Regional Impact Evaluation

An Initial Assessment of the Economic Impacts of Sandy on New Jersey and New York Commercial and Recreational Fishing Sectors

NOAA Fisheries, Office of Science & Technology and Northeast Fisheries Science Center

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Background

Sandy struck New Jersey and New York on October 29, 2012. On November 16, the Secretary of Commerce declared a federal fisheries disaster in New York and New Jersey, citing Magnuson–Stevens Fishery Conservation and Management Act (MSA) Section 315 and Interjurisdictional Fisheries Act (IFA) Section 308(d).

This report provides results from a rapid appraisal of impacts to fishing communities in New York and New Jersey from Sandy. This report also serves as NOAA Fisheries (NMFS) 60 day assessment of impacts from Sandy, a requirement for disaster declarations filed under MSA 315. More specifically, MSA 315 requires that within two months after a catastrophic regional fishery disaster, the Secretary of Commerce, through NOAA Fisheries, will provide the Governors of affected states (in this case New York and New Jersey) an economic and socio-economic evaluation of the affected region's fisheries using the best information available. The goals of this evaluation are to assess the impacts of Sandy in affected communities that are involved in commercial or charter fishing, and characterize the effects of the storm on fishing-related businesses and infrastructure.

The information contained herein is not the sole source of information the Governors will have on Sandy impacts. That is, coincident to the NMFS community rapid appraisal effort, New Jersey and New York also conducted damage assessments to their fisheries and fishing industries. The other studies NMFS is aware of include a bait and tackle shop survey, a for-hire survey, and an appraisal of impacts to aquaculture facilities by New Jersey Department of Environmental Protection (NJ DEP). The New York Department of Environmental Conservation (NY DEC) conducted assessments of recreational fishing sites that included public ramps and piers, and, in cooperation with New York Sea Grant, a survey of for-hire operations and bait and tackle shops. Taken as a whole, the NMFS assessments, the New York assessments, and New Jersey assessments can provide valuable insights into the impacts of Sandy on fishing-related businesses. These evaluations can assist the Governors in assessing the current and future economic viability of affected fisheries.

Overview of the New Jersey and New York Fishing Industries

New Jersey and New York both have significant commercial and recreational fishing industries that support vibrant fishing communities as well as contribute to the broader coastal and state economies. In 2011, the commercial fishing industry of New York generated $5 billion in sales, contributed $1.8 billion to gross state product, and supported 42,000 jobs across the broader economy (Table 1a).[1]

Table 1a. Economic Impacts of the New York Seafood Industry, 2011 (*thousands of dollars*)

	With Imports			Without Imports		
	Jobs	Sales	Value Added	Jobs	Sales	Value Added
Total Impacts	41,847	5,102,910	1,801,303	2,963	138,229	67,182
Commercial Harvesters	1,386	67,485	29,835	1,386	67,485	29,835
Seafood Processors & Dealers	883	126,868	62,743	104	15,157	7,496
Importers	14,284	3,929,115	1,197,766	0	0	0
Seafood Wholesalers & Distributors	4,155	303,956	138,550	102	7,471	3,405
Retail	21,139	675,486	372,410	1,370	48,116	26,446

[1] These economic impacts include imports, which are important component of the New York seafood supply chain. Without imports, the commercial fishing industry generated $138 million in sales impacts, contributed $67 million to gross state product, and supported 3,000 jobs.

Similarly, the marine recreational fishing industry is also a major driver to the coastal and state economies (Table 1b). In 2011, the New York recreational fishing industry generated $369 million in sales, contributed $212 million to gross state product, and supported 3,000 jobs across the broader state economy.

Table 1b. Economic Impacts of the New York Recreational Fishing Industry, 2011 *(thousands of dollars)*

	Jobs	Sales	Income	Value Added
Trip Impacts by Fishing Mode:				
For-Hire	1,043	102,927	36,048	62,326
Private Boat	936	113,282	40,674	70,922
Shore	222	23,992	8,692	14,646
Total Durable Equipment Impacts	770	129,181	43,324	64,274
Total State Trip and Durable Equipment Economic Impacts	2,972	369,382	128,738	212,169

In New Jersey, the commercial fishing industry generated $6.6 billion in sales, contributed $2.4 billion to gross state product and supported 44,000 jobs across the broader state economy (Table 2a).[2] The recreational fishing industry generated $1.7 billion in sales, contributed $871 million to gross state product and supported 10,000 jobs across the state economy (Table 2b).

Table 2a. Economic Impacts of the New Jersey Seafood Industry, 2011 (*thousands of dollars*)

	With Imports			Without Imports		
	Jobs	Sales	Value Added	Jobs	Sales	Value Added
Total Impacts	43,638	6,563,733	2,407,754	10,115	818,397	390,460
Commercial Harvesters	3,602	426,864	181,894	3,602	426,864	181,894
Seafood Processors & Dealers	6,049	560,815	277,214	924	86,813	42,912
Importers	16,022	4,407,196	1,343,506	0	0	0
Seafood Wholesalers & Distributors	2,535	409,652	179,034	266	42,948	18,770
Retail	15,430	759,207	426,105	5,324	261,773	146,885

Table 2b. Economic Impacts of the New Jersey Recreational Fishing Industry, 2011 *(thousands of dollars)*

	Jobs	Sales	Income	Value Added
Trip Impacts by Fishing Mode:				
For-Hire	580	62,526	21,058	36,350
Private Boat	1,270	179,913	54,191	93,076
Shore	783	93,766	30,440	50,978
Total Durable Equipment Impacts	7,333	1,360,911	448,628	690,578
Total State Trip and Durable Equipment Economic Impacts	9,965	1,697,115	554,318	870,983

In this report, we characterize the extent of damages incurred from Sandy by various sectors of the commercial fishing industry and the recreational fishing industry using the rapid appraisal methodology described below.

[2] These economic impacts include imports, which are important component of the New Jersey seafood supply chain. Without imports, the commercial fishing industry generated $818 million in sales impacts, contributed $390 million to gross state product, and supported 10,000 jobs.

Rapid Appraisal Methodology

The rapid appraisal methodology used in this assessment was adapted from the disaster assessments conducted by NMFS for Hurricane Katrina and Hurricane Rita. This section describes key features of this effort.

Fishing Communities: Communities were objectively selected by first identifying key commercial and recreational ports using results from a recent NMFS study of fishing community vulnerability and resiliency (Jepson and Colburn In prep).[3] This study used U.S. Census data, NMFS commercial fisheries data (landed value, pounds and number of dealers), Marine Recreational Information Program (MRIP) site survey data reflecting private, charter, and shore fishing activity, and other data sources to develop indices of characteristics likely to contribute to communities' ability, or inability, to recover from natural disasters and other disturbances. A total of 14 indices were developed. They can be grouped into three broad areas: social vulnerability, gentrification pressure, and fishing dependence. Social vulnerability looks to capture the economic reality and social diversity of a community, and includes poverty rates, population composition, and personal disruption measures. Gentrification pressure identifies community issues associated with aging populations, land conversion pressure, and waterfront access. Fishing dependence records a community's economic reliance on and engagement in recreational and commercial fishing activities, along with the general magnitude of fishing activity associated with a community.

While there are many communities in New York and New Jersey with some fishing activity, the indices of fishing engagement and reliance were used by NMFS to quickly identify communities most heavily dependent on commercial and/or recreational fishing. NMFS field staff then met with Northeast Regional Office port agents and NJ DEP and NY DEC staff to overlay the list of key fishing communities with storm-impacted communities. The resulting list of communities helped to identify priority communities (those with substantial engagement in or reliance upon fishing), ensure a representative sample of fishing communities in terms of impacts, and also helped to time field work, i.e., avoid scheduling field work in communities that authorities were still not granting access to for safety reasons. As depicted in Figure 1, Communities in which NMFS conducted Sandy Economic Impact Interviews, NMFS essentially spanned the coastline in both New York and New Jersey. In New Jersey, NMFS conducted interviews in 100% of the communities identified as substantially engaged or reliant upon fishing while in New York NMFS conducted interviews in 12 of the 14 (86%) communities identified as substantially engaged or reliant upon fishing. Over 62% of the New Jersey interviews were conducted in these key fishing communities and 80% of the New York interviews were conducted in these communities.

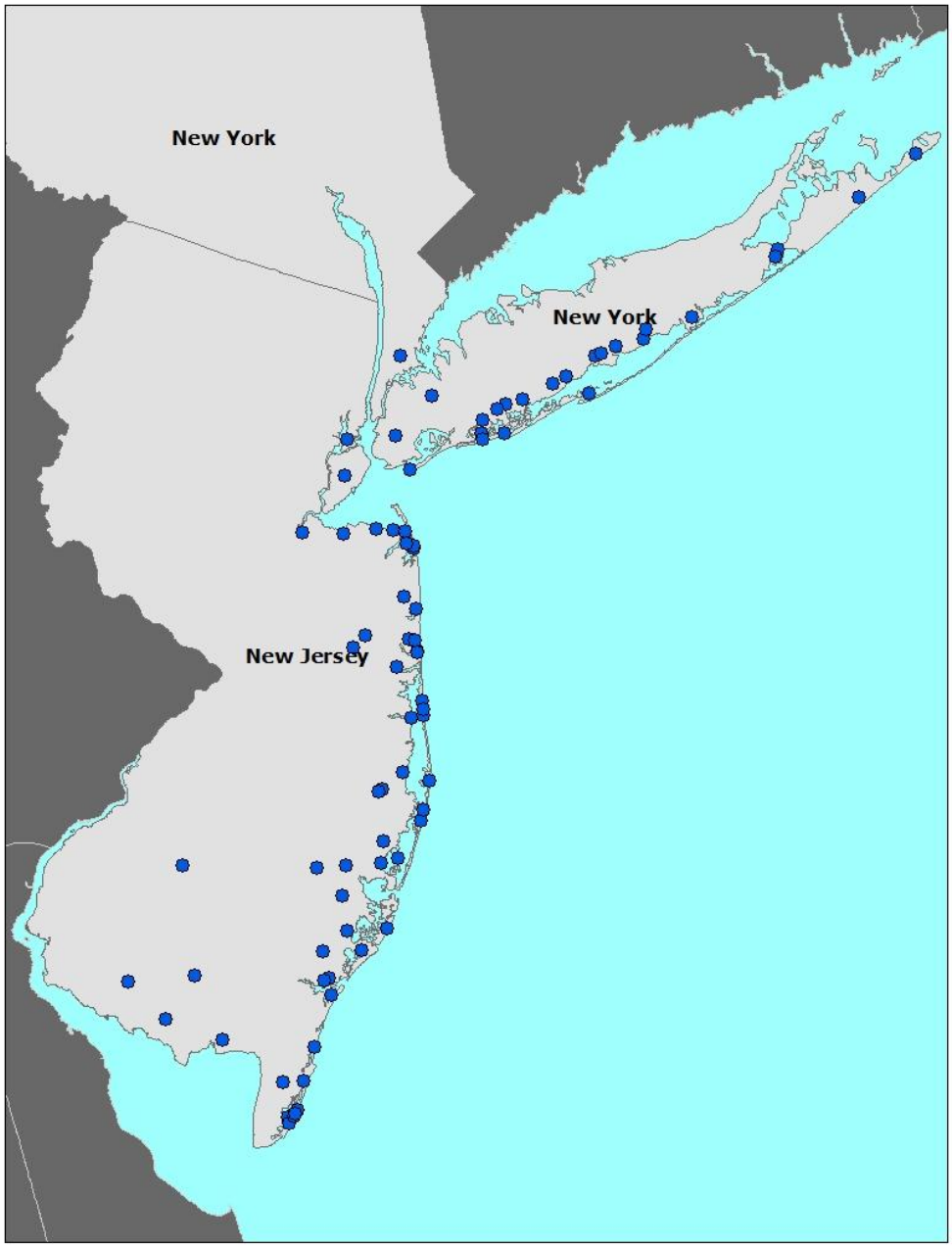
Population Frame: The population of firms interviewed for the rapid appraisal includes commercial fishing vessels, for-hire vessels, dealers and processors, bait and tackle shops, marinas, and other related shoreside infrastructure for commercial and recreational fishing. The population frames were taken from NMFS license files, state license files and a variety of other sources including the NY Metropolitan Transportation Authority (MTA), the NJ MTA, the Mid-Atlantic Fishery Management Council, and other key informants (see Table 3).

