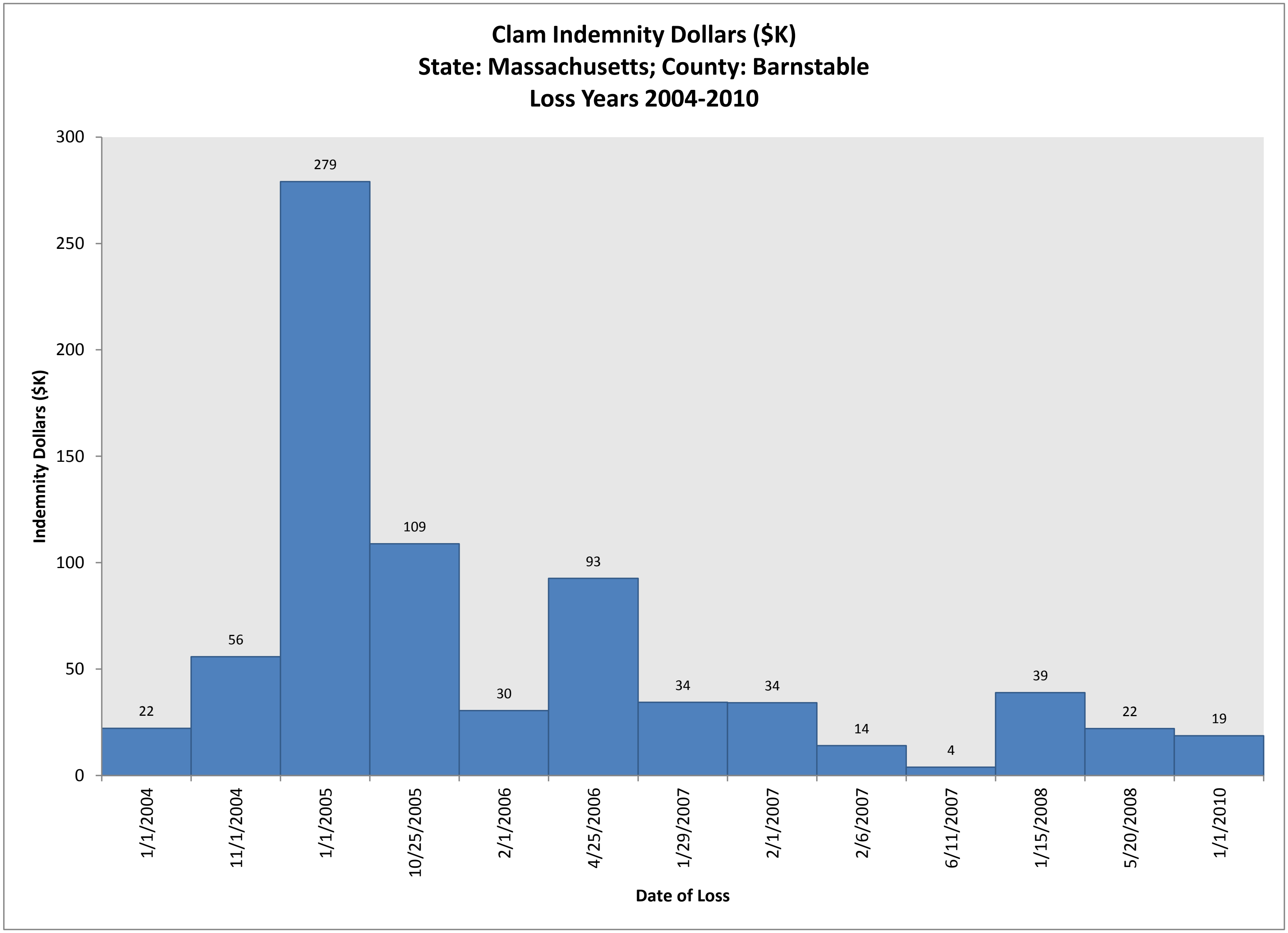

Clam Indemnity Dollars ($K)
State: Florida; County: Levy
Loss Years 2000-2010
Indemnity Dollars ($K)
1,400
1,200
1,000
800
600
400
200
0
Date of Loss
1/20/2000
3/15/2000
6/2/2000
7/15/00
8/9/2000
9/15/00
9/27/2000
3/19/2001
4/30/2001
5/11/2001
7/15/2001
7/24/2001
8/11/2001
11/21/2001
1/6/2002
2/8/2002
3/10/2002
4/2/2002
5/1/2002
6/3/2002
7/13/2002
7/28/2002
8/26/2002
10/7/02
11/14/2002
1/3/2003
2/28/2003
3/17/2003
4/1/2003
5/1/2003
5/30/2003
7/1/03
8/1/03
9/9/2003
6/1/2004
8/13/2004
9/15/2004
6/5/2005
7/16/2005
10/1/2005
7/1/2006
11/14/2006
7/1/2007
8/7/2007
2/27/2008
8/1/2008
1/27/2010

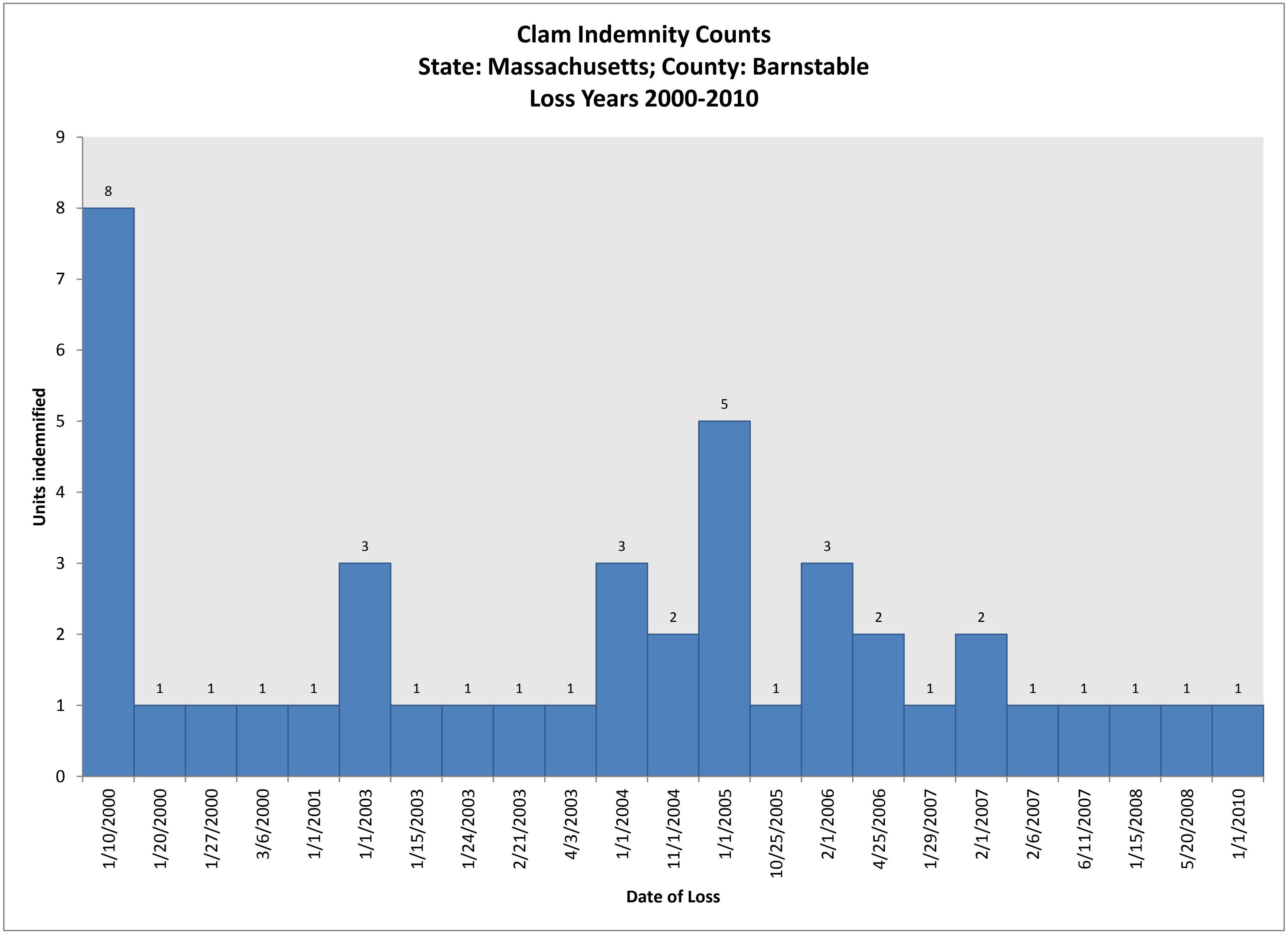

Clam Indemnity Dollars ($K)
State: Florida; County: Levy
Loss Years 2004-2010
Indemnity Dollars ($K)
0
200
400
600
800
1,000
1,200
1,400
40
4
54
20
28
497
18
4
22
4
4
3
7
14
54
2
92
14
90
21
140
43
69
64
93
3
76
180
11
7
94
70
79
31
31
1,203
126
50
5/4/2004
6/1/2004
8/1/2004
8/6/2004
8/13/2004
9/1/04
9/4/04
9/15/2004
10/1/2004
5/1/2005
6/5/2005
7/1/2005
7/9/2005
7/16/2005
8/1/2005
9/1/2005
10/1/2005
1/21/2006
5/1/2006
7/1/2006
8/20/2006
9/1/2006
11/14/2006
11/16/2006
2/1/2007
7/1/2007
7/15/2007
8/1/2007
8/7/2007
10/7/2007
12/1/2007
2/27/2008
3/1/2008
5/1/2008
8/1/2008
5/13/2009
5/29/2009
1/27/2010
Date of Loss

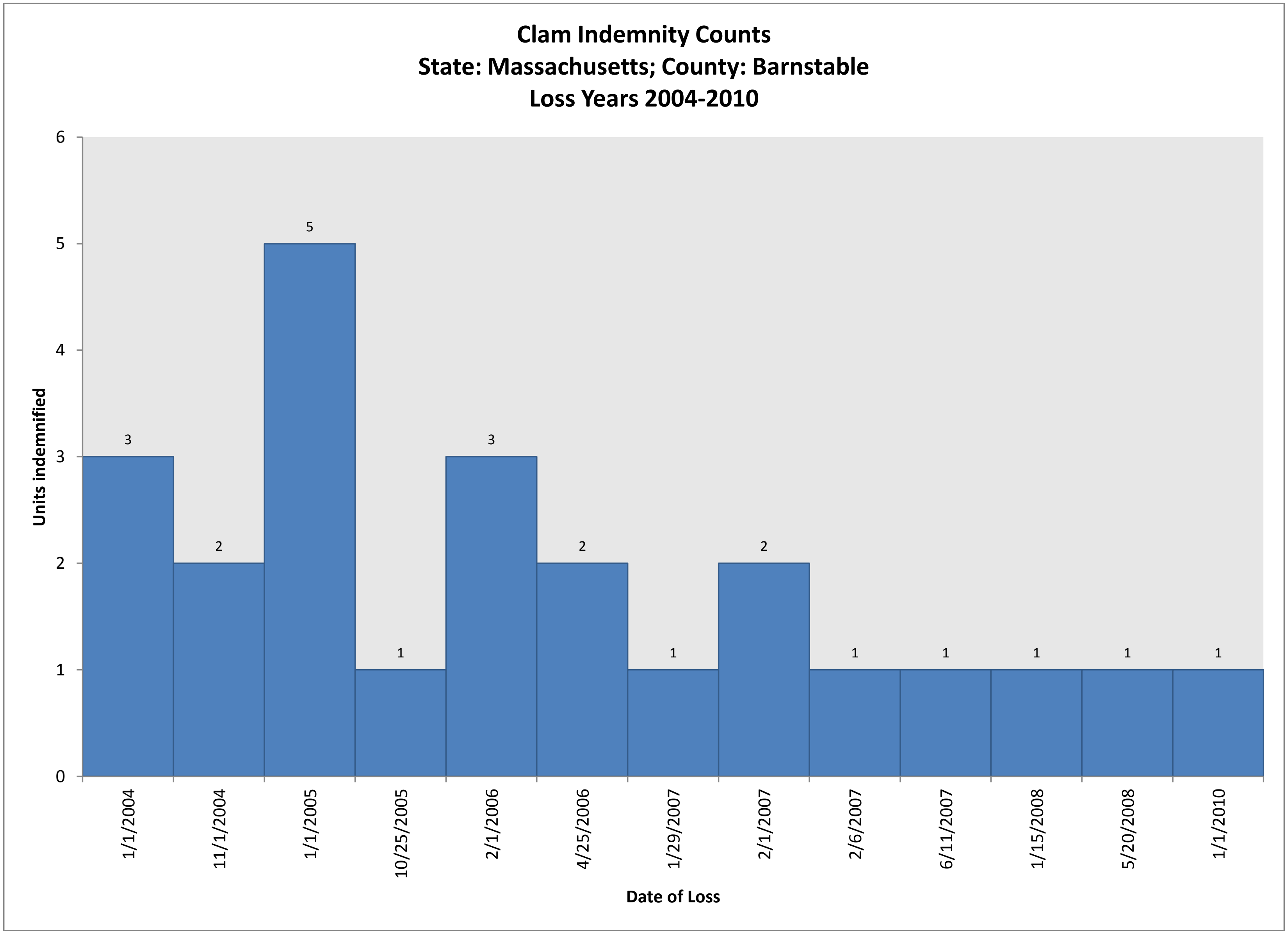

Clam Indemnity Counts
State: Florida; County: Levy
Loss Years 2000-2010
Units Indemnified
Date of Loss

