

## **The 2013 Delaware Bay Horseshoe Crab Spawning Survey**

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### **Abstract**

Spawning counts of horseshoe crabs were scheduled in advance for 25 beaches in New Jersey and Delaware during moon phases in May and June. The schedule included 300 events of which 275 counts were completed with 25 dates cancelled due no surveyors (12), weather (9) and flooding/no beach (4).

The single day peak estimate of 384,548 horseshoe crabs was attained on May 23rd, two days before the full moon. This estimate was slightly higher than last year's estimate (341,062) and fell mid range when comparing the years 1999-2013. Delaware's portion (276,354) was within the range of other years and surpassed the last year's record low estimate for Delaware of 157,016. New Jersey's estimate of 108,194 was almost half of the estimates from the previous four years.

The grand total of seasonal activity for the Delaware Bay was 1,778,939 individuals comprised of 658,675 for the New Jersey side and 1,120,264 for the Delaware side. While New Jersey's estimate was in the range of the previous few years, Delaware's estimate of 1,120,264 was similar to other year's estimates and almost doubled the record low estimate of 2012 of 622,619.

The average male to female sex ratio of 3.74 (3.82 for New Jersey and 3.70 for Delaware) was greatly improved compared to previous years and is reminiscent of the sex ratios in the earlier years, 1999-2005. The lower sex ratio translated into a record number of females spawning (375,304).

### **Introduction**

Since its inception in 1999, our survey has made tremendous strides and is considered the premier method of estimating the spawning population of horseshoe crabs. To continue with this undertaking each year we rely on many eager and energetic groups and volunteers who generously give of their time and their efforts to learn, count, enter and analyze the data reaped from the results of the survey.

### **Methods**

Horseshoe crabs were enumerated in the months of May and June 2013 along the shores of the Delaware Bay. Twenty-five beaches were represented in this year's count (13 along the state of Delaware's coast and 12 along the coast of New Jersey). The Delaware beaches from north to south were Woodland, Pickering, Kitts Hummock, Ted Harvey Wildlife Management Area (WMA), North Bowers, South Bowers, Bennetts Pier, Big Stone, Slaughter, Fowler, Primehook, Broadkill, and Cape

Henlopen. New Jersey beaches included Gandys, Fortescue, Reeds, Kimbles, Pierces Point, Highs, South Cape Shore Lab, Norburys Landing, Villas, Townbank, North Cape May and Higbees. The most northern beach in New Jersey, Sea Breeze, is no longer surveyed due to flooding and access problems.

Simultaneous counts coinciding with the change from peak high to ebb tide were taken on both New Jersey and Delaware beaches following the new and full moon periods in May and June. The dates of counting were: May 7, 9, 11, 23, 25, 27 and June 6, 8, 10, 21, 23 and 25. High tide times ranged from 7:39 p.m. to 11:29 p.m., allowing adjustments for tidal flow entering the bay. All counts initiate with the onset of the changing tide from peak high to beginning ebb on one kilometer of preset beach. Where one contiguous kilometer of beach is not available, adjustments are made to randomly place quadrats closer to each other to complete the count with 100 quadrats.

## **Results**

Three hundred survey dates were scheduled and 275 dates completed or 92% of actual surveying. The remainder was canceled due to flooding (4), inclement weather (9), or volunteer unavailability (12). In New Jersey, 15 dates were cancelled, due to no access and flooding (3), weather (5) and no surveyors (7). The weather cancellations occurred on two dates May 11<sup>th</sup> and June 10<sup>th</sup>. Flooding at Gandys occurred on three dates May 23<sup>rd</sup>, June 21<sup>st</sup> and June 23<sup>rd</sup>. Four of the last scheduled survey dates were canceled at South Cape Shore Lab due to sickness of the regular volunteer. (Table 1A)

Ten cancellations occurred in Delaware during the 2013 spawning season due to no beach (1), weather (4) or no surveyors (5). The weather cancellations occurred on May 7<sup>th</sup> and June 10<sup>th</sup>. Four of the five cancellations due to no surveyors occurred on the last day of the count, June 25<sup>th</sup>. (Table 1B)

This year's (2013) peak estimate of spawners along Delaware and New Jersey's shores was in the mid range when compared to previous years (Table 2). In New Jersey, spawning remained steady throughout the season with 60% spawning activity in May and 40% in June. Counts were low at the start of the season, May 7<sup>th</sup>, and again on May 25<sup>th</sup> due to windy conditions. The highest densities of the season occurred on May 11<sup>th</sup> at Pierces Point (18.06 crabs per square meter) and at Reeds (14.68 crabs per square meter) and on May 23<sup>rd</sup> at Fortescue (14.67 crabs per square meter). (Table 1A)