Approach: The rapid appraisal was primarily conducted via in-person interviews, with phone interviews used to follow-up with contacts, as necessary, as well as to expand the sample size for some sectors. This enabled field staff to have first-hand knowledge of impacts and how these impacts varied both within a community and across communities. Numerous pictures were also taken in each community to document impacts. While there was an intent to answer set questions used in this analysis, the interview format was conversational and information gleaned was later transcribed onto data collection sheets. Field staff quickly realized that the individuals they were interviewing needed to talk about their experiences and that the conversations would yield far more useful information than a more formal interview technique.

Even when an interview directly touched on questions used in the database, respondents' often could not answer. Damage-related questions were particularly challenging for respondents. Some could only provide damage estimates in terms of the percentage of the structure that was damaged rather than in dollar terms.

[3] Jepson, Michael and Lisa L. Colburn. In prep. Development of Social Indicators of Fishing Community Vulnerability and Resilience in the U.S. Southeast and Northeast Regions. Draft technical memorandum under review.

Figure 1. Coastal Communities in which NMFS conducted Sandy Economic Impact Interviews



This resulted in some respondents providing damage estimates for structures and vessels in terms of percentages and other respondents providing estimates of these losses in dollar terms.

Further, if the field interviewers contacted a respondent prior to an insurance appraiser assessing their damages, respondents were often at a loss to estimate losses or insurance coverage. Field interviewers were advised to first ask whether the insurance appraisal had been conducted; if not, they asked no further questions regarding damages. The timing of the storm also created difficulties contacting some firm owners. While some fishing and related businesses normally operate all year, there are others that follow a seasonal cycle whereby they close or operate at a reduced level during some winter months (December–April). The effect of the storm for some resulted in earlier than usual closures or cessation of fishing activity making in-person interviews challenging.

An overarching challenge to this survey was the broad scale level of damage to some communities. Safety concerns initially restricted access to some fishing communities. Field staff worked around these access issues but it should be noted that some communities in New Jersey were not accessible by field staff for the entire time staff were in the field. This may result in a downward bias in results but whether that occurred could only be verified with additional field work.

Sample Sizes: As indicated in Table 3, sample sizes for some firm types were low. In New Jersey, the number of interviews conducted of seafood processors and aquaculture operations was low (four and nine interviews, respectively) simply due to the small number of these operations in New Jersey. For-hire vessel owners also proved difficult to intercept in New Jersey and phone interviews were conducted in January to build sample. Nevertheless, the sample size was still only 28 interviews. The number of interviews obtained for the remaining sectors (excluding the "Other" firm-type category, for which results are not presented in this report) ranged from 34 (Marinas) to 75 (Bait & Tackle shops). In New York, the number of interviews conducted for seafood processors was low (four interviews), again due to the small number of these operations in New York. In New York, commercial fishermen proved to be the most difficult group to intercept and phone interviews were conducted in New York to build sample. The number of interviews obtained for the remaining sectors ranged from 45 (Bait & Tackle) to 63 (Marinas and For Hire operations).[4]

Table 3. Number of Interviews Conducted in New Jersey and New York by Firm Type

Firm Type	Number of Interviews Conducted	Population Frame	Source of Population Frame
New Jersey			
Aquaculture	9	**12**	Northeast Regional Office, supplemented by New Jersey Division of Fish & Wildlife, Bureau of Marine Fisheries
Bait & Tackle (B&T)	75	171	194 from New Jersey Department of Environmental Protection (NJ DEP) (some of which are included in Marina & Other category below); additional contacts provided by key informants
For-Hire	28	956 Charter; 42 Headboats	NMFS MRIP 2012 Wave 6 For Hire Directory
Seafood Dealers	41	116	NJ DEP; NMFS Northeast Regional Office
Harvesters	51	505	NMFS Federal Fishing Permit File, Northest Regional Office, 2012. Note frame excludes state-licensed vessels as well as fishing vessels with Atlantic Highly Migratory Species permits.
Marinas	34		None. Firms identified via field work.
Marina & Other	40		None. Firms identified via field work.
Other	14		None. Firms identified via field work.
Seafood Processors	4	7 federal	NMFS Office of Science & Technology Federal Processor Directory
New York			
Bait & Tackle	45	139	New York Fishing Tackle Trade Association
For-Hire	63	543 Charter; 37 Headboats	NMFS MRIP 2012 Wave 6 For Hire Directory
Dealer	59	453	New York Department of Environmental Conservation; NMFS Northeast Regional Office
Harvester	32	313	NMFS Federal Fishing Permit File, Northeast Regional Office, 2012. Note frame excludes state-licensed vessels as well as fishing vessels with Atlantic Highly Migratory Species permits.
Marina	63		None. Firms identified via field work.
Other	30		None. Firms identified via field work.
Processor	4	11 federal	NMFS Office of Science & Technology Federal Processor Directory

[4] Note that phone interviews were conducted for almost all firm types. In New Jersey, for hire operations accounted for the majority of phone interviews and in New York, commercial fishermen accounted for the majority of phone interviews.

RAPID APPRAISAL RESULTS: NEW JERSEY

NEW JERSEY RECREATIONAL FISHING INDUSTRY

Bait & Tackle Shops

Damages to bait and tackle shops (Table 4) varied considerably by community, ranging from little or no damage in a number of the communities/community groups to highs of 41%, 50% and 100% of a total structural loss in Brigantine, Belmar/Bradley Beach, and Marmora/Somers Point, respectively. For respondents that reported structural damages to bait and tackle shops in dollar terms, damages in Lavalette/Seaside Heights were the largest ($500,000). Product damage (e.g., spoiled bait, ruined tackle, etc.) averaged $33,000, with damages highest in Lavalette/Seaside Heights ($200,000) and Marmora/Somers Point ($250,000). Product damages were generally not insured, although one firm reported the shop's merchandise was covered for flood insurance but the building was not covered.

Table 4. New Jersey Bait & Tackle Shop Structural Damages & Insurance Coverage by Community

	Average Structural Damage %	Average Structural Loss $	Average Product Damage $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
B&T (n=75)	**21%**	**53,000**	**32,900**	**65%**	**21%**	**25%**	**100,020**
Absecon (n=3)	3%	8,500	6,500	100%	0%	0%	0
Atlantic Highlands/Highlands/Sea Bright	0%	0	0				
Avalon/Stone Harbor (n=3)	15%		3,000	0%			
Barnegat (n=3)	35%	87,500	35,000	100%	0%	100%	100
Bayonne (n=1)[5]							
Belford (n=3)	0%	0	9,700	33%	0%		
Belmar/Bradley Beach (n=3)	50%	140,000	62,500	50%	0%		500,000
BData are confidential for all communities	26%	1,000	42,500	50%	0%	0%	
Brielle/Wall (n=4)	0%	1,333	2,667	50%	0%	50%	
Brigantine (n=7)	41%	83,500	39,800	40%	25%	13%	0
Brighton Beach/Ship Bottom/Surf City (n=4)	28%		0	100%			
Cape May/Wildwood/Wildwood Crest (n=6)	0%	0	5,000	0%			
Egg Harbor Twp/Germania/Port Republic	38%	3,000	4,000	0%			
Forked River/Waretown (n=5)	13%	33,333	40,000	100%	0%		
Lavalette/Seaside Heights (n=3)	38%	500,000	200,000	100%	100%		
Little Egg Harbor/Tuckerton (n=3)	15%			100%	100%		
Margate/Ocean City/Strathmere (n=4)	25%	0	0	100%	0%		
Marmora/Somers Point (n=3)	100%	200,000	250,000	100%	0%		
Sea Isle (n=5)	18%	6,667	18,000	100%	0%		
Seaside Park (n=4)	30%						
West Creek (n=2)[5]							
Williamstown (n=1)[5]							

[5] Data are confidential for communities identified in red font.

The impacts of Sandy on the operating status of bait and tackle shops is shown in Table 5. Virtually all of the New Jersey bait and tackle shops were open according to their usual operating procedures for this time of year. That is, if a firm was usually only open on say weekends, being open on weekends represented achieving 100% of routine operating status. Overall, bait and tackle shops were only operating at 16% of routine operations during Week 1 following the storm and had achieved almost 50% by Week 4. There was considerable variation across communities. While shops in Barnegat and Brielle/Wall were relatively quickly able to resume normal operations, shops in Brighton Beach/Ship Bottom/Surf City, Marmora/Somers Point, and Seaside Park remained closed. A number of businesses reported reduced operations due to the lack of customers. A final caveat to Table 5 is that while a shop may be open, it may not be operating at 100%; instead, the shop owner may have some portion of the business open but may have his or her staff still cleaning up from the storm.