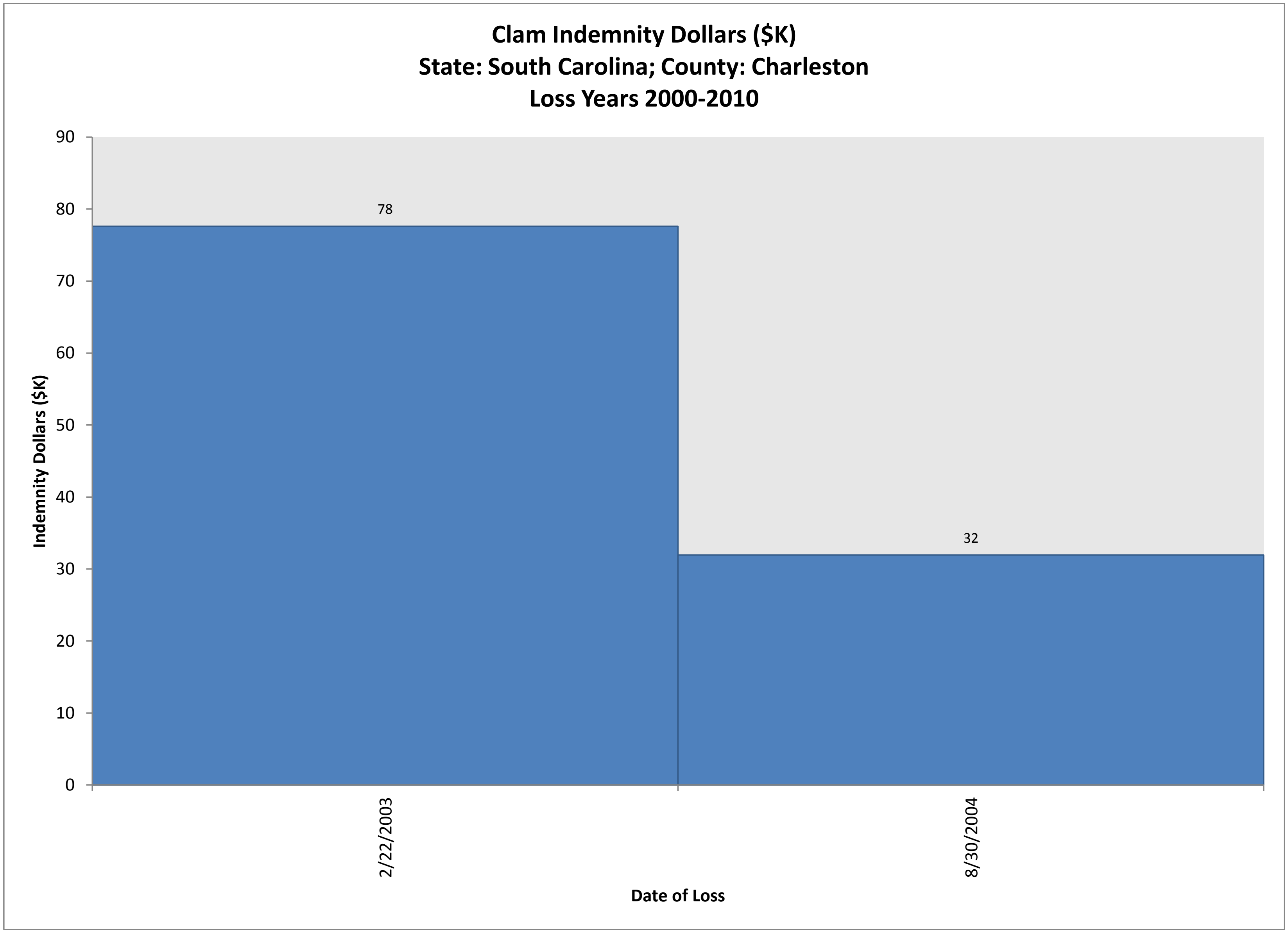

Clam Indemnity Counts
State: Florida; County: Levy
Loss Years 2004-2010
Units indemnified
Date of Loss
0
5
10
15
20
25
30
35
40
45
50
5/4/2004
6/1/2004
8/1/2004
8/6/2004
8/13/2004
9/1/04
9/4/04
9/15/2004
10/1/2004
5/1/2005
6/5/2005
7/1/2005
7/9/2005
7/16/2005
8/1/2005
9/1/2005
10/1/2005
1/21/2006
5/1/2006
7/1/2006
8/20/2006
9/1/2006
11/14/2006
11/16/2006
2/1/2007
7/1/2007
7/15/2007
8/1/2007
8/7/2007
10/7/2007
12/1/2007
2/27/2008
3/1/2008
5/1/2008
8/1/2008
5/13/2009
5/29/2009
1/27/2010
1
1
7
1
2
44
3
1
1
1
1
1
1
1
1
1
3
1
2
1
3
1
1
1
1
1
1
9
1
1
1
2
4
1
1
33
1
4

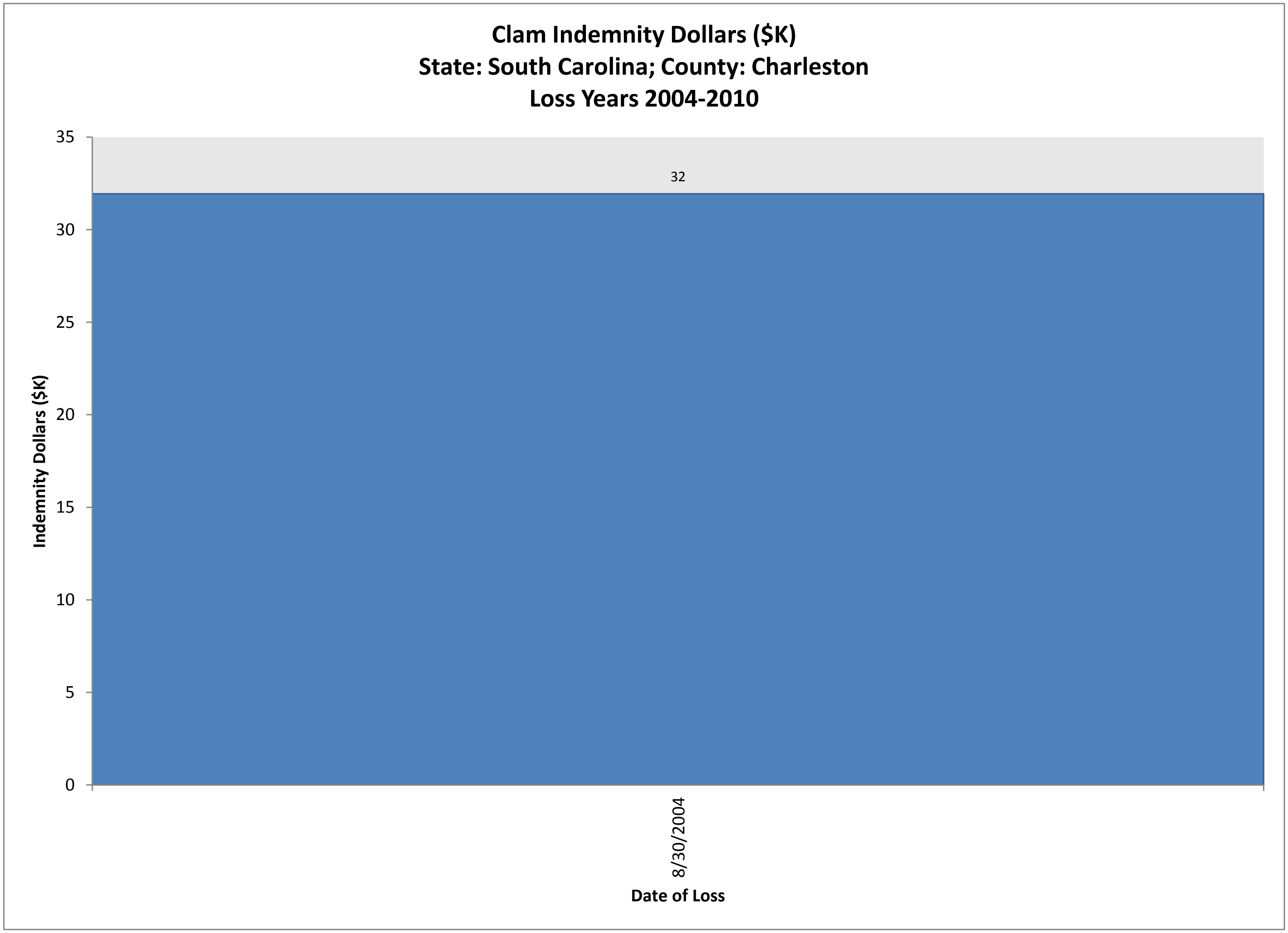

Clam Indemnity Dollars ($K)
State: Massachusetts; County: Barnstable
Loss Years 2000-2010
Indemnity Dollars ($K)
300
250
200
150
100
50
0
81
3
11
13
150
127
20
17
21
4
22
56
279
109
30
93
34
34
14
4
39
22
19
1/10/2000
1/20/2000
1/27/2000
3/6/2000
1/1/2001
1/1/2003
1/15/2003
1/24/2003
2/21/2003
4/3/2003
1/1/2004
11/1/2004
1/1/2005
10/25/2005
2/1/2006
4/25/2006
1/29/2007
2/1/2007
2/6/2007
6/11/2007
1/15/2008
5/20/2008
1/1/2010
Date of Loss