In Delaware, the majority (73%) of the seasonal spawning was during the May counts with fewer horseshoe crabs observed during the June counts (27%). Very few horseshoe crabs (328) were observed during the first count of May 7<sup>th</sup> and a low estimate (12,808) was recorded for June 6<sup>th</sup>. Unlike last year's high estimate at Woodland of 1, 200 crabs, this year's estimate was 190 spawners, more in tune with other yearly estimates. The greatest density was observed at Pickering Beach

of 35.1 animals per square meter on May 23<sup>rd</sup>. Additional high densities were 26.00 crabs per square meter on May 11<sup>th</sup> at Pickering and 23.34 crabs per square meter on May 23<sup>rd</sup> at Ted Harvey WMA. (Table 1B and Figure 1)

The male to female sex ratio of 3.74 was much lower than the previous year's estimates (2006-2012) and similar to the estimates from the early years (1999-2005). The sex ratio is highly variable among years, among beaches and within beaches. Average sex ratios in Delaware ranged from a low of 2.07 males per female at Fowlers to a higher ratio of 5.40 at Cape Henlopen. In New Jersey, the average sex ratios ranged from 2.12 at North Cape May (lowest number of horseshoe crabs counted, 2,430) to highs of 4.42 at Reeds, 4.22 at Pierces Point and 4.77 at Highs Beach.

The seasonal estimate for both states of 1,778,939 was in the mid range of seasonal estimates with Delaware's estimate rebounding from the record low of 2012 (Table 4 and Figure 4). The 2013 male to female ratio was 3.74 males per female and coupled with the moderate seasonal estimate resulted in the greatest number of females (375,304) estimated since 1999 (Table 5 and Figure 5).

We observe and utilize four levels of spawning activity to categorize the densities for each count. No spawning activity equals 0 crabs, low activity equals less than 5 crabs per meter, moderate activity equals 5 to 10 crabs per meter, and high activity equals greater than 10 crabs per meter. The data is then analyzed in percentages since the number of dates and/or beaches may change yearly. As in previous years, the majority of the dates surveyed (56% in NJ and 51% in DE) showed horseshoe crabs densities lower than five crabs per meter. Dates with high densities were predominant in Delaware this year at 17% (Table 3 and Figure 3. ).

Dates with zero crabs (20 in Delaware and 16 in New Jersey) were comparable to previous years, some years having fewer and others greater percentages of zero crabs (Table 3 and Figure 3). Ten of the zero counts in Delaware and six of the zero counts in New Jersey were recorded on the first day of the survey counts, May 7<sup>th</sup>. Delaware's most northern beach, Woodland Beach rendered zero counts during nine of the 11 dates surveyed and in New Jersey zero counts were recorded at Higbees, the most southern beach surveyed during the first five dates of counting.

## **Discussion**

This year's peak count was 384,548 spawning individuals during the May 23<sup>rd</sup> count, two days before the full moon date. The 2013 peak estimate for New Jersey was 108,194, lower than previous years and Delaware's estimate of 276,354 was higher than last' year's record low estimate and comparable to other years (Table 2).

This year's seasonal spawning estimate of 1,778,939 was in the mid range of seasonal estimates (Table 4). The sex ratio was greatly improved and similar to the years 1999-2005 and resulted in the greatest number of females spawning since 1999 (Table 5).

Many of the surveyed beaches were assessed prior to the start of the 2013 counts in response to the possible changes in the shoreline caused by Hurricane Sandy. Specifically, the assessed beaches in Delaware were Big Stone, Bennetts and Fowlers on February 27<sup>th</sup> and Pickering, South Bowers, Slaughter, Broadkill, Primehook and Cape Henlopen on April 11<sup>th</sup>. In New Jersey, the beaches examined were Higbees and Norburys (Sunray) on April 24<sup>th</sup>, North Cape May, Townbank and Villas on April 25<sup>th</sup>, Highs and South Cape Shore Lab on April 27<sup>th</sup>, Gandys on April 30<sup>th</sup>, Fortescue on May 5<sup>th</sup> and Reeds, Kimbles and Pierces Point on May 6<sup>th</sup>. No major changes to the survey methodology were warranted based on the assessments. Some beaches were replenished with sand prior to the first survey date and the count continued as in previous years.

Gandys beach was closely examined because of its diminishing accessible beach area. The surveyed beach area remained the same as last year. Three dates were canceled due to no beach accessible for counting and road flooding and three additional dates contained incomplete surveys.

### **Acknowledgements**

The results from this year's survey are welcome sights, especially in the aftermath of Hurricane Sandy. Our volunteer base remains strong and we thank the volunteers immensely for their dedication.