Table 5. New Jersey Average Bait & Tackle Shop Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
B&T (n=75)	**98%**	**16%**	**38%**	**45%**	**49%**
Absecon (n=3)	100%	23%	33%	33%	67%
Atlantic Highlands/Highlands/Sea Bright (n=3)	100%	0%	50%	50%	50%
Avalon/Stone Harbor (n=3)	100%	60%	50%	50%	50%
Barnegat (n=3)	100%	25%	100%	100%	100%
Bayonne (n=1)[5]					
Belford (n=3)	100%	0%	50%	53%	50%
Belmar/Bradley Beach (n=3)		5%	55%	75%	80%
Brick/Point Pleasant Beach/Toms River (n=4)	100%	0%	0%	45%	36%
Brielle/Wall (n=4)	100%	17%	80%	100%	100%
Brigantine (n=7)	100%	0%	20%	23%	43%
Brighton Beach/Ship Bottom/Surf City (n=4)	100%	0%	0%	0%	0%
Cape May/Wildwood/Wildwood Crest (n=6)	88%	50%	50%	64%	64%
Egg Harbor Twp/Germania/Port Republic (n=3)	100%	0%	0%	0%	25%
Forked River/Waretown (n=5)	100%	33%	67%	67%	67%
Lavalette/Seaside Heights (n=3)	100%	5%	5%	5%	5%
Little Egg Harbor/Tuckerton (n=3)	100%	0%	20%	20%	20%
Margate/Ocean City/Strathmere (n=4)	100%	20%	50%	50%	50%
Marmora/Somers Point (n=3)	100%	0%	0%	0%	0%
Sea Isle (n=5)	100%	0%	33%	33%	35%
Seaside Park (n=4)	100%	0%	0%	0%	0%
West Creek (n=2)[5]					
Williamstown (n=1)[5]					

On average, during the first week following Sandy, bait and tackle shop jobs fell 65%, from an average of 4.5 jobs per shop to 1.5 jobs per shop (Table 6). Employment steadily increased over the next three weeks but was still down 51% at Week 4 following Sandy compared to before the storm. Atlantic Highlands/Highlands/Sea Bright, Brighton Beach/Ship Bottom/Surf City, Egg Harbor Township/Germania/Port Republic, and Marmora/Somers Point still reported no employment at their bait and tackle shops at Week 4 following Sandy.

Table 6. New Jersey Average Number of Bait & Tackle Jobs per Shop, Pre and Post-Sandy by Community

	Jobs Pre-Storm	Jobs Week 1	Jobs Week 2	Jobs Week 3	Jobs Week 4
B&T (n=75)	**4.5**	**1.5**	**2.2**	**2.3**	**2.2**
Absecon (n=3)	1.5	1.5	1.5	1.5	1.5
Atlantic Highlands/Highlands/Sea Bright (n=3)	3.0	0.0	3.0	0.0	0.0
Avalon/Stone Harbor (n=3)	3.0	3.0	3.0	3.0	3.0
Barnegat (n=3)	4.3	2.0	2.0	3.0	3.0
Bayonne (n=1)[5]					
Belford (n=3)	4.7	0.7	3.3	3.3	3.3
Belmar/Bradley Beach (n=3)	2.5	2.5	2.5	2.5	2.5
Brick/Point Pleasant Beach/Toms River (n=4)	2.8	1.8	1.8	1.8	0.3
Brielle/Wall (n=4)	4.7	0.3	4.7	4.7	4.7
Brigantine (n=7)	3.3	1.7	1.7	1.7	1.7
Brighton Beach/Ship Bottom/Surf City (n=4)	10.5	0.0	0.0	0.0	0.0
Cape May/Wildwood/Wildwood Crest (n=6)	4.3	2.0	2.0	2.7	2.0
Egg Harbor Twp/Germania/Port Republic (n=3)	3.0	0.0	0.0	0.0	0.0
Forked River/Waretown (n=5)	4.0	3.3	3.3	3.3	3.3
Lavalette/Seaside Heights (n=3)	16.0	2.5	2.5	3.0	3.0
Little Egg Harbor/Tuckerton (n=3)	9.0				
Margate/Ocean City/Strathmere (n=4)	4.5	1.0	1.0	2.0	2.0
Marmora/Somers Point (n=3)	2.0	0.0	0.0	0.0	0.0
Sea Isle (n=5)	3.0	0.0	1.3	1.3	1.8
West Creek (n=2)[5]					
Williamstown (n=1)[5]					

Marinas, Marinas & Bait and Tackle Shops, Marina & Other Businesses

In New Jersey, it was fairly common to find marina owners who also owned or whose families owned other enterprises (e.g., bait and tackle shops, restaurants, seafood markets, boat rentals, etc.) at the same locale. Interviewees often could only discuss these operations and the impacts from Sandy in terms of the combined firms rather than impacts to separate entities. Tables 7-9 separate impacts to marina operations from impacts to these aggregated operations.

Highlands/Keyport/Sea Bright had the highest structural damages to Marinas for both respondent reporting damages in dollar terms ($417,000) as well as those reporting damages in percentage terms (88%). Total damages to Marinas (Table 7) averaged $485,000 of a total structural loss, with structural damages averaging $181,000, dock damages averaging $249,000 and product damages averaging $55,000, Average total reported damages were highest in Bayonne ($408,000), Brigantine ($557,000) and Highlands/Keyport/Sea Bright ($984,168). For Marinas & Other operations, respondents in Cape May/Cape May Courthouse who reported structural damages in dollar terms averaged $425,000 in damages while respondents who answered in percentage terms had no damages suggesting considerable spatial variation in damages for these types of operations in these communities.

In contrast to Cape May/Cape May Courthouse, respondents that reported damages in percentage terms in Hazlet/Keyport/Laurence Harbor reported heavy structural damages to Marinas & Other operations (75%) but those who reported damages in dollar terms had relatively little damage ($10,000). Overall, average total damages to the buildings, product, and docks were $499,000, with structural damages averaging $296,000, dock damages averaging $153,000 and product damages averaging $50,000.

Table 7. New Jersey Marina and Marina & Other Structural, Product and Dock by Community

	Average Structural Damage %	Average Structural Loss $	Average Product Damage $	Average of Dock Damages %	Average of Dock Losses $
Marina (n=34)	**35%**	**180,631**	**55,278**	**31%**	**248,688**
Bayonne (n=4)	50%	87,500	20,000	100%	300,000
Beach Haven/Barnegat Light (n=5)	28%	100,000	64,000		87,500
Belmar/Brielle/Manasquan (n=5)	34%	6,250	0	0%	
Brigantine (n=6)	28%	228,333	54,000		275,000
Forked River/Waretown (n=5)	38%	151,020	37,400	13%	63,500
Highlands/Keyport/Sea Bright (n=3)	88%	416,667	167,500		400,000
New Gretna (n=1)[5]					
Seaside Heights (n=2)[5]					
Marina & Other (n=40)	**35%**	**295,913**	**49,558**	**51%**	**153,086**
Absecon/Beach Haven/Holgate (n=3)	17%	0	0	25%	114,750
Cape May/Cape May Courthouse (n=5)	0%	425,000	190,000		142,500
Fairton/Greenwich (n=2)[5]					
Hazlet/Keyport/Laurence Harbor/Parlin (n=5)	75%	10,000	7,000	50%	1,000
Heislerville (n=2)[5]					
Highlands (n=3)	61%	225,000	128,750		350,000
Little Egg Harbor/Tuckerton (n=6)	30%	150,000	67,667	73%	50,000
Margate/Somers Point (n=3)		350,000	3,000		500,000
Rumson (n=1)[5]					
Sea Isle (n=3)	11%	14,286	3,286	0%	7,500

Most Marinas (95%) had insurance but often did not have either full coverage or the correct coverage for the damages sustained (Table 8). In contrast, marina and other operations had a much lower level of insurance coverage (58%). Overall, only 34% of reported damages to both Marinas and only 7% of reported damages to Marina & Other operations were covered by insurance. By and large, most marinas did not have insurance on their docks, which led to substantial losses. No marina operation had plans to re-locate as a result of Sandy.

Table 8. New Jersey Marina and Marina & Other Insurance and Insurance Coverage by Community

	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
Marina (n=34)	**95%**	**55%**	**34%**	**171,071**
Bayonne (n=4)	100%	100%		
Beach Haven/Barnegat Light (n=5)	80%	50%	0%	18,750
Belmar/Brielle/Manasquan (n=5)	100%	0%	70%	
Brigantine (n=6)	100%	33%		10,000
Forked River/Waretown (n=5)	100%	100%	100%	106,500
Highlands/Keyport/Sea Bright (n=3)	100%	100%		468,500
New Gretna (n=1)[5]				
Seaside Heights (n=2)[5]				
Marina & Other (n=40)	**58%**	**23%**	**7%**	**43,333**
Absecon/Beach Haven/Holgate (n=3)	50%	0%	0%	
Cape May/Cape May Courthouse (n=5)	100%			
Fairton/Greenwich (n=2)[5]				
Hazlet/Keyport/Laurence Harbor/Parlin (n=5)	50%	0%		
Heislerville (n=2)[5]				
Highlands (n=3)	67%	67%	0%	18,333
Little Egg Harbor/Tuckerton (n=6)	100%	0%		100,000
Margate/Somers Point (n=3)	100%		20%	80,000
Rumson (n=1)[5]				
Sea Isle (n=3)	25%	0%		

As shown in Table 9, virtually all Marinas and Marina & Other operations were open immediately prior to Sandy. Immediately following Sandy, Marinas were operating at 13% of their usual level while Marina & Other operations were operating at 20% of usual operations. Firms interviewed in Highlands/Keyport/Sea Bright, Hazlet/Keyport/Laurence Harbor/Parlin, Highlands, and Little Egg Harbor/Tuckerton reporting that they were closed for two full weeks. By Week 4, both Marinas and Marina & Other operations were, on average, open roughly half time.

Table 9. New Jersey Marina and Marina & Other Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
Marina (n=34)	**99%**	**13%**	**31%**	**41%**	**48%**
Bayonne (n=4)	94%	0%	11%	11%	16%
Beach Haven/Barnegat Light (n=5)	100%	0%	10%	40%	60%
Belmar/Brielle/Manasquan (n=5)	100%	18%	78%	88%	88%
Brigantine (n=6)	100%	25%	25%	25%	78%
Forked River/Waretown (n=5)	100%	18%	50%	60%	60%
Highlands/Keyport/Sea Bright (n=3)	100%	0%	0%	17%	20%
New Gretna (n=1)[5]					
Seaside Heights (n=2)[5]					
Marina & Other (n=40)	**99%**	**20%**	**34%**	**48%**	**51%**
Absecon/Beach Haven/Holgate (n=3)	100%	100%	100%	100%	100%
Cape May/Cape May Courthouse (n=5)	92%	35%	72%	86%	86%
Fairton/Greenwich (n=2)[5]					
Hazlet/Keyport/Laurence Harbor/Parlin (n=5)	100%	0%	0%	25%	25%
Heislerville (n=2)[5]					
Highlands (n=3)	100%	0%	0%	0%	40%
Little Egg Harbor/Tuckerton (n=6)	100%	0%	0%	0%	25%
Margate/Somers Point (n=3)	100%	17%	27%	27%	27%
Rumson (n=1)[5]					
Sea Isle (n=3)	100%	57%	60%	77%	77%

On average, during the first week following Sandy, jobs at Marinas fell 31% from 6.5 jobs to 4.5 jobs; jobs at Marinas & Other operations fell 30%, from 6.4 jobs to 4.5 jobs (Table 10). Employment increased steadily at marinas to 6.0 jobs by Week 4 but continued to lag at Marina & Other operations, which were still 28% below pre-Sandy levels by Week 4. The one caveat to these job estimates is that many interviewees indicated that they were using their employees to clean up after the storm.