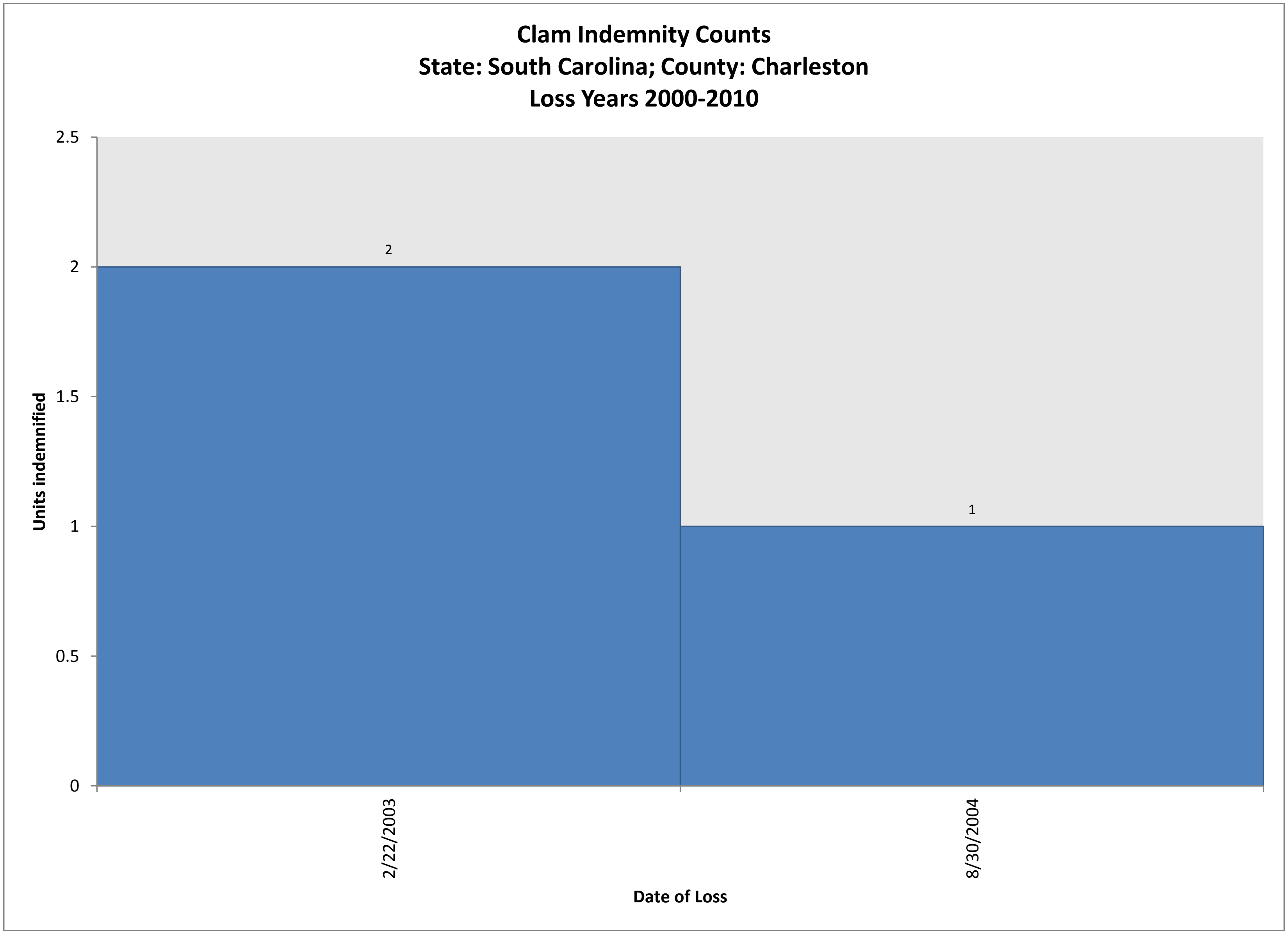

Clam Indemnity Dollars ($K)
State: Massachusetts; County: Barnstable
Loss Years 2004-2010
Indemnity Dollars ($K)
300
250
200
150
100
50
0
22
56
279
109
30
93
34
34
14
4
39
22
19
1/1/2004
11/1/2004
1/1/2005
10/25/2005
2/1/2006
4/25/2006
1/29/2007
2/1/2007
2/6/2007
6/11/2007
1/15/2008
5/20/2008
1/1/2010
Date of Loss

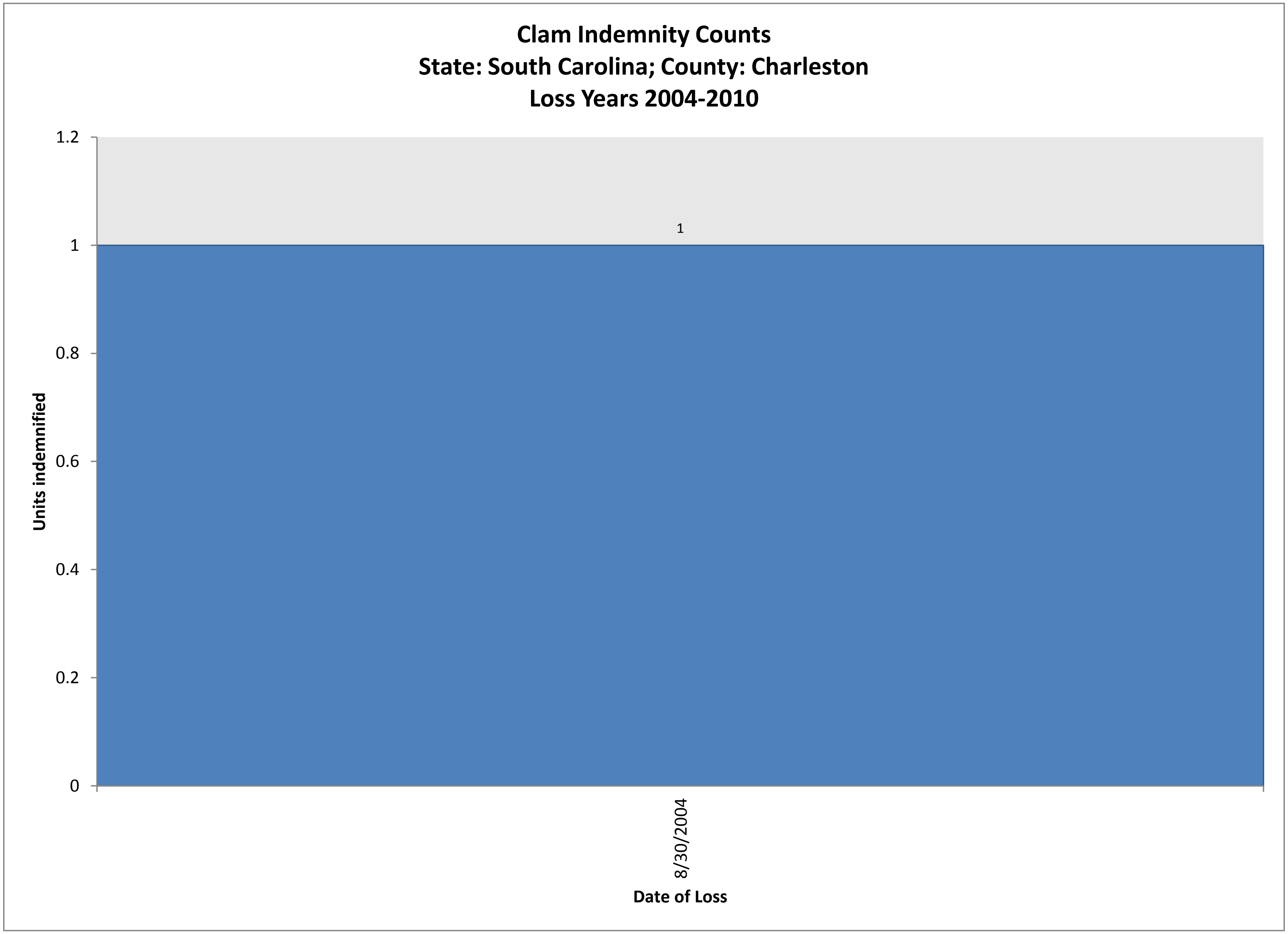

Clam Indemnity Counts
State: Massachusetts; County: Barnstable
Loss Years 2000-2010
Units indemnified
Date of Loss
0
1
2
3
4
5
6
7
8
9
8
1
1
1
1
3
1
1
1
1
3
2
5
1
3
2
1
2
1
1
1
1
1
1/10/2000
1/20/2000
1/27/2000
3/6/2000
1/1/2001
1/1/2003
1/15/2003
1/24/2003
2/21/2003
4/3/2003
1/1/2004
11/1/2004
1/1/2005
10/25/2005
2/1/2006
4/25/2006
1/29/2007
2/1/2007
2/6/2007
6/11/2007
1/15/2008
5/20/2008
1/1/2010

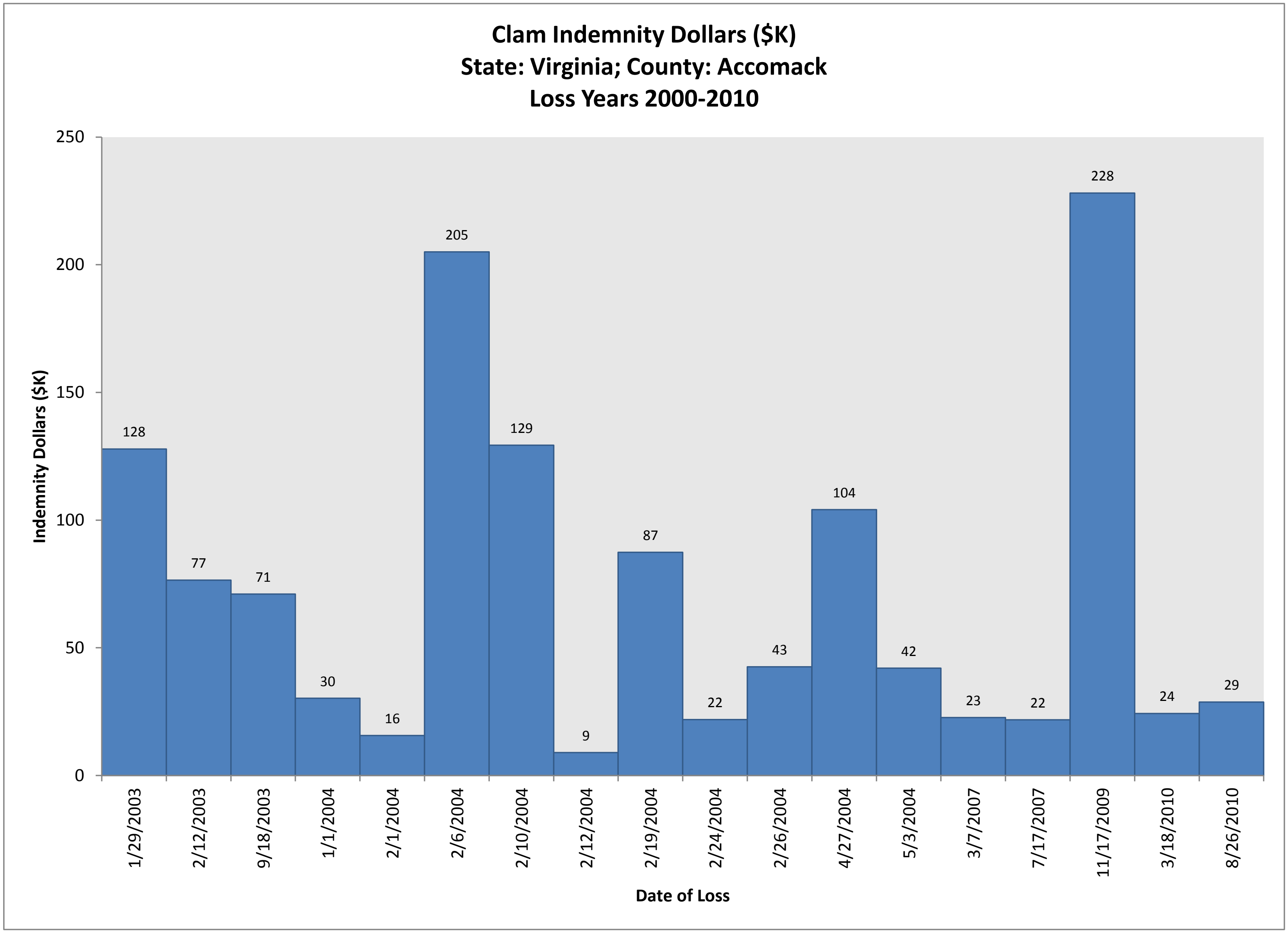

Clam Indemnity Counts
State: Massachusetts; County: Barnstable
Loss Years 2004-2010
Units indemnified
0
1
2
3
4
5
6
3
2
5
1
3
2
1
2
1
1
1
1
1
1/1/2004
11/1/2004
1/1/2005
10/25/2005
2/1/2006
4/25/2006
1/29/2007
2/1/2007
2/6/2007
6/11/2007
1/15/2008
5/20/2008
1/1/2010
Date of Loss


Clam Indemnity Dollars ($K)
State: South Carolina; County: Charleston
Loss Years 2000-2010
Indemnity Dollars ($K)
90
80
70
60
50
40
30
20
10
0
78
32
2/22/2003
8/30/2004
Date of Loss