Table 10. New Jersey Jobs per Marina and Marina & Other, Pre and Post-Sandy by Community

	Jobs Pre-Storm	Jobs Week 1	Jobs Week 2	Jobs Week	Jobs Week
Marina (n=34)	**6.5**	**4.5**	**4.8**	**6.0**	**6.0**
Bayonne (n=4)	1.0	1.0	1.0	1.0	1.0
Beach Haven/Barnegat Light (n=5)	5.6	3.8	4.6	4.6	4.6
Belmar/Brielle/Manasquan (n=5)	8.0	8.3	8.3	8.3	8.7
Brigantine (n=6)	3.0	3.0	3.0	3.0	3.0
Forked River/Waretown (n=5)	8.8	4.6	5.4	8.8	8.8
Highlands/Keyport/Sea Bright (n=3)	8.3	4.0	4.0	7.0	7.0
New Gretna (n=1)[5]					
Seaside Heights (n=2)[5]					
Marina & Other (n=40)	**6.4**	**4.5**	**4.7**	**4.7**	**4.6**
Absecon/Beach Haven/Holgate (n=3)	2.0	2.0	2.0	2.0	2.0
Cape May/Cape May Courthouse (n=5)	5.0	5.0	5.0	5.0	5.0
Fairton/Greenwich (n=2)[5]					
Hazlet/Keyport/Laurence Harbor/Parlin (n=5)	8.8	7.0	7.0	7.5	7.5
Heislerville (n=2)[5]					
Highlands (n=3)	4.0	2.0	2.0	2.0	2.0
Little Egg Harbor/Tuckerton (n=6)	10.5	3.0	2.5	2.5	3.3
Margate/Somers Point (n=3)	6.7	2.7	3.3	3.3	3.3
Rumson (n=1)[5]					
Sea Isle (n=3)	2.0	2.0	2.0	2.0	2.0

FOR HIRE OPERATIONS

Reported structural and product damages to charter, party and headboat operations were limited to operations in Margate/Ocean City/Sea Isle and Brielle/Point Pleasant Beach (Table 11). Respondents who provided structural damages in dollar terms averaged $48,000 in damages while those who reported damages in percentage terms indicated that damages were 10% of a total structural loss. On average, total damages to buildings and their products averaged $71,000. Interviewees were not able to provide any information on to what extent damages were covered by insurance.

Table 11. New Jersey For-Hire Operations Structural Damages & Insurance Coverage by Community

	Average Structural Damage %	Average Structural Loss $	Average Product Damages $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
For Hire (n=28)	**10%**	**47,500**	**23,250**	**0%**			
Brielle/Point Pleasant Beach (n=5)	20%	100,000	0	0%			
Margate/Ocean City/Sea Isle (n=4)	0%	30,000	31,000	0%			

Both respondents that reported vessel damages in percentage terms as well as those who reported vessel damages in dollar terms indicated little to no damages to their vessels (0% or $3,000). Total reported damages to for-hire vessels and lost gear varied considerably by community but, overall, averaged $7,000 (Table 12). Damages sustained in Atlantic Highlands/Highlands ($12,000) and Beach Haven/Little Egg Harbor were substantially higher than elsewhere.

Table 12. New Jersey For-Hire Vessel Damage & Insurance Coverage by Community

	Average Vessel Damage %	Average Vessel Damage $	Average Gear Loss /Damages $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
For Hire (n=28)	**0%**	**3,391**	**3,136**	**20%**	**33%**	**0%**	**Confidential**
Absecon (n=1)[5]							
Atlantic Highlands/Highlands (n=5)	0%	10,000	1,600				
Barnegat Light (n=3)	0%	0	0				
Beach Haven/Little Egg Harbor (n=4)		25,000		100%	100%		
Brielle/Point Pleasant Beach (n=5)	0%	300	12,000	0%			
Cape May/Wildwood Crest (n=6)	0%	0	0				
Margate/Ocean City/Sea Isle (n=4)	0%	500	333	0%	0%		

The impact of Sandy on the operating status of for-hire vessels is shown in Table 13. With the exception of for-hire operations in Margate/Ocean City/Sea Isle, which were only 75% of their customary hours, the majority of for-hire vessels were open according to their usual operating procedures for this time of year. That is, if a firm was usually only open on say weekends, being open on weekends represented achieving 100% of routine operating status. All businesses reported being closed during the first week following Sandy and by Week 3 were still only operating at 24% of routine operations. During Week 4 following the storm, firms were only operating at 35% of usual operations. This varied by locale, with for-hire operations in Atlantic Highlands/Highlands and Beach Haven/Little Egg Harbor still closed during Week 4 while operations in Cape May/Wildwood Crest and Brielle/Point Pleasant Beach were operating at 55% and 56% of usual operations by Week 4.

Table 13. New Jersey Average For-Hire Vessel Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
For Hire (n=28)	**94%**	**0%**	**12%**	**24%**	**35%**
Absecon (n=1)[5]					
Atlantic Highlands/Highlands (n=5)	100%	0%	0%	0%	0%
Barnegat Light (n=3)	100%	0%	0%	0%	40%
Beach Haven/Little Egg Harbor (n=4)	100%	0%	0%	0%	0%
Brielle/Point Pleasant Beach (n=5)	100%	0%	20%	50%	56%
Cape May/Wildwood Crest (n=6)	92%	0%	17%	47%	55%
Margate/Ocean City/Sea Isle (n=4)	75%	0%	25%	25%	28%

On average, during the first week following Sandy, for-hire jobs fell 84%, from an average of 3.7 jobs per operation to 0.6 jobs. Employment initially rose slowly and was only at 35% of pre-Sandy levels by Week 3. By Week 4, firms were, on average, employing 2.7 employees, which was 73% of employment levels prior to Sandy. Firms in Atlantic Highlands/Highlands still had not re-opened and were not employing any staff by Week 4 (Table 14).

Table 14. New Jersey Average Number of For-Hire Jobs per Vessel, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
For Hire (n=28)	**3.7**	**0.6**	**1.0**	**1.3**	**2.7**
Absecon (n=1) [5]					
Atlantic Highlands/Highlands (n=5)	1.2	0.0	0.0	0.0	0.0
Barnegat Light (n=3)	15.5	0.0	0.0	0.0	15.0
Brielle/Point Pleasant Beach (n=5)	4.6	2.0	3.2	3.6	3.8
Cape May/Wildwood Crest (n=6)	3.2	0.5	0.8	1.8	1.8
Margate/Ocean City/Sea Isle (n=4)	1.5	0.0	0.0	0.0	0.5

NEW JERSEY COMMERCIAL FISHING INDUSTRY

Seafood Dealers

Damages to seafood dealers (Table 15) averaged 18% or $106,000 per facility, with results suggesting considerable spatial variation in structural damages within some communities. For example, average structural losses reported in dollar terms from respondents in Point Pleasant Beach averaged $$728,000 but respondents reporting damages in percentage terms reported no damages. Conversely, respondents in Belford/Keansburg that reported structural damages in dollar terms reported damages averaging $9,000 but those who reported in percentage terms sustained 100% losses. Product losses averaged $13,000 and were generally not covered by insurance. No business indicated it was likely to re-locate its operations as a result of Sandy.

Table 15. New Jersey Seafood Dealers Structural Damages & Insurance Coverage by Community

	Average Structural Damage %	Average Structural Loss $	Average Product Damages $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
Seafood Dealer (n=41)	**18%**	**105,785**	**12,583**	**42%**	**29%**	**20%**	Confidential
Asbury Park/Belmar/Brielle/Neptune (n=4)	27%	0	27,500	100%	50%	60%	
Atlantic City/Brigantine/Pleasantville (n=3)	25%			100%			
Barnegat Light/Lavalette (n=3)	0%						
Barnegat/Tuckerton/Waretown/West Creek (n=4)	10%	0	0	100%	0%		
Belford/Keansburg (n=3)	100%	9,000	4,333	0%	0%	0%	
Cape May/Cape May Courthouse (n=6)	3%	0	0		100%		
Egg Harbor Twp/Leeds Point/Lower Bank (n=3)	23%	7,500	1,783	0%	0%		
Howell/Jackson (n=2)[5]							
Millville (n=1)[5]							
Point Pleasant Beach (n=5)	0%	728,496	8,333	50%	0%		
Sea Isle (n=5)	1%	0	1,125	0%			
Wildwood (n=2)[5]							

The impacts of Sandy on the operating status of seafood dealers shops is shown in Table 16. All seafood dealers were fully open according to their usual operating procedures for this time of year. Overall, seafood dealers were only operating at 19% of operations during Week 1 following the storm, with firms steadily increasing operations over the next three weeks. Still, by Week 4, firms were only operating at 70% of their pre-Sandy levels. Notably, dealers in Belford/Keansburg were only operating at 10% of usual operations by Week 4 and firms in Egg Harbor Township/Leeds Point/Lower Bank were only at 50% of normal operations. This said, numerous businesses reported a lack of buyers, buyers buying less, and slow payment by buyers.

Table 16. New Jersey Average Seafood Dealers Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
Seafood Dealer (n=41)	**100%**	**19%**	**42%**	**64%**	**70%**
Asbury Park/Belmar/Brielle/Neptune (n=4)	100%	25%	63%	88%	100%
Atlantic City/Brigantine/Pleasantville (n=3)	100%	40%	75%	75%	75%
Barnegat Light/Lavalette (n=3)	100%	0%			100%
Barnegat/Tuckerton/Waretown/West Creek (n=4)	100%	38%	50%	100%	75%
Belford/Keansburg (n=3)	100%	0%	0%	0%	10%
Cape May/Cape May Courthouse (n=6)	100%	23%	67%	67%	67%
Egg Harbor Twp/Leeds Point/Lower Bank (n=3)	100%	0%	0%	50%	50%
Howell/Jackson (n=2)[5]					
Millville (n=1)[5]					
Point Pleasant Beach (n=5)	100%	0%	13%	45%	70%
Sea Isle (n=5)	100%	45%	45%	88%	88%
Wildwood (n=2)[5]					

On average, during the first week following Sandy, seafood dealers shop jobs fell 24%, from an average of 10.3 jobs per seafood dealer to 7.9 jobs per dealer (Table 17). Employment steadily increased over the next three weeks and was actually slightly higher (10.7 jobs per dealer) due to expansion in Sea Isle. Relative to operating status, Sandy had a lesser impacts on jobs, albeit this was largely because staff were needed to help clean up after the storm.

Table 17. New Jersey Average Number of Jobs per Seafood Dealer, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
Seafood Dealer (n=41)	**10.3**	**7.9**	**9.7**	**11.8**	**10.7**
Asbury Park/Belmar/Brielle/Neptune (n=4)	26.3	20.7	21.7	26.3	26.3
Atlantic City/Brigantine/Pleasantville (n=3)	4.5	2.5	5.0	5.0	4.5
Barnegat/Tuckerton/Waretown/West Creek (n=4)	8.0	10.0	10.0	10.0	6.0
Belford/Keansburg (n=3)	4.7	3.5	3.5	3.5	3.5
Cape May/Cape May Courthouse (n=6)	23.0	23.0	23.0	23.0	23.0
Egg Harbor Twp/Leeds Point/Lower Bank (n=3)	0.7	0.7	0.7	0.7	0.7
Howell/Jackson (n=2)[5]					
Millville (n=1)[5]					
Point Pleasant Beach (n=5)	14.8	4.0	4.0	13.7	12.0
Sea Isle (n=5)	4.0	9.0	9.0	9.0	9.0
Wildwood (n=2)[5]					

Seafood Processors

There are not many seafood processors in New Jersey and as a result the sample size for this firm category is quite small and those using results from this study should take this into account. As indicated in Table 18 below, New Jersey seafood processors reported damages to their facilities averaging $19,000 or 10% but no damages to their seafood product inventory. Most businesses had insurance but seemingly did not have the correct coverage for the damages sustained because none of the damages were covered.