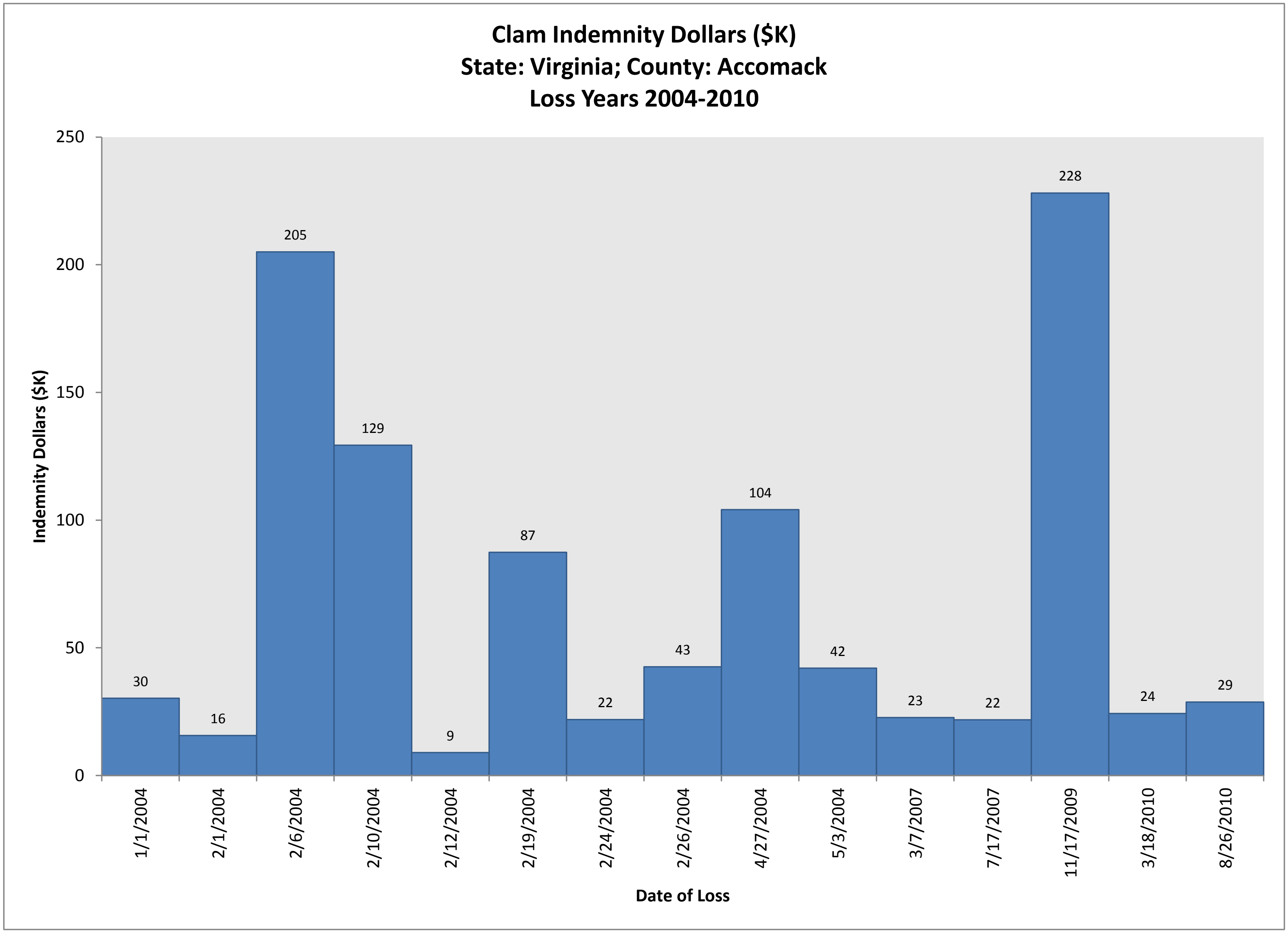

Clam Indemnity Dollars ($K)
State: South Carolina; County: Charleston
Loss Years 2004-2010
Indemnity Dollars ($K)
35
30
25
20
15
10
5
0
32
8/30/2004
Date of Loss

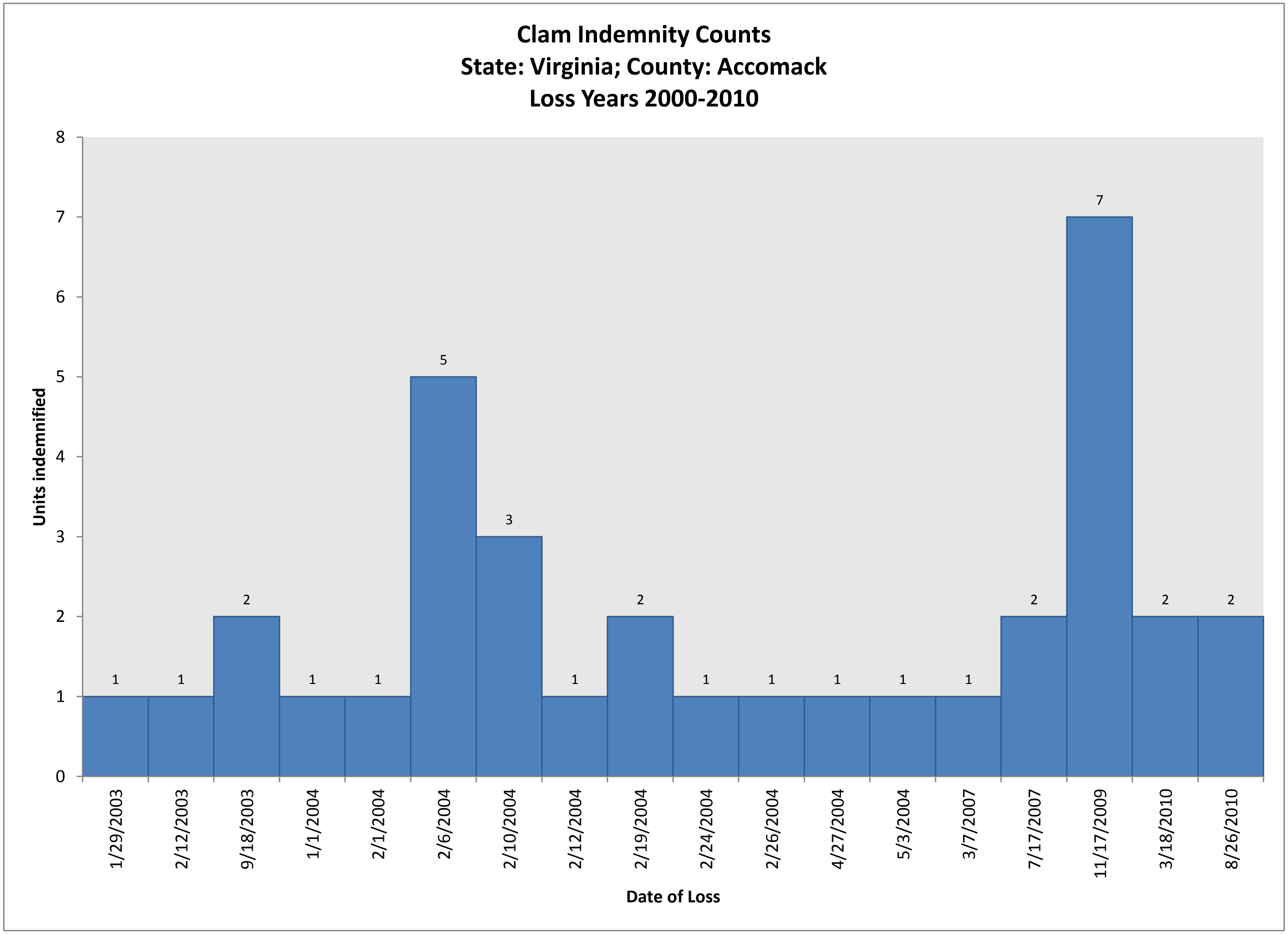

Clam Indemnity Counts
State: South Carolina; County: Charleston
Loss Years 2000-2010
Units indemnified
2.5
2
1.5
1
0.5
0
2
1
2/22/2003
8/30/2004
Date of Loss

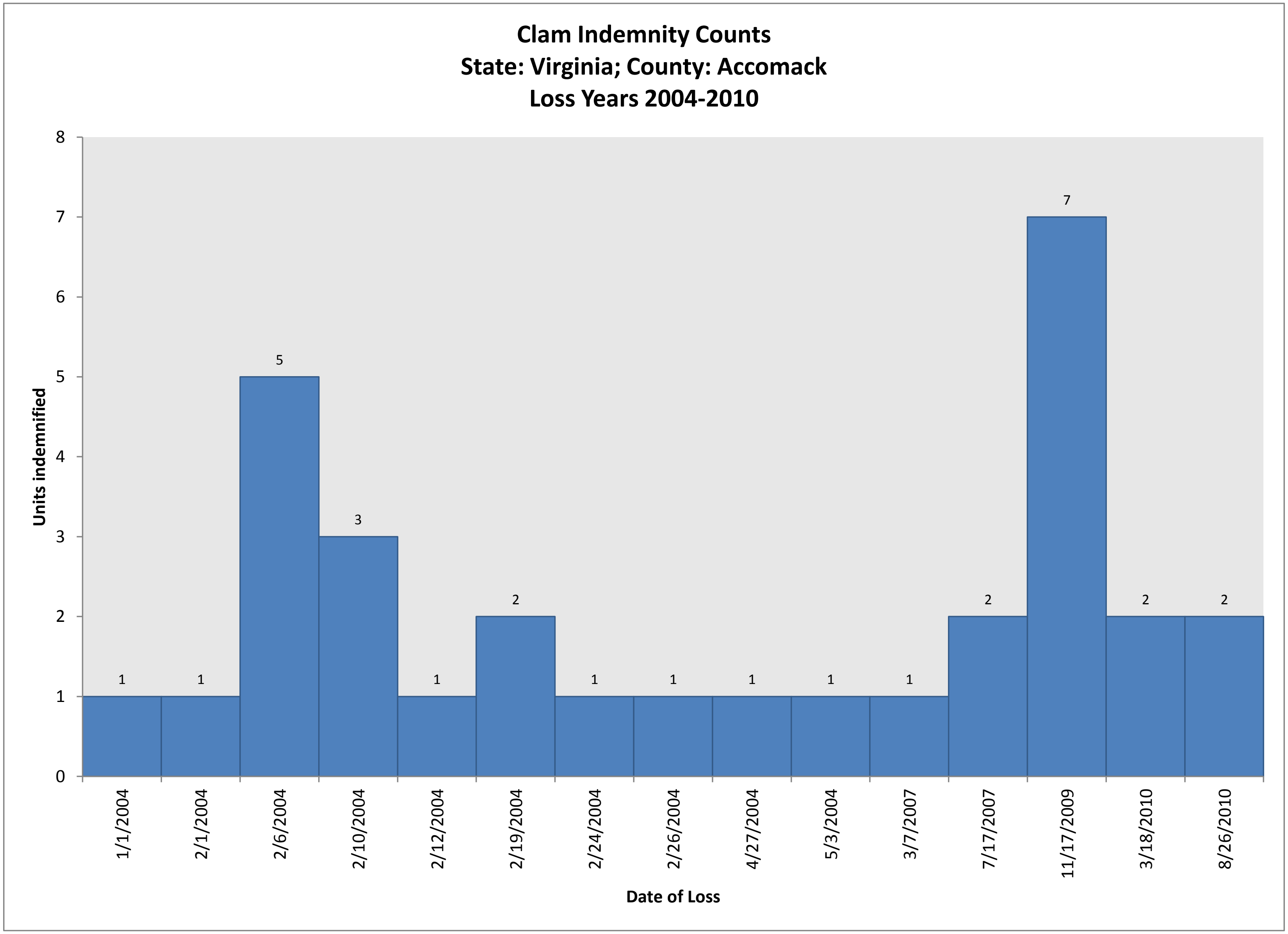

Clam Indemnity Counts
State: South Carolina; County: Charleston
Loss Years 2004-2010
Units indemnified
1.2
1
0.8
0.6
0.4
0.2
0
1
8/30/2004
Date of Loss