Table 18. New Jersey Seafood Processors Structural Damages & Insurance Coverage

	Average Structural Damage %	Average Structural Loss $	Average Product Damages $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
Processor (n=4)	**16%**	**18,750**	**0**	**67%**	**0%**	**0%**	**0**

The impacts of Sandy on the operating status of seafood processors are shown in Table 19. As indicated below, some of the New Jersey operations are seasonal and were operating at a reduced status and planned to shut for the season before Sandy struck.

Table 19. New Jersey Average Seafood Processor Operating Status, Pre and Post-Sandy

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
Processor (n=4)	**46%**	**15%**	**35%**	**40%**	**50%**

On average, during the first week following Sandy, seafood processors shop jobs fell 81%, from an average of 64 jobs per processor to 12 jobs per processor. Employment increased sharply during Week 2 but was still down 17% at Week 4 following Sandy compared to before the storm.

Table 20. New Jersey Average Number of Jobs per Seafood Processors, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
Processor (n=4)	**64.0**	**12.0**	**45.8**	**53.3**	**53.3**

Commercial Harvesters

Damages to commercial fishing vessels were, on average, relatively light, averaging $485 per vessel for those who reported damages in dollar terms; 2% for those who reported damages in percentage terms. Lost and damaged gear, however, was considerably more, averaging $7,500 (Table 21). While the table shows considerable variation in gear loss across communities, another major driver for gear losses was gear type. That is, fishermen using pot gear (e.g., conch pots, sea bass pots) or traps (lobster) had considerably higher losses than other gear types. The gear was not insured and fishermen spent several days trying to locate missing gear, with varying success. These additional costs (crew time and gas) are not reflected in this report.

Table 21. New Jersey Commercial Harvesters Vessel & Gear Damages & Insurance Coverage by Community

	Average Vessel Damage %	Average Vessel Damage $	Average Gear Loss / Damages $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
Harvester (n=51)	**2%**	**485**	**7,466**	**20%**	**33%**	**0%**	**0**
Barnegat Light/West Creek (n=3)	0%	0	20,000	0%			
Belford (n=18)	0%	0	0	0%		0%	
Belmar/Brielle/Neptune/Point Pleasant Beach (n=4)	20%	1,417	2,300	0%	100%	0%	0
Brigantine/Margate/Somers Point (n=4)	0%	50	30,667	33%			
Cape May/Cape May Courthouse/Wildwood (n=5)	0%	0	21,875	100%			
Egg Harbor Township (n=1)[5]							
Howell (n=1)[5]							
Keyport (n=2)[5]							
Millville/Port Norris (n=5)	0%	0	0	50%	0%	0%	0
Sea Isle (n=8)	1%	0		100%			

The impacts of Sandy on the operating status of commercial harvesters are shown in Table 22. The majority of commercial harvesters were open according to their usual operating procedures for this time of year. Few commercial fishing boats were heavily damaged, however the majority of harvesters were not back to normal operating status in the four weeks following the storm. On average, harvesters were at 35% of normal operating status four weeks following Sandy.

Table 22. New Jersey Average Commercial Harvesters Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
Harvester (n=51)	**95%**	**8%**	**13%**	**17%**	**35%**
Barnegat Light/West Creek (n=3)	100%	0%	0%	0%	67%
Belford (n=18)	100%	0%	0%	0%	25%
Belmar/Brielle/Neptune/Point Pleasant Beach (n=4)	78%	0%	0%	38%	25%
Brigantine/Margate/Somers Point (n=4)	100%	3%	0%	0%	25%
Cape May/Cape May Courthouse/Wildwood (n=5)	100%	0%	30%	40%	40%
Egg Harbor Township (n=1)[5]					
Howell (n=1)[5]					
Keyport (n=2)[5]					
Millville/Port Norris (n=5)	56%	50%	50%	0%	0%
Sea Isle (n=8)	100%	25%	33%	67%	75%

On average, during the first week following Sandy, commercial harvesters fell 73%, from an average of 3.4 jobs per vessel to 1.1 jobs per vessel. Employment steadily increased over the next three weeks, but was still down 47% at Week 4 following Sandy compared to before the storm. Vessel owners in Belmar/Brielle/Neptune/Point Pleasant Beach and Brigantine/Margate/Somers Point reported having no jobs through Week 3 following the storm while commercial fishermen in Barnegat Light/West Creek were still reporting no job activity through Week 4.

Table 23. New Jersey Average Number of Commercial Harvesters Jobs per Vessel, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
Harvester (n=51)	**3.4**	**1.1**	**1.4**	**1.4**	**1.6**
Barnegat Light/West Creek (n=3)	1.0	0.0	0.0	0.0	0.0
Belford (n=18)					
Belmar/Brielle/Neptune/Point Pleasant Beach (n=4)	1.0	0.0	0.0	0.0	1.0
Brigantine/Margate/Somers Point (n=4)	1.3	0.0	0.0	0.0	1.0
Cape May/Cape May Courthouse/Wildwood (n=5)	3.4	1.0	2.0	2.0	2.0
Egg Harbor Township (n=1)[5]					
Howell (n=1)[5]					
Keyport (n=2)[5]					
Millville/Port Norris (n=5)	6.5	0.3	0.3	0.3	0.3
Sea Isle (n=8)	8.3	9.0	9.0	9.0	9.0

Hatcheries / Aquaculture

Damages to aquaculture facilities (Table 24) averaged 46% among respondents that provided damage estimates in percentage terms and $116,000 among respondents who provided damage estimates in dollar terms. Product damages averaged $23,000. Most operations had insurance but often did not have the correct kind of insurance for the damages sustained. None of the interviewees were able to provide an estimate on insurance coverage.

Table 24. New Jersey Hatchery/Aquaculture Structural Damages & Insurance Coverage

	Average of Structural Damage %	Average Structural Loss $	Average of Product Damage $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
Aquaculture (n=9)	46%	116,000	23,000	67%	67%		

On average, aquaculture facilities were open 86% of their usual work schedule immediately prior to Sandy (Table 25). Due to the heavy damages sustained, these facilities were still operating at less than a third of their capacity at Week 4 and employment (Table 26) was only 57% at Week 4.

Table 25. New Jersey Average Aquaculture Operating Status, Pre and Post-Sandy

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
Aquaculture (n=9)	**86%**	**0%**	**14%**	**14%**	**29%**

Table 26. New Jersey Average Number of Aquaculture Jobs per Facility, Pre and Post-Sandy

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
Aquaculture (n=9)	**3.0**	**1.2**	**1.2**	**1.2**	**1.3**

SURVEY RESULTS: NEW YORK

RECREATIONAL FISHING INDUSTRY

Bait & Tackle Shops

Among respondents who reported structural damages in percentage terms, damages to bait and tackle shops (Table 27) varied considerably by community, ranging from a high of 43% of a total structural loss in Babylon to little or no damages in Brooklyn, Montauk and Staten Island. In dollar terms, Babylon ($80,000) and Freeport (50,000) had the largest average structural damages while respondents in Brooklyn, Queen, and Staten Island reported $0 in damages.

Most businesses had insurance but often did not have either full coverage or the correct coverage for the damages sustained. For example, in Freeport, bait and tackle shops reported 100% insurance coverage and average product damages of $50,000 but average coverage was only $8,000. Product damages (e.g., spoiled bait, ruined tackle, etc.) averaged $10,000 and were generally not insured. Notably, only one business, located in Babylon, indicated it was likely to re-locate the shop.

Table 27. New York Bait & Tackle Shop Structural Damages & Insurance Coverage by Community

	Average Structural Damage %	Average Structural Loss $	Average Product Damage $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
B&T (n=45)	**21%**	**26,905**	**10,106**	**71%**	**38%**	**0%**	**4,000**
Babylon (n=3)	43%	80,000	37,850	67%	0%		
Bronx (n=2)[5]							
Brooklyn (n=11)	1%	0	0				
Freeport (n=3)	25%	50,000	26,667	100%	100%		8,000
Hampton Bays (n=3)	25%	300	0	100%			0
Lindenhurst (n=3)	33%	0	900	0%			
Mastic Beach (n=1)[5]							
Montauk (n=4)	0%	250	0	50%			
Point Lookout (n=2)[5]							
Queens (n=7)	13%	0	0				
Staten Island (n=6)	0%	0	15,000	100%	0%		

The impact of Sandy on the operating status of bait and tackle shops is shown in Table 28. The majority of bait and tackle shops were open according to their usual operating procedures for this time of year. That is, if a firm was usually only open on say weekends, being open on weekends represented achieving 100% of routine operating status. Overall, bait and tackle shops were only operating at 28% of routine operations during Week 1 following the storm but had, overall, achieved 64%by Week 4. This varied by locale. Shops in Hampton Bays and Montauk were quickly able to resume normal operations while shops in Mastic Beach and Point Lookout remained closed and shops in Babylon and Queens were only operating at 40%. The majority of businesses that failed to re-open post-Sandy did not do so because of structural damages. Businesses that partially re-opened often reported business being down, sometimes as much as 80%, or not being able to get quality bait. A final caveat to Table 2 is that while a shop may be open, it may not be operating at 100%; instead, the shop owner may have some portion of the business open but may have his staff still cleaning up from the storm.

Table 28. New York Average Bait & Tackle Shop Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
B&T (n=45)	**97%**	**27%**	**50%**	**55%**	**65%**
Babylon (n=3)	100%	0%	0%	33%	40%
Bronx (n=2)[5]					
Brooklyn (n=11)	100%	26%	66%	66%	86%
Freeport (n=3)	100%	0%	33%	50%	83%
Hampton Bays (n=3)	100%	33%	100%	100%	100%
Lindenhurst (n=3)	100%	23%	33%	33%	67%
Mastic Beach (n=1)[5]					
Montauk (n=4)	100%	94%	100%	100%	100%
Point Lookout (n=2)[5]					
Queens (n=7)	88%	15%	40%	40%	40%
Staten Island (n=6)	90%	21%	50%	55%	55%

The impact of Sandy on employment in bait and tackle shops is shown in Table 29. On average, during the first week following Sandy, bait and tackle shop jobs fell 37%, from an average of 3.0 jobs per shop to 1.0 jobs per shop. Employment steadily increased over the next three weeks, but was still down 27% at Week 4 following Sandy compared to before the storm. Babylon experienced the largest job losses, with jobs falling 83% immediately following the storm and still below 50% by Week 4. In contrast, bait and tackle shops in the Bronx, Brooklyn, Montauk and Staten Island reported no job losses from Sandy.