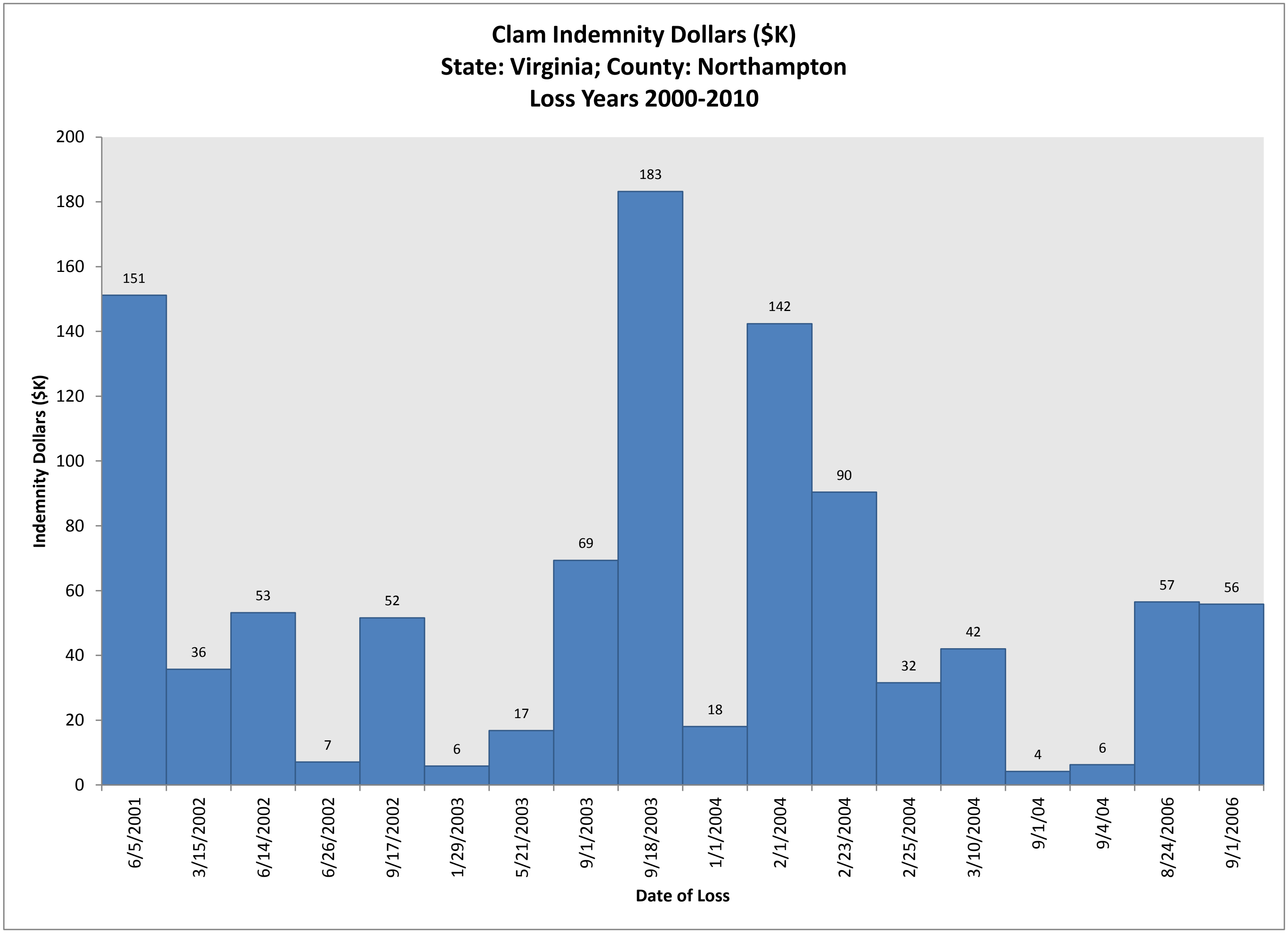


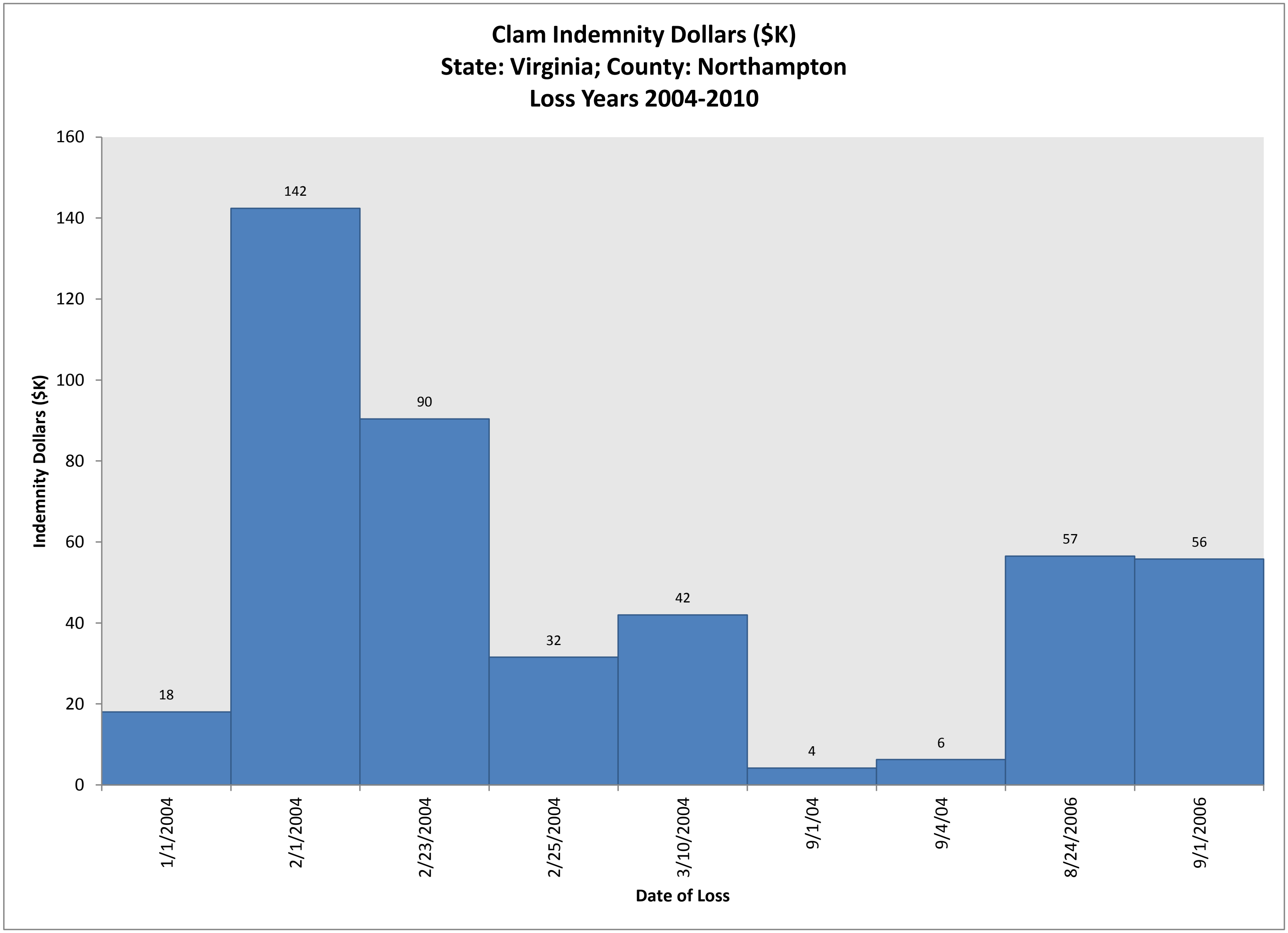
Clam Indemnity Dollars ($K)
State: Virginia; County: Accomack
Loss Years 2000-2010
Indemnity Dollars ($K)
250
200
150
100
50
0
128
77
71
30
16
205
129
9
87
22
43
104
42
23
22
228
24
29
1/29/2003
2/12/2003
9/18/2003
1/1/2004
2/1/2004
2/6/2004
2/10/2004
2/12/2004
2/19/2004
2/24/2004
2/26/2004
4/27/2004
5/3/2004
3/7/2007
7/17/2007
11/17/2009
3/18/2010
8/26/2010
Date of Loss

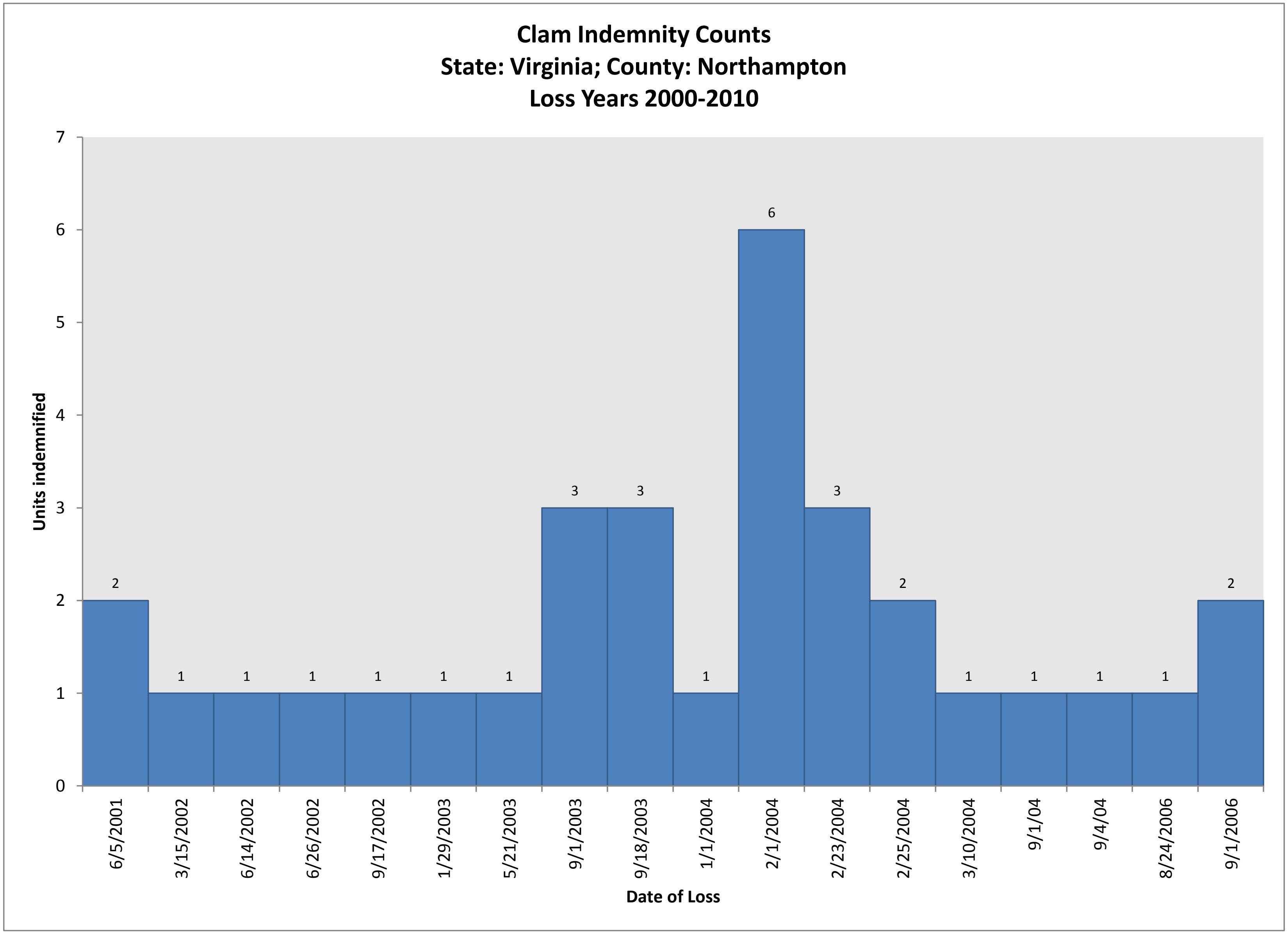

Clam Indemnity Dollars ($K)
State: Virginia; County: Accomack
Loss Years 2004-2010
Indemnity Dollars ($K)
250
200
150
100
50
0
30
16
205
129
9
87
22
43
104
42
23
22
228
24
29
1/1/2004
2/1/2004
2/6/2004
2/10/2004
2/12/2004
2/19/2004
2/24/2004
2/26/2004
4/27/2004
5/3/2004
3/7/2007
7/17/2007
11/17/2009
3/18/2010
8/26/2010
Date of Loss

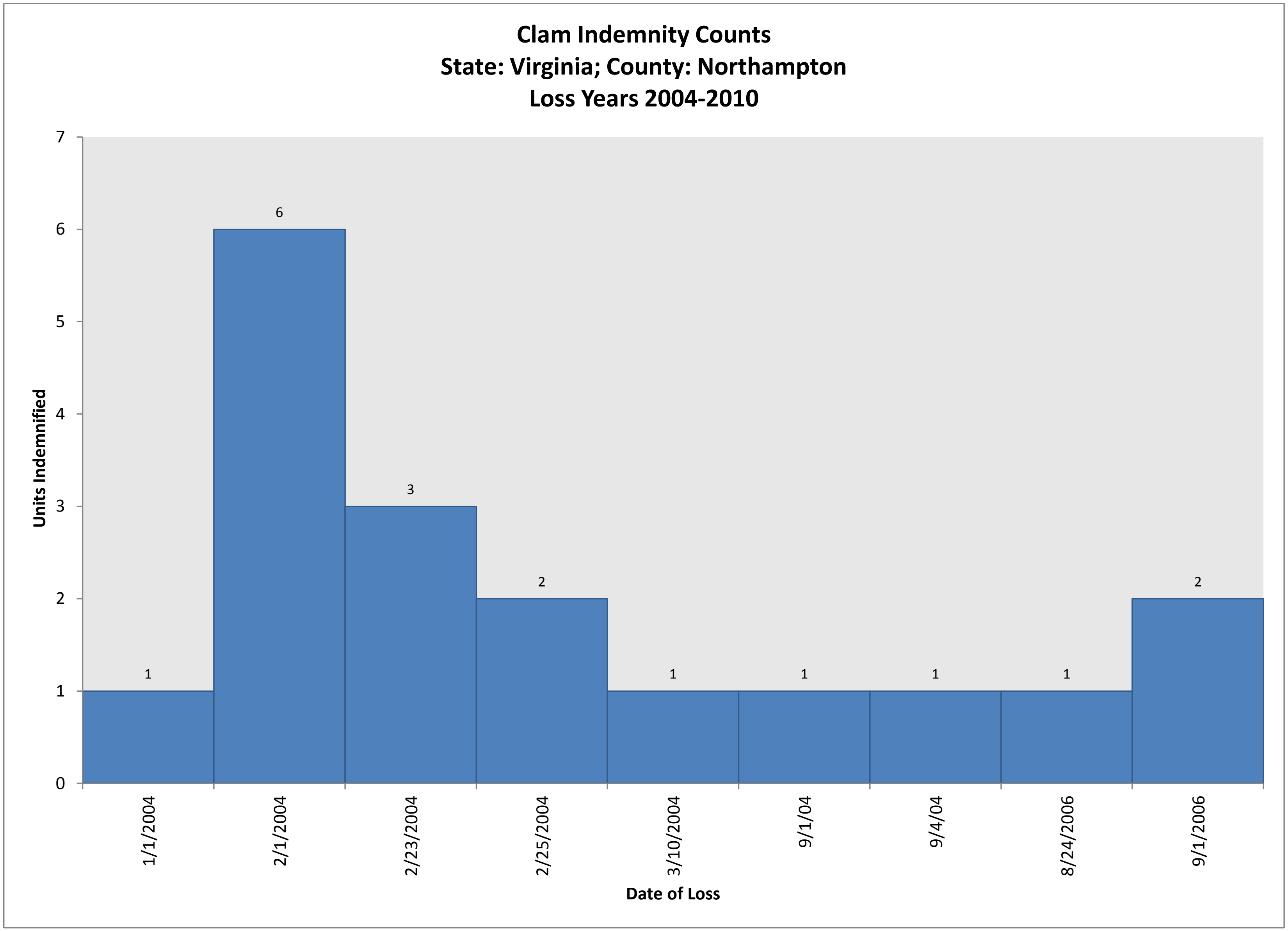

Clam Indemnity Counts
State: Virginia; County: Accomack
Loss Years 2000-2010
Units indemnified
0
1
2
3
4
5
6
7
8
1
1
2
1
1
5
3
1
2
1
1
1
1
1
2
7
2
2
1/29/2003
2/12/2003
9/18/2003
1/1/2004
2/1/2004
2/6/2004
2/10/2004
2/12/2004
2/19/2004
2/24/2004
2/26/2004
4/27/2004
5/3/2004
3/7/2007
7/17/2007
11/17/2009
3/18/2010
8/26/2010
Date of Loss


Clam Indemnity Counts
State: Virginia; County: Accomack
Loss Years 2004-2010
Units indemnified
Date of Loss
0
1
2
3
4
5
6
7
8
1/1/2004
2/1/2004
2/6/2004
2/10/2004
2/12/2004
2/19/2004
2/24/2004
2/26/2004
4/27/2004
5/3/2004
3/7/2007
7/17/2007
11/17/2009
3/18/2010
8/26/2010
1
1
5
3
1
2
1
1
1
1
1
2
7
2
2


Clam Indemnity Dollars ($K)
State: Virginia; County: Northampton
Loss Years 2000-2010
Indemnity Dollars ($K)
Date of Loss
200
180
160
140
120
100
80
60
40
20
0
151
36
53
7
52
6
17
69
183
18
142
90
32
42
4
6
57
56
6/5/2001
3/15/2002
6/14/2002
6/26/2002
9/17/2002
1/29/2003
5/21/2003
9/1/2003
9/18/2003
1/1/2004
2/1/2004
2/23/2004
2/25/2004
3/10/2004
9/1/04
9/4/04
8/24/2006
9/1/2006


Clam Indemnity Dollars ($K)
State: Virginia; County: Northampton
Loss Years 2004-2010
Indemnity Dollars ($K)
160
140
120
100
80
60
40
20
0
18
142
90
32
42
4
6
57
56
1/1/2004
2/1/2004
2/23/2004
2/25/2004
3/10/2004
9/1/04
9/4/04
8/24/2006
9/1/2006
Date of Loss


Clam Indemnity Counts
State: Virginia; County: Northampton
Loss Years 2000-2010
Units indemnified
Date of Loss
0
1
2
3
4
5
6
7
2
1
1
1
1
1
1
3
3
1
6
3
2
1
1
1
1
2
6/5/2001
3/15/2002
6/14/2002
6/26/2002
9/17/2002
1/29/2003
5/21/2003
9/1/2003
9/18/2003
1/1/2004
2/1/2004
2/23/2004
2/25/2004
3/10/2004
9/1/04
9/4/04
8/24/2006
9/1/2006


Clam Indemnity Counts
State: Virginia; County: Northampton
Loss Years 2004-2010
Units Indemnified
Date of Loss
0
1
2
3
4
5
6
7
1/1/2004
2/1/2004
2/23/2004
2/25/2004
3/10/2004
9/1/04
9/4/04
8/24/2006
9/1/2006
1
6
3
2
1
1
1
1
2

APPENDIX E

This is the data for figure 2 on page 20: Virginia clam production data

Year	Number of clams	Value of clams
1991	30	4
1995	44	7
1997	52	9
1998	71	11
2000	135	20
2003	140	20
2004	150	24
2005	178	27
2006	194	29
2007	212	28
2008	186	24
2009	145	22

This is the data for figure 3 on page 33: Cultivated clam pilot indemnity by cause of loss Florida, crop years 2000-2003

Disease, Aquaculture - 2.0%
Excess Wind - 0.4%
Freeze - 2.5%
Hurricane - 11.3%
Ice Floe - 0.0%
Other - 0.7%
Oxygen Depletion - 7.6%
Salinity - 52.2%
Storm Surge - 23.2%
Tidal Wave - 0.0%

This is the data for figure 4 on page 33: Cultivated clam pilot indemnity by cause of loss Florida, crop years 2004-2010

Disease, Aquaculture - 0.2%
Excess Wind - 0.0%
Freeze - 1.3%
Hurricane - 28.4%
Ice Floe - 0.0%
Other - 1.5%
Oxygen Depletion - 17.3%
Salinity - 44.4%

Storm Surge - 6.4%
Tidal Wave - 0.5%

This is the data for figure 5 on page 34: Cultivated Clam Pilot Indemnity by Cause of Loss Massachusetts, Crop Years 2000-2003

Disease, Aquaculture - 0.0%
Excess Wind - 0.0%
Freeze - 100.0%
Hurricane - 0.0%
Ice Floe - 0.0%
Other - 0.0%
Oxygen Depletion - 0.0%
Salinity - 0.0%
Storm Surge - 0.0%
Tidal Wave - 0.0%

This is the data for figure 6 on page 34: Cultivated Clam Pilot Indemnity by Cause of Loss Massachusetts, Crop Years 2004-2010

Disease, Aquaculture - 26.4%
Excess Wind - 0.0%
Freeze - 25.3%
Hurricane - 0.0%
Ice Floe - 45.1%
Other - 0.0%
Oxygen Depletion - 2.5%
Salinity - 0.0%
Storm Surge - 0.8%
Tidal Wave - 0.0%

This is the data for figure 7 on page 35: Cultivated Clam Pilot Indemnity by Cause of Loss Virginia, Crop Years 2000-2003

Disease, Aquaculture - 23.9%
Excess Wind - 0.0%
Freeze - 39.2%
Hurricane - 4.2%
Ice Floe - 0.0%
Other - 0.0%
Oxygen Depletion - 0.0%
Salinity - 0.0%
Storm Surge - 32.8%
Tidal Wave - 0.0%

This is the data for figure 8 on page 35: Cultivated Clam Pilot Indemnity by Cause of Loss Virginia, Crop Years 2004-2010

Disease, Aquaculture - 0.0%
Excess Wind - 0.0%
Freeze - 71.4%
Hurricane - 7.7%
Ice Floe - 0.0%
Other - 0.0%
Oxygen Depletion - 0.0%
Salinity - 0.0%
Storm Surge - 20.9%
Tidal Wave - 0.0%

This is the data for figure 9 on page 36: Cultivated Clam Pilot Indemnity by Cause of Loss South Carolina, Crop Years 2000-2003

Disease, Aquaculture - 0.0%
Excess Wind - 0.0%
Freeze - 0.0%
Hurricane - 0.0%
Ice Floe - 0.0%
Other - 0.0%
Oxygen Depletion - 0.0%
Salinity - 0.0%
Storm Surge - 100.0%
Tidal Wave - 0.0%

This is the data for figure 10 on page 36: Cultivated Clam Pilot Indemnity by Cause of Loss South Carolina, Crop Years 2004-2010

Disease, Aquaculture - 0.0%
Excess Wind - 0.0%
Freeze - 0.0%
Hurricane - 0.0%
Ice Floe - 0.0%
Other - 0.0%
Oxygen Depletion - 0.0%
Salinity - 0.0%
Storm Surge - 100.0%
Tidal Wave - 0.0%

This is the data for figure 11 on page 37: Clam indemnity counts state: Florida; county: Levy loss years 2000-2010

	Year										
Month	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	1	2	24	13	0	0	1	0	0	0	4
February	1	0	8	3	0	0	0	1	2	0	0
March	4	2	24	6	0	0	0	0	4	0	0
April	0	5	9	5	0	0	0	0	0	0	0
May	4	7	4	9	1	1	2	0	1	34	0
June	8	0	10	10	1	1	0	0	0	0	0
July	4	48	32	7	0	3	1	2	0	0	0
August	3	2	7	8	10	1	3	10	1	0	0
September	17	1	2	3	48	1	1	0	0	0	0
October	0	1	4	0	1	3	0	1	0	0	0
November	0	2	1	0	0	0	2	0	0	0	0
December	0	0	0	0	0	0	0	1	0	0	0

This is the data for figure 12 on page 38: Clam indemnity counts state: Massachusetts; county: Barnstable loss years 2000-2010