Table 29. New York Average Number of Bait & Tackle Jobs per Shop, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
B&T (n=45)	**3.0**	**1.9**	**2.0**	**2.2**	**2.2**
Babylon (n=3)	4.3	1.3	2.0	2.0	2.0
Bronx (n=2)[11]					
Brooklyn (n=11)	2.3	2.3	2.3	2.3	2.3
Freeport (n=3)	4.7	3.0	3.0	4.7	4.7
Hampton Bays (n=3)	1.7	1.0	1.3	1.3	1.3
Lindenhurst (n=3)	1.5	0.5	0.5	0.5	1.5
Mastic Beach (n=1)[11]					
Montauk (n=4)	3.0	3.0	3.0	3.0	2.7
Point Lookout (n=2)[11]					
Queens (n=7)	2.8	2.0	2.0	2.0	2.0
Staten Island (n=6)	1.3	1.3	1.3	1.3	1.3

Marinas

The communities with the highest structural damages to marinas reported in dollar terms also had high levels of damage reported in percentage terms suggesting less spatial variation in damages among marinas in these communities (Table 30). In particular, structural damages to Staten Island, Freeport, and Mastic Beach marinas averaged $675,000 (90%), $500,000 (53%) and $330,000 (72%), respectively. Overall, damages to marinas averaged 57% of a total structural loss or $390,000. Total damages (structure, product and dock damages) averaged $545,000. Most businesses (71%) had insurance but often did not have either full coverage or the correct coverage for the damages sustained (Table 31). For example, in Staten Island, marinas owners reported 28% insurance coverage and average building, product and dock/other damages of $775,00 but average coverage was estimated to be 28% or, for those who could provide a dollar amount, $10,000. Dock and other damages averaged $81,000 and was generally not insured. No marina operation had plans to re-locate as a result of Sandy.

Table 30. New York Marinas Shop Structural Damages & Insurance Coverage by Community

	Average Structural Damage %	Average Structural Loss $	Average Product Damage $	Average Dock Damage %	Average Dock/Other Damage $
Marina (n=63)	**57%**	**389,733**	**74,286**	**194,000**	
Blue Point (n=2)[5]					
Bronx (n=12)	49%	15,000			
Brooklyn (n=5)	20%				
Freeport (n=7)	53%	500,000	75,000		
Hampton Bays (n=4)	43%	175,000	20,000		
Lindenhurst (n=1)[5]					
Mastic Beach (n=3)	72%	330,000	250,000		
Montauk (n=3)	0%	333	0		
Oakdale/Sayville (n=3)	87%				
Patchogue (n=3)	53%	300,000			
Queens (n=8)	31%	0			
Staten Island (n=12)	90%	675,000	100,000		

Table 31. New York Average Marinas Insurance & Insurance Coverage by Community

	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
Marina (n=63)	**71%**	**48%**	**39%**	**81,250**
Blue Point (n=2)[5]				
Bronx (n=12)	60%	67%	33%	
Brooklyn (n=5)	67%	67%		
Freeport (n=7)	71%	14%	100%	300,000
Hampton Bays (n=4)	67%	50%	0%	7,500
Lindenhurst (n=1)[5]				
Mastic Beach (n=3)	67%	67%		
Montauk (n=3)	50%	0%		
Oakdale/Sayville (n=3)	67%	33%		
Patchogue (n=3)				
Queens (n=8)	100%	0%		
Staten Island (n=12)	80%	86%	28%	10,000

The impact of Sandy on the operating status of marinas is shown in Table 32. The majority of marinas were open according to their usual operating procedures for this time of year. That is, if a firm was usually only open on say weekends, being open on weekends represented achieving 100% of routine operating status. Overall, marinas were only operating at 20% of routine operations during Week 1 following the storm and had, overall, achieved 47% by Week 4. The ability of a marina to resume normal operations varied across communities. Marinas in Montauk were quickly able to resume normal operations while, in contrast, marinas in the Bronx and Staten Island were still operating at less than 20% at Week 4. The majority of businesses that failed to re-open post-Sandy did not do so because of structural damages. Numerous marinas removed boats from the water in preparation for Sandy and did not put them back in thus shortening their normal operating season.

Table 32. New York Average Marinas Shop Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
Marina (n=63)	**98%**	**20%**	**35%**	**43%**	**47%**
Blue Point (n=2)[5]					
Bronx (n=12)	82%	2%	18%	18%	18%
Brooklyn (n=5)	100%	17%	17%	47%	47%
Freeport (n=7)	100%	34%	34%	62%	75%
Hampton Bays (n=4)	100%	48%	48%	50%	50%
Lindenhurst (n=1)[5]					
Mastic Beach (n=3)	100%	10%	22%	30%	38%
Montauk (n=3)	100%	92%	100%	100%	100%
Oakdale/Sayville (n=3)	100%	0%	50%	67%	67%
Patchogue (n=3)	100%	0%	100%	100%	100%
Queens (n=8)	100%	30%	33%	33%	50%
Staten Island (n=12)	100%	6%	10%	10%	10%

On average, during the first week following Sandy, jobs at marinas fell only slightly from an average of 6.6 jobs per marina to 6.1 jobs and were at 6.5 jobs per marina by Week 4 (Table 33). Most marinas continued to employ the same number of people pre- and post-Sandy, albeit at a number of marinas, staff were primarily engaged in clean-up operations.

Table 33. New York Average Jobs per Marina, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
Marina (n=63)	**6.6**	**6.1**	**6.4**	**6.4**	**6.5**
Blue Point (n=2)[5]					
Bronx (n=12)	6.0	6.0	6.0	6.0	6.0
Brooklyn (n=5)	4.0	4.0	4.0	4.0	4.0
Freeport (n=7)	8.4	8.4	8.4	8.4	8.4
Hampton Bays (n=4)	9.3	6.8	7.3	7.3	9.0
Lindenhurst (n=1)[5]					
Mastic Beach (n=3)	3.7	3.3	3.3	3.3	3.3
Montauk (n=3)	9.0	9.0	9.0	9.0	8.0
Oakdale/Sayville (n=3)	12.3	15.0	15.0	15.0	15.0
Patchogue (n=3)	5.3	3.3	5.3	5.3	5.3
Queens (n=8)	3.0	0.0	0.0	0.0	0.0
Staten Island (n=12)	3.9	3.7	3.7	3.7	3.7

For-Hire

Damages to for-hire facilities (Table 34) were relatively minimal, averaging 7% or, for those who were able to report a dollar estimate, $400. Most businesses had insurance but often did not have either full coverage or the correct coverage for the damages sustained. For example, in Freeport, for-hire vessels reported 50% insurance coverage and average product damages of $100,000. Product damages (e.g., spoiled bait, ruined tackle, etc.) averaged $30,000 and was partially insured.

Table 34. New York For-Hire Structural Damages & Insurance Coverage by Community

	Average Structural Damage %	Average Structural Loss $	Average Product Damage $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
For Hire (n=63)	**7%**	**400**	**30,000**	**80%**	**0%**		
Babylon (n=12)	0%	0	0	100%			
Brooklyn (n=13)	8%			100%			
Captree State Park (n=1)[5]							
Freeport (n=9)	40%	0	100,000	50%	0%		
Montauk (n=13)		5,000					
Point Lookout (n=3)		600					

Reported damages to for-hire vessels and lost gear varied considerably by community but, overall, averaged $15,000 (Table 35). Damages sustained in Freeport ($68,000 for those reporting in dollar terms and 40% for those reporting in percentage terms) were the highest reported vessel damages at the community level.

Table 35. New York For-Hire Vessel Damage & Insurance Coverage by Community

	Average Vessel Damage %	Average Vessel Damage $	Average Gear Loss /Damages $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
For Hire (n=63)	**3%**	**15,066**	**250**	**61%**	**11%**		**Confidential**
Babylon (n=12)	3%	3,882	300	83%			
Bronx (n=1)[5]							
Brooklyn (n=13)	0%	2,750	857	100%	0%		
Captree State Park (n=1)[5]							
Freeport (n=9)	2%	67,833	83	14%			
Hampton Bays (n=2)[5]							
Lindenhurst (n=1)[5]							
Montauk (n=13)	0%	0	0				
Oceanside (n=1)[5]							
Point Lookout (n=3)	0%	0	0	100%	0%		
Queens (n=1)[5]							
Staten Island (n=6)	0%	0	0	0%	0%		

The impacts of Sandy on the operating status of for-hire vessels shops is shown in Table 36. The majority of for-hire vessels were open according to their usual operating procedures for this time of year. That is, if a firm was usually only open on say weekends, being open on weekends represented achieving 100% of routine operating status. Overall, for-hire vessels shops were only operating at 20% of routine operations during Week 1 following the storm but had, overall, achieved 47% by Week 4. This varied by locale. Shops in Hampton Bays and Montauk were quickly able to resume normal operations while shops in Mastic Beach

and Point Lookout remained closed and shops in Babylon and Queens were only operating at 40%. The majority of businesses that failed to re-open post-Sandy did not do so because of structural damages. Businesses that partially re-opened often complained of business being off, sometimes as much as 80%, or not being able to get quality bait. A final caveat to Table 2 is that while a shop may be open, it may not be operating at 100%; instead, the shop owner may have some portion of the business open but may have his staff still cleaning up from the storm.

Table 36. New York Average For-Hire Vessel Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
For Hire (n=63)	**98%**	**20%**	**35%**	**43%**	**47%**
Babylon (n=12)	**97%**	**4%**	**5%**	**13%**	**16%**
Bronx (n=1) [5]					
Brooklyn (n=13)	100%	25%	25%	25%	25%
Captree State Park (n=1) [5]					
Freeport (n=9)	100%	0%	0%	0%	0%
Hampton Bays (n=2) [5]					
Lindenhurst (n=1) [5]					
Montauk (n=13)	100%	0%	0%	0%	50%
Oceanside (n=1) [5]					
Point Lookout (n=3)	100%	0%	0%	0%	0%
Queens (n=1) [5]					
Staten Island (n=6)	100%	0%	0%	0%	0%

On average, during the first week following Sandy, for-hire vessel jobs fell 80%, from an average of 2.5 jobs per for-hire vessel to 0.5 jobs per for-hire vessel (Table 37). Employment held steady over the next three weeks and was still only approximately a third of pre-Sandy levels at Week 4. Babylon, Brooklyn and Freeport experienced the largest job losses. Jobs in Point Lookout for-hire vessels fell 63% following the storm and had returned to almost 85% of pre-Sandy levels by Week 4.

Table 37. New York Average Number of For-Hire Jobs per Vessel, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
For Hire	**2.5**	**0.5**	**0.5**	**0.7**	**0.8**
Babylon (n=12)	3.5	0.7	0.7	0.7	0.7
Bronx (n=1)[5]					
Brooklyn (n=13)	1.9	0.6	0.6	0.6	0.6
Captree State Park (n=1) [5]					
Freeport (n=9)	3.3	0.6	0.6	0.7	1.0
Hampton Bays (n=2) [5]					
Lindenhurst (n=1) [5]					
Montauk (n=13)	1.9	0.3	0.3	1.0	1.0
Oceanside (n=1) [5]					
Point Lookout (n=3)	2.0	0.7	0.7	0.7	1.7
Queens (n=1) [5]					

NEW YORK COMMERCIAL FISHING INDUSTRY

Seafood Dealers

Damages to seafood dealers (Table 38) averaged 3% or $15,000 per facility with product damages averages $12,000. Product losses varied dealer to dealer – those that dealt with fresh or frozen product suffering greater losses than those who dealt with smoked or canned product. Some dealers were also able to avoid losses by shipping all product prior to the storm. Seafood dealers in Freeport experienced the highest damages to their facilities losses, 55% or $200,000 in losses suggesting that a high level of damages to seafood dealers was common and widespread within the community. All firms had insurance but apparently did not have the correct type of coverage with only 25% of losses expected to be covered but total coverage reportedly averaging $150,000. Product losses were generally not covered by insurance. No business indicated it was likely to re-locate its operations as a result of Sandy.

Table38. New York Seafood Dealers Structural Damages & Insurance Coverage by Community

	Average Structural Damage %	Average Structural Loss $	Average Product Damage $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
Dealer (n=59)	**3%**	**14,773**	**12,243**	**100%**	**22%**	**25%**	**150,000**
Bronx (n=27)	0%	0	3,417	100%	0%		
Brooklyn (n=14)	3%	31,250	27,857	100%	67%	0%	0
Freeport (n=4)	55%	200,000	25,175	100%		38%	300,000
Hampton Bays/Montauk (n=4)	4%	0	3,667	100%			
Queens (n=8)	0%	0	0	100%	0%		
Staten Island (n=2)[5]							

The impact of Sandy on the operating status of seafood dealers is shown in Table 39. The majority of seafood dealers were open according to their usual operating procedures for this time of year. Overall, seafood dealers were only operating at 65% of operations during Week 1 following the storm but had, overall, achieved 92% by Week 4; only Freeport (75%) and Brooklyn (84%) were operating at less than 90% of routine operations. This said, numerous businesses reported the lack of buyers, buyers buying less, and slow payment by buyers. Those buyers dealing in local product reported a sharp decrease in availability immediately following Sandy. In addition, seafood dealers that primarily sold imported product reported shipment held up and/or damaged at the docks. Dealers also reported having to pay significantly higher costs to ship product into/out of ports less impacted by Sandy.

Table 39. New York Average Seafood Dealers Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
Dealer (n=59)	**98%**	**65%**	**80%**	**89%**	**92%**
Bronx (n=27)	98%	83%	89%	95%	95%
Brooklyn (n=14)	94%	44%	71%	84%	84%
Freeport (n=4)	100%	25%	50%	50%	75%
Hampton Bays/Montauk (n=4)	100%	30%	63%	97%	100%
Queens (n=8)	100%	81%	85%	90%	90%
Staten Island (n=2)[5]					

On average, during the first week following Sandy, seafood dealers jobs fell 17%, from an average of 22.9 jobs per seafood dealer to 19.1 jobs (Table 40). Employment steadily increased over the next three weeks and was only 2% lower than pre-storm levels by Week 4. Job impacts essentially followed the same trend as operating status, i.e., seafood dealers that were able to quickly re-open were able to keep their staff employed while seafood dealers that were closed or operating at reduced levels had to reduce jobs. For example, Brooklyn, Freeport and Hampton Bays/Montauk, which operated at 44%, 25% and 50%, respectively, during Week 1, also had the most job losses during Week 1 (Brooklyn, -34%; Freeport, -33%; and Hampton Bays/Montauk, -59%).

Table 40. New York Average Number of Jobs per Seafood Dealer, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
Dealer (n=59)	**22.9**	**19.1**	**19.6**	**22.4**	**22.4**
Bronx (n=27)	34.2	30.4	30.5	33.8	33.8
Brooklyn (n=14)	21.0	13.9	13.9	19.6	16.2
Freeport (n=4)	4.0	2.7	2.7	3.3	4.0
Hampton Bays/Montauk (n=4)	9.0	3.7	9.0	9.0	9.0
Queens (n=8)	22.0	22.0	22.0	22.0	22.0
Staten Island (n=2) [5]					

Seafood Processors

There are not many seafood processors in New York and as a result the sample size for this firm category is quite small. Those using results from this study should take this small sample size into account. The seafood processors interviewed were all located in Brooklyn. Brooklyn seafood processors reporting damages in dollar terms experienced $138,000 in structural damage while those reporting in percentage terms averaged a 3% loss suggesting some degree of spatial variation in storm impacts within Brooklyn (Table 41). Product losses averaged $120,000. While all processors reported having insurance, actual coverage was unknown.

Table 41. New York Seafood Processors Structural Damages & Insurance Coverage by Community

	Average Structural Damage %	Average Structural Loss $	Average Product Damage $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
Processor (n=4)	**3%**	**137,500**	**120,000**	**100%**	**50%**		
Brooklyn (n=4)	3%	137,500	120,000	100%	50%		

The impacts of Sandy on the operating status of seafood processors are shown in Table 42. All seafood processors were open 100%. Overall, seafood processors shops were operating at 73% of pre-Sandy levels during Week 1 following the storm but had, overall, achieved 80% by Week 4.

Table 42. New York Average Seafood Processors Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
Processor (n=4)	**100%**	**73%**	**75%**	**78%**	**80%**
Brooklyn (n=4)	100%	73%	75%	78%	80%

On average, during the first week following Sandy, seafood processors jobs fell 6%, from an average of 73.3 jobs per shop to 63.8 jobs per shop. Employment remained the same over the next three weeks and were still down 6% at Week 4 following Sandy compared to before the storm (Table 43).

Table 43. New York Average Number of Seafood Processors Jobs per Shop, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
Processor (n=4)	**73.3**	**63.8**	**66.3**	**66.3**	**70.0**
Brooklyn (n=4)	73.3	63.8	66.3	66.3	70.0

Commercial Harvester

Reported damages to commercial fishing vessels averaged 9% or, for those who were able to report damage estimates in monetary terms, $9,000 (Table 44). Gear damages were substantially higher ($13,000) and were generally not insured.

Table 44. New York Commercial Harvesters Structural Damages & Insurance Coverage by Community

	Average Vessel Damage %	Average Vessel Damage $	Average Gear Loss/ Damages $	Average Insured Y/N	Average Appraised Y/N	Average Coverage %	Average Coverage $
Harvester (n=32)	**9%**	**8,776**	**13,346**	**78%**	**0%**		**17,000**
Bronx (n=1) [5]							
Brooklyn (n=3)	0%	0	140,000	0%			
East Hampton (n=1)[5]							
Freeport (n=4)	6%	4,000	0	100%			2,000
Hampton Bays (n=6)	1%	1,167	19,500	83%			0
Island Park (n=1)[5]							
Islip (n=1)[5]							
Lindenhurst (n=2) [5]							
Long Beach (n=1)[5]							
Merrick (n=1) [5]							
Montauk (n=4)	0%	0	0				
Oceanside (n=1)[5]							
Point Lookout (n=1)[5]							
Queens (n=2)[5]							
Seaford (n=1)[5]							
Staten Island (n=2)[5]							

The impact of Sandy on the operating status of commercial harvesters are shown in Table 45. The majority of commercial harvesters were open according to their usual operating procedures for this time of year. That is, if a firm was usually only open on say weekends, being open on weekends represented achieving 100% of routine operating status. Overall, commercial harvesters were only operating at 0% of routine operations during Week 1 following the storm but had, overall, achieved 39% by Week 4. This varied by locale.

Harvesters in Hampton Bays were able to return to approximately 100% of normal operations by Week 4 while harvesters in Freeport and Montauk reported no activity in Week 4.

Table 45. New York Average Commercial Harvesters Operating Status, Pre and Post-Sandy by Community

	Average Pre-Storm %	Average Week 1 %	Average Week 2 %	Average Week 3 %	Average Week 4 %
Harvester (n=32)	**97%**	**0%**	**5%**	**21%**	**39%**
Bronx (n=1)[5]					
Brooklyn (n=3)	100%	0%	0%	0%	0%
East Hampton (n=1)[5]					
Freeport (n=4)	100%	0%	0%	0%	0%
Hampton Bays (n=6)	100%	0%	20%	53%	100%
Island Park (n=1)[5]					
Islip (n=1)[5]					
Lindenhurst (n=2)[5]					
Long Beach (n=1)[5]					
Merrick (n=1)[5]					
Montauk (n=4)	100%	0%	0%	43%	43%
Oceanside (n=1)[5]					
Point Lookout (n=1)[5]					
Queens (n=2)[5]					
Seaford (n=1)[5]					
Staten Island (n=2)[5]					

On average, during the first week following Sandy, commercial harvesters jobs fell 75%, from an average of 1.6 jobs per shop to 0.4 jobs per shop (Table 46). Employment somewhat increased over the next three weeks but were still down 56% at Week 4 following Sandy compared to before the storm. Brooklyn and Freeport reported no jobs the week immediately following the storm and no job recovering at all by Week 4. Jobs in Hampton Bays commercial harvesters shops fell 47% following the storm and had returned to almost 94% of pre-Sandy levels by Week 4.

Table 46. New York Average Number of Commercial Harvesters Jobs per Vessel, Pre and Post-Sandy by Community

	Jobs - Pre-Storm	Jobs - Week 1	Jobs - Week 2	Jobs - Week 3	Jobs – Week 4
Harvester (n=32)	**1.6**	**0.4**	**0.5**	**0.7**	**0.7**
Bronx (n=1)[5]					
Brooklyn (n=3)	1.3	0.0	0.0	0.0	0.0
East Hampton (n=1)[5]					
Freeport (n=4)	1.5	0.0	0.0	0.0	0.0
Hampton Bays (n=6)	3.2	1.7	1.8	2.3	3.0
Island Park (n=1)[5]					
Islip (n=1)[5]					
Lindenhurst (n=2)[5]					
Long Beach (n=1)[5]					
Merrick (n=1)[5]					
Montauk (n=4)	0.8	0.8	0.8	0.8	0.8
Oceanside (n=1)[5]					
Point Lookout (n=1)[5]					
Queens (n=2)[5]					
Seaford (n=1)[5]					
Staten Island (n=2)[5fp]					

Summary Results

Total damages are estimated for each sector for each state using the sample frames described in Table 3. That is, the average damage estimate for each sector is multiplied by the number of known participants in that sector. For example, Table 3 shows that there are 453 seafood dealers in New York. To estimate total structural damages incurred by seafood dealers, average structural damages ($14,773) is then multiplied by 453 seafood dealers to obtain total structural damages ($6,692,045). Uninsured losses were obtained by subtracting insurance coverage from total damages. If no information was available for a sector on insurance coverage, the average percentage of damages covered (in New Jersey, 24%; in New York, 35%) was used.