	Year										
Month	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	10	1	0	5	3	5	0	1	1	0	1
February	0	0	0	1	0	0	3	3	0	0	0
March	1	0	0	0	0	0	0	0	0	0	0
April	0	0	0	1	0	0	2	0	0	0	0
May	0	0	0	0	0	0	0	0	1	0	0
June	0	0	0	0	0	0	0	1	0	0	0
July	0	0	0	0	0	0	0	0	0	0	0
August	0	0	0	0	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0	0	0	0	0
October	0	0	0	0	0	1	0	0	0	0	0
November	0	0	0	0	2	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0	0	0	0

This is the data for figure 13 on page 39: Clam indemnity counts state: Virginia; county: Accomack loss years 2000-2010

	Year										
Month	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
January	0	0	0	1	1	0	0	0	0	0	0
February	0	0	0	1	14	0	0	0	0	0	0
March	0	0	0	0	0	0	0	1	0	0	2
April	0	0	0	0	1	0	0	0	0	0	0
May	0	0	0	0	1	0	0	0	0	0	0
June	0	0	0	0	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0	2	0	0	0
August	0	0	0	0	0	0	0	0	0	0	2
September	0	0	0	2	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0	0	7	0
December	0	0	0	0	0	0	0	0	0	0	0

This is the data for figure 14 on page 50: Cultivated Clams Pilot Coverage Level Relativity Comparison

	Coverage Level Relativities	
Coverage Level (%)	**Florida**	**Massachusetts**
50%	0.670	0.600
55%	0.770	0.690
60%	0.890	0.810
70%	1.140	1.290
75%	1.270	1.720

This is the data for figure 15 on page 52: Virginia clam prices

Year	Cents per pound
1991	13.3
1995	15.9
1997	17.3
1998	15.5
2000	14.8
2003	14.3
2004	16.0
2005	15.2

2006	14.9
2007	13.2
2008	12.9
2009	15.2

This is the data for the figure Appendix D1 on page 218: Clam indemnity dollars ($thousand) State: Florida; County: Brevard Loss Years 2000-2010

Date of Loss	Indemnity Dollars ($thousands)
8/1/99	83
7/15/00	13
8/15/00	26
9/15/00	18
10/1/00	9
10/10/00	1
9/12/01	171
9/15/01	304
10/15/01	13
11/19/01	3
1/1/02	7
1/9/02	32
5/9/02	10
6/1/02	141
7/22/02	18
8/1/02	6
8/15/02	2
9/16/02	58
10/7/02	11
7/1/03	29
7/28/03	46
8/1/03	11
9/15/03	127
6/3/04	10
8/27/04	13
9/1/04	21
9/4/04	12
9/21/04	3
9/12/08	34
8/31/10	5

This is the data for the figure Appendix D2 on page 219: Clam indemnity dollars ($thousand) State: Florida; County: Brevard Loss Years 2004-2010

Date of Loss	Indemnity Dollars ($thousand)
6/3/04	10
8/27/04	13
9/1/04	21
9/4/04	12
9/21/04	3
9/12/08	34
8/31/10	5

This is the data for the figure Appendix D3 on page 220: Clam indemnity counts State: Florida; County: Brevard Loss Years 2000-2010

Date of Loss	Units Indeminified
8/1/99	1
7/15/00	1
8/15/00	1
9/15/00	1
10/1/00	1
10/10/00	1
9/12/01	10
9/15/01	8
10/15/01	1
11/19/01	1
1/1/02	1
1/9/02	1
5/9/02	1
6/1/02	2
7/22/02	1
8/1/02	1
8/15/02	1
9/16/02	2
10/7/02	1
7/1/03	1
7/28/03	2
8/1/03	1
9/15/03	1
6/3/04	1
8/27/04	1
9/1/04	3

9/4/04	1
9/21/04	1
9/12/08	2
8/31/10	2

This is the data for the figure Appendix D4 on page 221: Clam indemnity counts State: Florida; County: Brevard Loss Years 2004-2010

Date of Loss	Units Indemnified
6/3/04	1
8/27/04	1
9/1/04	3
9/4/04	1
9/21/04	1
9/12/08	2
8/31/10	2

This is the data for the figure Appendix D5 on page 222: Clam indemnity dollars ($thousand) State: Florida; County: Dixie Loss Years 2000-2010

Date of Loss	Indemnity Dollars ($thousand)
2/15/2000	18
3/15/2000	32
4/11/2000	56
5/1/2000	239
6/1/2000	165
6/2/2000	9
6/19/2000	98
7/15/00	2
10/18/2000	72
10/30/2000	6
12/24/2000	0
4/1/2001	27
5/1/2001	7
5/5/2001	1
6/1/2001	36
7/15/2001	20
7/25/2001	16
8/1/2001	3
9/1/2001	4
9/23/2001	1
2/2/2002	2
2/28/2002	2
3/1/2002	19

3/2/2002	7
4/15/2002	13
5/1/2002	2
6/1/02	31
6/10/2002	7
6/18/2002	24
7/1/2002	31
7/23/2002	0
10/24/2002	24
1/1/2003	2
4/1/2003	17
4/4/2003	7
5/1/2003	0
6/1/2003	35
7/1/03	140
8/1/03	58
8/15/2003	18
9/1/04	124
10/25/2004	2
7/15/2005	19
9/1/2005	5
10/10/2005	8
11/17/2005	25

This is the data for the figure Appendix D6 on page 223: Clam indemnity dollars ($thousand) State: Florida; County: Dixie Loss Years 2004-2010

Date of Loss	Indemnity Dollars ($thousand)
9/1/04	124
10/25/2004	2
7/15/2005	19
9/1/2005	5
10/10/2005	8
11/17/2005	25

This is the data for the figure Appendix D7 on page 224: Clam indemnity counts State: Florida; County: Dixie Loss Years 2000-2010

Date of Loss	Units Indemnified
2/15/2000	1
3/15/2000	2
4/11/2000	1
5/1/2000	19
6/1/2000	15
6/2/2000	1
6/19/2000	1

7/15/00	1
10/18/2000	2
10/30/2000	1
12/24/2000	1
4/1/2001	1
5/1/2001	1
5/5/2001	1
6/1/2001	8
7/15/2001	1
7/25/2001	5
8/1/2001	2
9/1/2001	1
9/23/2001	1
2/2/2002	1
2/28/2002	1
3/1/2002	4
3/2/2002	2
4/15/2002	1
5/1/2002	1
6/1/02	5
6/10/2002	3
6/18/2002	1
7/1/2002	6
7/23/2002	1
10/24/2002	1
1/1/2003	1
4/1/2003	1
4/4/2003	1
5/1/2003	1
6/1/2003	5
7/1/03	7
8/1/03	4
8/15/2003	3
9/1/04	27
10/25/2004	1
7/15/2005	1
9/1/2005	1
10/10/2005	1
11/17/2005	2

This is the data for the figure Appendix D8 on page 225: Clam indemnity counts State: Florida; County: Dixie Loss Years 2004-2010

Date of Loss	Units Indemnified
9/1/04	27
10/25/2004	1
7/15/2005	1
9/1/2005	1

10/10/2005	1
11/17/2005	2

This is the data for the figure Appendix D9 on page 226: Clam indemnity dollars ($thousand) State: Florida; County: Indian River Loss Years 2000-2010

Date of Loss	Indemnity Dollars ($thousand)
7/15/00	34
8/15/00	108
9/15/00	108
10/15/2000	10
9/12/01	181
9/15/01	132
10/15/01	6
10/23/2001	41
3/4/2002	32
6/1/02	7
7/1/2002	30
9/1/2002	65
8/13/2003	31
8/20/2003	51
8/29/2003	1
9/6/2003	4
9/1/04	100
9/4/04	78
8/19/2008	7

This is the data for the figure Appendix D10 on page 227: Clam indemnity dollars ($thousand) State: Florida; County: Indian River Loss Years 2004-2010

Date of Loss	Indemnity Dollars ($thousand)
9/1/04	100
9/4/04	78
8/19/2008	7

This is the data for the figure Appendix D11 on page 228: Clam indemnity counts State: Florida; County: Indian River Loss Years 2000-2010

Date of Loss	Units Indemnified
7/15/00	1
8/15/00	2
9/15/00	4
10/15/2000	1

9/12/01	7
9/15/01	11
10/15/01	1
10/23/2001	1
3/4/2002	1
6/1/02	1
7/1/2002	3
9/1/2002	1
8/13/2003	1
8/20/2003	2
8/29/2003	1
9/6/2003	1
9/1/04	7
9/4/04	8
8/19/2008	1

This is the data for the figure Appendix D12 on page 229: Clam indemnity counts State: Florida; County: Indian River Loss Years 2004-2010

Date of Loss	Units Indemnified
9/1/04	7
9/4/04	8
8/19/2008	1

This is the data for the figure Appendix D13 on page 230: Clam indemnity dollars ($thousand) State: Florida; County: Levy Loss Years 2000-2010

Date of Loss	Indemnity Dollars ($thousand)
1/20/2000	15
2/15/2000	5
3/1/2000	76
3/15/2000	47
5/1/2000	80
6/1/2000	102
6/2/2000	10
6/15/2000	14
7/10/2000	4
7/15/00	98
7/31/2000	22
8/1/2000	53
8/9/2000	25
8/14/2000	10
9/11/2000	4
9/15/00	131
9/17/2000	138
9/22/2000	1

9/27/2000	38
1/5/2001	4
3/1/2001	2
3/19/2001	4
4/17/2001	22
4/25/2001	14
4/30/2001	61
5/1/2001	23
5/8/2001	8
5/11/2001	1
5/31/2001	6
7/1/2001	325
7/15/2001	25
7/22/2001	3
7/23/2001	599
7/24/2001	78
7/25/2001	145
8/2/2001	2
8/11/2001	3
9/12/01	41
10/16/2001	4
11/21/2001	37
11/29/2001	81
1/5/2002	442
1/6/2002	52
1/15/2002	10
2/1/2002	2
2/8/2002	37
2/28/2002	261
3/1/2002	240
3/10/2002	331
3/11/2002	48
4/1/2002	121
4/2/2002	48
4/23/2002	57
4/24/2002	35
5/1/2002	51
5/31/2002	33
6/1/02	184
6/3/2002	48
6/15/2002	57
7/1/2002	774
7/13/2002	39
7/15/2002	4
7/23/2002	30
7/28/2002	96
8/1/02	86
8/2/2002	30

8/26/2002	24
9/1/2002	142
10/1/2002	9
10/7/02	16
10/22/2002	11
10/30/2002	22
11/14/2002	2
1/1/2003	178
1/2/2003	15
1/3/2003	107
1/8/2003	49
1/15/2003	43
2/28/2003	56
3/3/2003	10
3/15/2003	48
3/17/2003	75
3/25/2003	15
3/26/2003	11
4/1/2003	9
4/3/2003	144
4/15/2003	44
5/1/2003	58
5/15/2003	7
5/19/2003	42
5/30/2003	137
6/1/2003	90
6/3/2003	13
7/1/03	15
7/5/2003	60
7/15/2003	17
8/1/03	23
8/15/2003	142
9/8/2003	7
9/9/2003	14
9/17/2003	13
5/4/2004	40
6/1/2004	4
8/1/2004	54
8/6/2004	20
8/13/2004	28
9/1/04	497
9/4/04	18
9/15/2004	4
10/1/2004	22
5/1/2005	4
6/5/2005	4
7/1/2005	3
7/9/2005	7

7/16/2005	14
8/1/2005	54
9/1/2005	2
10/1/2005	92
1/21/2006	14
5/1/2006	90
7/1/2006	21
8/20/2006	140
9/1/2006	43
11/14/2006	69
11/16/2006	64
2/1/2007	93
7/1/2007	3
7/15/2007	76
8/1/2007	180
8/7/2007	11
10/7/2007	7
12/1/2007	94
2/27/2008	70
3/1/2008	79
5/1/2008	31
8/1/2008	31
5/13/2009	1,203
5/29/2009	126
1/27/2010	50

This is the data for the figure Appendix D14 on page 231: Clam indemnity dollars ($thousand) State: Florida; County: Levy Loss Years 2004-2010

Date of Loss	Indemnity Dollars ($thousand)
5/4/2004	40
6/1/2004	4
8/1/2004	54
8/6/2004	20
8/13/2004	28
9/1/04	497
9/4/04	18
9/15/2004	4
10/1/2004	22
5/1/2005	4
6/5/2005	4
7/1/2005	3
7/9/2005	7
7/16/2005	14
8/1/2005	54
9/1/2005	2
10/1/2005	92