Overall, results showed that both New Jersey and New York incurred sizable losses and that the majority of these losses were uninsured (Tables 47a,b,c – 48a,b). Note that for New Jersey it was necessary to calculate total damages to structures and product losses for the for-hire fleet in two ways due to the limited number of respondents that reported this type of damage. Further, not only did few for hire operations answer these questions, those that did respond were clustered in a limited number of communities. This raised some doubts on whether it was realistic to assume that all for-hire operations sustained these losses based upon the limited and geographically concentrated damages reported.

In table 47b (Approach 1), all total damage estimates are based upon expanding to the entire population frame for all sectors as described above. Using Approach 1, uninsured damages to the recreational fishing sector were $105 million, with losses including $59 million to for-hire operations; $30 million to marinas and

operations co-located and affiliated with the marina; and $16 million to bait and tackle shops.[6] Uninsured damages to the commercial fishing sector included $11 million to seafood dealers; $3 million to federally-permitted commercial fishermen, and $100,000 to seafood processors.

In Table 47c (Approach 2), total structural damages and product damages to for hire fleet operations is based upon a regional estimate due to the limited number of interviews with responses to these two questions. Communities included in the regional estimates was limited to communities within a five-mile distance of communities identified in Table 11 (Brielle/Point Pleasant Beach and Margate/Ocean City/ Sea Isle) but excluded communities that were more inland, and presumably less prone to damages, than the communities identified in Table 11. Specifically, communities included in the regional estimate were: Atlantic City, Avalon, Bay Head, Belmar, Brielle, Longport. Manasquan, Mantoloking, Margate, Normandy Beach, Point Pleasant Beach Ocean City, Sea Isle City, Somers Point, and Ventnor.

Using Approach 2, uninsured damages to New Jersey's recreational fishing sector exceeded $62 million, with losses including $30 million to marinas and operations co-located and affiliated with the marina; $16 million to bait and tackle shops; and $16 million to for-hire operations.[7] Uninsured damages to the commercial fishing sector included $11 million to seafood dealers; $3 million to federally-permitted commercial fishermen, and $100,000 to seafood processors.

In New York, damages to the recreational fishing sector totaled $58 million ($36 million, marinas; $17 million, for hire; $5 million, bait and tackle shops) while damages to the commercial fishing sector totaled $19 million ($9 million, seafood dealers; $5 million federally-permitted commercial fishermen; and $5 million, seafood processors).

Note that these Tables only reflect physical damages; as reflected in Tables 49 and 50, lost income was also an issue in both New Jersey and New York. In the week immediately following the storm, no fishing sector in New Jersey was operating at more than 20% their normal schedule. In contrast, in New York many seafood dealers and processors were able to resume normal operating hours, albeit many also reported higher costs of doing business. Commercial fishing (0%), for hire operations (4%) and marinas were the most impacted in terms of operating status during Week 1.

Conditions steadily improved over the four-week period following the storm. In New Jersey, with the exception of aquaculture (29%), for-hire (35%) and commercial fishermen (35%), most sectors were operating on a roughly half-time basis by Week 4. In New York, there was more variation in the overall ability of a sector to return to normal operations. For example, while seafood processors and seafood dealers were open 92% and 80%, respectively, of their normal operating hours, for hire operations and commercial fishing vessels were still operating at less than 40% of their usual work schedules. As a result of their ability to operate their businesses according to their usual work hours for a minimum of a one to four-week period, these operations lost income during this period.

[6] "Marinas and other co-located and affiliated operations" are generally family-owned operations in which it was not possible for the interviewee to separate out damages to one business (say the marina) from damages to other family owned firms at that site, e.g., a bait and tackle shop, seafood restaurant, boat rental, etc.

[7] "Marinas and other co-located and affiliated operations" are generally family-owned operations in which it was not possible for the interviewee to separate out damages to one business (say the marina) from damages to other family owned firms at that site, e.g., a bait and tackle shop, seafood restaurant, boat rental, etc.

Table 47a. New Jersey Average Damage Estimates from Sandy by Sector

	Average Structural Damage %	Average Structural Loss $	Average Product Damage $	Average Dock Damages $	Average Vessel Damages $	Average Gear Loss/ Damages $	Sub-Total of Damages $	Average Insurance Coverage %	Average Insurance Coverage $	Average Uninsured Losses $
Aquaculture	46%	116,000	23,000				139,000		32,820	106,181
B&T	21%	53,000	32,900	17,625			103,525	25%	25,881	77,644
For Hire	10%	47,500	23,250		3,391	3,136	77,278			58,731
Dealer	18%	105,785	12,583				118,369	20%	23,674	94,695
Harvester	4%				485	7,466	7,950		1,877	6,073
Marina	35%	180,631	55,278	248,688			484,597	34%	171,071	313,525
Marina & Other	35%	295,913	49,558	153,086			498,557	7%	43,333	455,224
Processors	16%	18,750	0		0	0	18,750		4,427	14,323
							Average Insurance Coverage: 24%			

Table 47b. New Jersey Total Damages from Sandy by Sector using Full Population Frame for Expansion for All Sectors and All Damage Types (APPROACH 1)

	Total Structural Loss %	Total Structural Loss $	Total Product Damage $	Total Dock Damages $	Total Vessel Damages $	Total Gear Loss/ Damages $	Sub-Total Damages $	Total Insurance Coverage %	Total Insurance Coverage $	Total Estimated Uninsured Losses $
Aquaculture	46%	1,392,000	276,000				1,668,000		400,320	1,267,680
Bait & Tackle	21%	11,024,000	6,843,200	3,666,000			21,533,200	25%	5,383,311	16,149,889
For Hire	10%	47,405,000	23,203,500		3,384,522	3,130,091	77,123,113		18,509,547	58,613,566
Dealer	18%	12,271,068	1,459,667				13,730,735	20%	2,746,151	10,984,584
Harvester **(fed only)**	4%				244,691	3,770,224	4,014,915		963,580	3,051,335
Marina	35%	7,044,619	2,155,833	9,698,813			18,899,265	34%	6,671,786	12,227,479
Marina & Other	35%	11,836,522	1,982,308	6,123,455			19,942,284	7%	1,733,333	18,208,951
Processors	16%	131,250					131,250		31,500	99,750
Total							Average Coverage: 24%			**120,603,234**

Table 47c. New Jersey Total Damages from Sandy by Sector using Regional Expansion Factor for For Hire Structural and Product Damages and Full Population Frame for Expansion for All Other Sectors and All Other Damage Types (APPROACH 2)

	Total Structural Loss %	Total Structural Loss $	Total Product Damage $	Total Dock Damages $	Total Vessel Damages $	Total Gear Loss/ Damages $	Sub-Total Damages $	Total Insurance Coverage %	Total Insurance Coverage $	Total Estimated Uninsured Losses $
Aquaculture	46%	1,392,000	276,000				1,668,000		400,320	1,267,680
Bait & Tackle	21%	11,024,000	6,843,200	3,666,000			21,533,200	25%	5,383,311	16,149,889
For Hire[8]	10%	9,595,000	4,696,500		3,384,522	3,130,091	20,806,113		4,952,715	15,812,646
Dealer	18%	12,271,068	1,459,667				13,730,735	20%	2,746,147	10,984,588
Harvester (fed only)	4%				244,691	3,770,224	4,014,915		963,580	3,051,335
Marina	35%	7,044,619	2,155,833	9,698,813			18,899,265	34%	6,671,786	12,227,479
Marina & Other	35%	11,836,522	1,982,308	6,123,455			19,942,284	7%	1,733,333	18,208,951
Processors	16%	131,250					131,250		31,500	99,750
Total							**Average Coverage: 24%**			**77,802,318**

[8] Note that structural damages and product damages for the for hire fleet is based upon a regional estimate due to the limited number of interviews with responses to these two questions. Communities included in the regional estimates was limited to communities within a five-mile distance of communities identified in Table 11 (Brielle/Point Pleasant Beach and Margate/Ocean City/ Sea Isle) but excluded communities that were more inland, and presumably less prone to damages, than the communities identified in Table 11. Specifically, communities included in the regional estimate were: Atlantic City, Avalon, Bay Head, Belmar, Brielle, Longport. Manasquan, Mantoloking, Margate, Normandy Beach, Point Pleasant Beach Ocean City, Sea Isle City, Somers Point, and Ventnor.

Table 48a. New York Average Damages from Sandy by Sector

	Average Structural Damage %	Average Structural Loss $	Average Product Damage $	Average Dock Damages $	Average Vessel Damages $	Average Gear Loss/ Damages $	Sub-Total of Damages $	Average Insurance Coverage %	Average Insurance Coverage $	Average Uninsured Losses $
Bait & Tackle	21%	26,905	10,106				37,010		4,000	33,010
For Hire	7%	400	30,000		15,066	250	45,716		16,001	29,716
Dealer	3%	14,773	12,243		0	0	27,016	25%	6,754	20,262
Harvester (fed					8,776	13,346	22,122		7,743	14,379
Marina	57%	389,733	74,286	194,00			658,019		81,250	576,769
Processor	3%	137,500	120,000				257,500		90,125	167,375
					Average Insurance Coverage: 35%					

Table 48b. New York Total Damages from Sandy by Sector

	Total Structural Loss %	Total Structural Loss $	Total Product Damage $	Total Dock Damages $	Total Vessel Damages $	Total Gear Loss/ Damages $	Sub-Total Damages $	Total Insurance Coverage %	Total Insurance Coverage $	Total Estimated Uninsured Losses $
Bait & Tackle	21%	3,739,732	1,404,718				5,144,449		556,000	4,588,449
For Hire	7%	232,000	17,400,0			145,000	26,515,51		9,229,767	17,140,99
Dealer	3%	6,692,045	5,546,16				12,238,20	25%	3,059,552	9,178,655
Harvester (fed					2,746,8		6,924,191		2,423,467	4,500,724
Marina	57%	24,553,20	4,680,00	12,222,			41,455,20		5,118,750	36,336,45
Processor	3%	3,987,500	3,480,000				7,467,500		2,613,625	4,853,875
Total						Average Insurance Coverage: 35%				**76,599,149**

Table 49. New Jersey: Sandy Impacts on Operating Status by Sector

	Average Pre-Storm Percentage Open	Average Week 1 Percentage Open	Average Week 2 Percentage Open	Average Week 3 Percentage Open	Average Week 4 Percentage Open
Aquaculture	86%	0%	14%	14%	29%
B&T	98%	16%	38%	45%	49%
For Hire	94%	0%	12%	24%	35%
Dealer	100%	19%	42%	64%	70%
Harvester	95%	8%	12%	15%	35%
Marina	99%	13%	31%	41%	48%
Marina & Other	99%	20%	34%	48%	51%
Processor	46%	15%	35%	40%	50%

Table 50. New York: Sandy Impacts on Operating Status by Sector

	Average Pre-Storm Percentage Open	Average Week 1 Percentage Open	Average Week 2 Percentage Open	Average Week 3 Percentage Open	Average Week 4 Percentage Open
B&T	97%	27%	50%	55%	65%
For Hire	97%	4%	5%	13%	34%
Dealer	98%	65%	80%	89%	92%
Harvester	97%	0%	5%	21%	39%
Marina	98%	20%	35%	43%	47%
Processor	100%	73%	75%	78%	80%