1/21/2006	14
5/1/2006	90
7/1/2006	21
8/20/2006	140
9/1/2006	43
11/14/2006	69
11/16/2006	64
2/1/2007	93
7/1/2007	3
7/15/2007	76
8/1/2007	180
8/7/2007	11
10/7/2007	7
12/1/2007	94
2/27/2008	70
3/1/2008	79
5/1/2008	31
8/1/2008	31
5/13/2009	1,203
5/29/2009	126
1/27/2010	50

This is the data for the figure Appendix D15 on page 232: Clam indemnity counts State: Florida; County: Levy Loss Years 2000-2010

Date of Loss	Units Indemnified
1/20/2000	1
2/15/2000	1
3/1/2000	2
3/15/2000	2
5/1/2000	4
6/1/2000	5
6/2/2000	1
6/15/2000	2
7/10/2000	1
7/15/00	1
7/31/2000	2
8/1/2000	1
8/9/2000	1
8/14/2000	1
9/11/2000	1
9/15/00	5
9/17/2000	9
9/22/2000	1
9/27/2000	1
1/5/2001	2
3/1/2001	1
3/19/2001	1

4/17/2001	3
4/25/2001	1
4/30/2001	1
5/1/2001	4
5/8/2001	1
5/11/2001	1
5/31/2001	1
7/1/2001	11
7/15/2001	2
7/22/2001	1
7/23/2001	28
7/24/2001	4
7/25/2001	2
8/2/2001	1
8/11/2001	1
9/12/01	1
10/16/2001	1
11/21/2001	1
11/29/2001	1
1/5/2002	21
1/6/2002	2
1/15/2002	1
2/1/2002	1
2/8/2002	1
2/28/2002	6
3/1/2002	10
3/10/2002	13
3/11/2002	1
4/1/2002	5
4/2/2002	1
4/23/2002	2
4/24/2002	1
5/1/2002	3
5/31/2002	1
6/1/02	8
6/3/2002	1
6/15/2002	1
7/1/2002	28
7/13/2002	1
7/15/2002	1
7/23/2002	1
7/28/2002	1
8/1/02	5
8/2/2002	1
8/26/2002	1
9/1/2002	2
10/1/2002	1
10/7/02	1

10/22/2002	1
10/30/2002	1
11/14/2002	1
1/1/2003	8
1/2/2003	1
1/3/2003	2
1/8/2003	1
1/15/2003	1
2/28/2003	3
3/3/2003	1
3/15/2003	1
3/17/2003	1
3/25/2003	2
3/26/2003	1
4/1/2003	1
4/3/2003	2
4/15/2003	2
5/1/2003	4
5/15/2003	2
5/19/2003	1
5/30/2003	2
6/1/2003	8
6/3/2003	2
7/1/03	3
7/5/2003	3
7/15/2003	1
8/1/03	3
8/15/2003	5
9/8/2003	1
9/9/2003	1
9/17/2003	1
5/4/2004	1
6/1/2004	1
8/1/2004	7
8/6/2004	1
8/13/2004	2
9/1/04	44
9/4/04	3
9/15/2004	1
10/1/2004	1
5/1/2005	1
6/5/2005	1
7/1/2005	1
7/9/2005	1
7/16/2005	1
8/1/2005	1
9/1/2005	1
10/1/2005	3

1/21/2006	1
5/1/2006	2
7/1/2006	1
8/20/2006	3
9/1/2006	1
11/14/2006	1
11/16/2006	1
2/1/2007	1
7/1/2007	1
7/15/2007	1
8/1/2007	9
8/7/2007	1
10/7/2007	1
12/1/2007	1
2/27/2008	2
3/1/2008	4
5/1/2008	1
8/1/2008	1
5/13/2009	33
5/29/2009	1
1/27/2010	4

This is the data for the figure Appendix D16 on page 233: Clam indemnity counts State: Florida; County: Levy Loss Years 2004-2010

Date of Loss	Units Indemnified
5/4/2004	1
6/1/2004	1
8/1/2004	7
8/6/2004	1
8/13/2004	2
9/1/04	44
9/4/04	3
9/15/2004	1
10/1/2004	1
5/1/2005	1
6/5/2005	1
7/1/2005	1
7/9/2005	1
7/16/2005	1
8/1/2005	1
9/1/2005	1
10/1/2005	3
1/21/2006	1
5/1/2006	2
7/1/2006	1
8/20/2006	3
9/1/2006	1

11/14/2006	1
11/16/2006	1
2/1/2007	1
7/1/2007	1
7/15/2007	1
8/1/2007	9
8/7/2007	1
10/7/2007	1
12/1/2007	1
2/27/2008	2
3/1/2008	4
5/1/2008	1
8/1/2008	1
5/13/2009	33
5/29/2009	1
1/27/2010	4

This is the data for the figure Appendix D17 on page 234: Clam indemnity dollars ($thousand) State: Massachusetts; County: Barnstable Loss Years 2000-2010

Date of Loss	Indemnity Dollars ($thousand)
1/10/2000	81
1/20/2000	3
1/27/2000	11
3/6/2000	13
1/1/2001	150
1/1/2003	127
1/15/2003	20
1/24/2003	17
2/21/2003	21
4/3/2003	4
1/1/2004	22
11/1/2004	56
1/1/2005	279
10/25/2005	109
2/1/2006	30
4/25/2006	93
1/29/2007	34
2/1/2007	34
2/6/2007	14
6/11/2007	4
1/15/2008	39
5/20/2008	22
1/1/2010	19

This is the data for the figure Appendix D18 on page 235: Clam indemnity dollars ($thousand) State: Massachusetts; County: Barnstable Loss Years 2004-2010

Date of Loss	Indemnity Dollars ($thousand)
1/1/2004	22
11/1/2004	56
1/1/2005	279
10/25/2005	109
2/1/2006	30
4/25/2006	93
1/29/2007	34
2/1/2007	34
2/6/2007	14
6/11/2007	4
1/15/2008	39
5/20/2008	22
1/1/2010	19

This is the data for the figure Appendix D19 on page 236: Clam indemnity counts State: Massachusetts; County: Barnstable Loss Years 2000-2010

Date of Loss	Units Indemnified
1/10/2000	8
1/20/2000	1
1/27/2000	1
3/6/2000	1
1/1/2001	1
1/1/2003	3
1/15/2003	1
1/24/2003	1
2/21/2003	1
4/3/2003	1
1/1/2004	3
11/1/2004	2
1/1/2005	5
10/25/2005	1
2/1/2006	3
4/25/2006	2
1/29/2007	1
2/1/2007	2
2/6/2007	1
6/11/2007	1
1/15/2008	1
5/20/2008	1
1/1/2010	1

This is the data for the figure Appendix D20 on page 237: Clam indemnity counts State: Massachusetts; County: Barnstable Loss Years 2004-2010

Date of Loss	Units Indemnified
1/1/2004	3
11/1/2004	2
1/1/2005	5
10/25/2005	1
2/1/2006	3
4/25/2006	2
1/29/2007	1
2/1/2007	2
2/6/2007	1
6/11/2007	1
1/15/2008	1
5/20/2008	1
1/1/2010	1

This is the data for the figure Appendix D21 on page 238: Clam indemnity dollars ($thousand) State: South Carolina; County: Charleston Loss Years 2000-2010

Date of Loss	Indemnity Dollars ($thousand)
2/22/2003	78
8/30/2004	32

This is the data for the figure Appendix D22 on page 239: Clam indemnity dollars ($thousand) State: South Carolina; County: Charleston Loss Years 2004-2010

Date of Loss	Indemnity Dollars ($thousand)
8/30/2004	32

This is the data for the figure Appendix D23 on page 240: Clam indemnity counts State: South Carolina; County: Charleston Loss Years 2000-2010

Date of Loss	Units Indemnified
2/22/2003	2
8/30/2004	1

This is the data for the figure Appendix D24 on page 241: Clam indemnity counts State: South Carolina; County: Charleston Loss Years 2004-2010

Date of Loss	Units Indemnified
8/30/2004	1

This is the data for the figure Appendix D25 on page 242: Clam indemnity dollars ($thousand) State: Virginia; County: Accomack Loss Years 2000-2010

Date of Loss	Indemnity Dollars ($thousand)
1/29/2003	128
2/12/2003	77
9/18/2003	71
1/1/2004	30
2/1/2004	16
2/6/2004	205
2/10/2004	129
2/12/2004	9
2/19/2004	87
2/24/2004	22
2/26/2004	43
4/27/2004	104
5/3/2004	42
3/7/2007	23
7/17/2007	22
11/17/2009	228
3/18/2010	24
8/26/2010	29

This is the data for the figure Appendix D26 on page 243: Clam indemnity dollars ($thousand) State: Virginia; County: Accomack Loss Years 2004-2010

Date of Loss	Indemnity Dollars ($thousand)
1/1/2004	30
2/1/2004	16
2/6/2004	205
2/10/2004	129
2/12/2004	9
2/19/2004	87
2/24/2004	22
2/26/2004	43
4/27/2004	104
5/3/2004	42
3/7/2007	23
7/17/2007	22
11/17/2009	228
3/18/2010	24
8/26/2010	29

This is the data for the figure Appendix D27 on page 244: Clam indemnity counts State: Virginia; County: Accomack Loss Years 2000-2010

Date of Loss	Units Indemnified
1/29/2003	1
2/12/2003	1
9/18/2003	2
1/1/2004	1
2/1/2004	1
2/6/2004	5
2/10/2004	3
2/12/2004	1
2/19/2004	2
2/24/2004	1
2/26/2004	1
4/27/2004	1
5/3/2004	1
3/7/2007	1
7/17/2007	2
11/17/2009	7
3/18/2010	2
8/26/2010	2

This is the data for the figure Appendix D28 on page 245: Clam indemnity counts State: Virginia; County: Accomack Loss Years 2004-2010

Date of Loss	Units Indemnified
1/1/2004	1
2/1/2004	1
2/6/2004	5
2/10/2004	3
2/12/2004	1
2/19/2004	2
2/24/2004	1
2/26/2004	1
4/27/2004	1
5/3/2004	1
3/7/2007	1
7/17/2007	2
11/17/2009	7
3/18/2010	2
8/26/2010	2

This is the data for the figure Appendix D29 on page 246: Clam indemnity dollars ($thousand) State: Virginia; County: Northampton Loss Years 2000-2010

Date of Loss	Indemnity Dollars ($thousand)
6/5/2001	151
3/15/2002	36
6/14/2002	53
6/26/2002	7
9/17/2002	52
1/29/2003	6
5/21/2003	17
9/1/2003	69
9/18/2003	183
1/1/2004	18
2/1/2004	142
2/23/2004	90
2/25/2004	32
3/10/2004	42
9/1/04	4
9/4/04	6
8/24/2006	57
9/1/2006	56

This is the data for the figure Appendix D30 on page 247: Clam indemnity dollars ($thousand) State: Virginia; County: Northampton Loss Years 2004-2010

Date of Loss	Indemnity Dollars ($thousand)
1/1/2004	18
2/1/2004	142
2/23/2004	90
2/25/2004	32
3/10/2004	42
9/1/04	4
9/4/04	6
8/24/2006	57
9/1/2006	56

This is the data for the figure Appendix D31 on page 248: Clam indemnity counts State: Virginia; County: Northampton Loss Years 2000-2010

Date of Loss	Units Indemnified
6/5/2001	2
3/15/2002	1
6/14/2002	1
6/26/2002	1
9/17/2002	1
1/29/2003	1
5/21/2003	1

9/1/2003	3
9/18/2003	3
1/1/2004	1
2/1/2004	6
2/23/2004	3
2/25/2004	2
3/10/2004	1
9/1/04	1
9/4/04	1
8/24/2006	1
9/1/2006	2

This is the data for the figure Appendix D32 on page 249: Clam indemnity counts State: Virginia; County: Northampton Loss Years 2004-2010

Date of Loss	Units Indemnified
1/1/2004	1
2/1/2004	6
2/23/2004	3
2/25/2004	2
3/10/2004	1
9/1/04	1
9/4/04	1
8/24/2006	1
9/1/2006	2