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Figure 1. New Jersey and Delaware Spawning Estimates During 2013 Survey

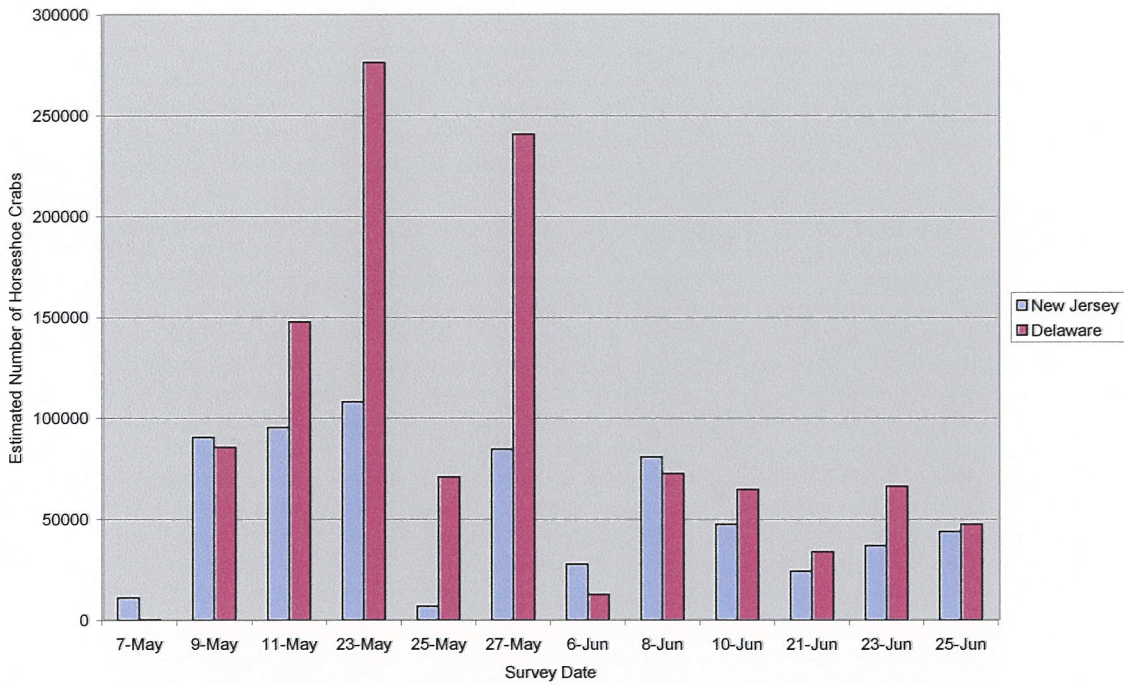


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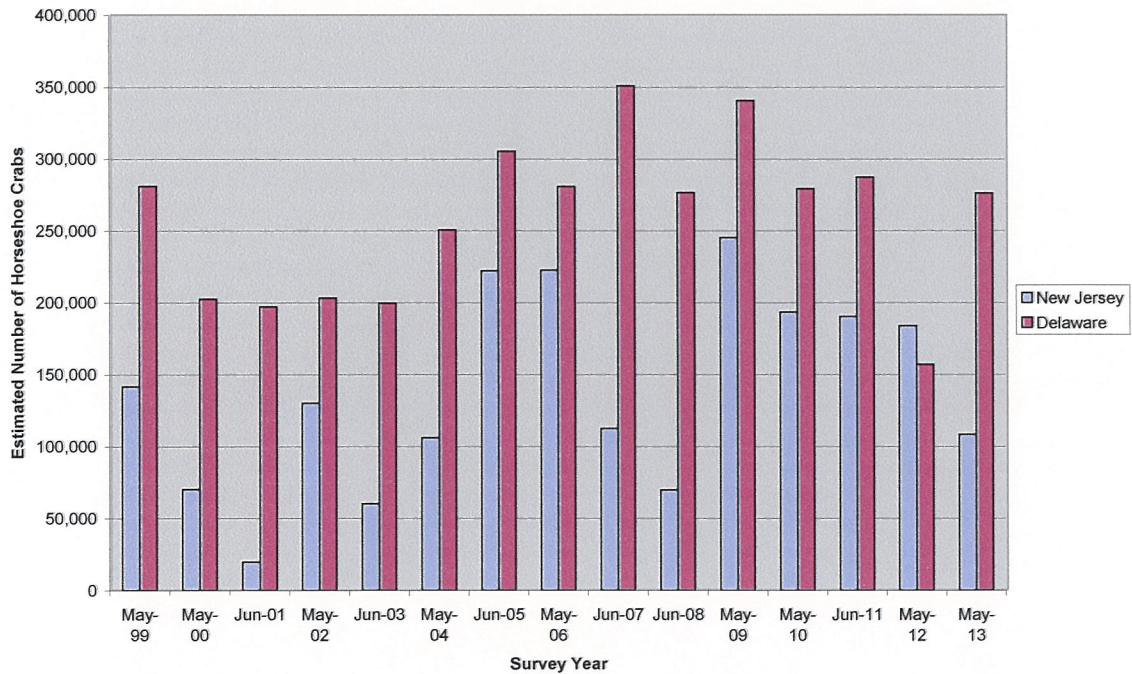


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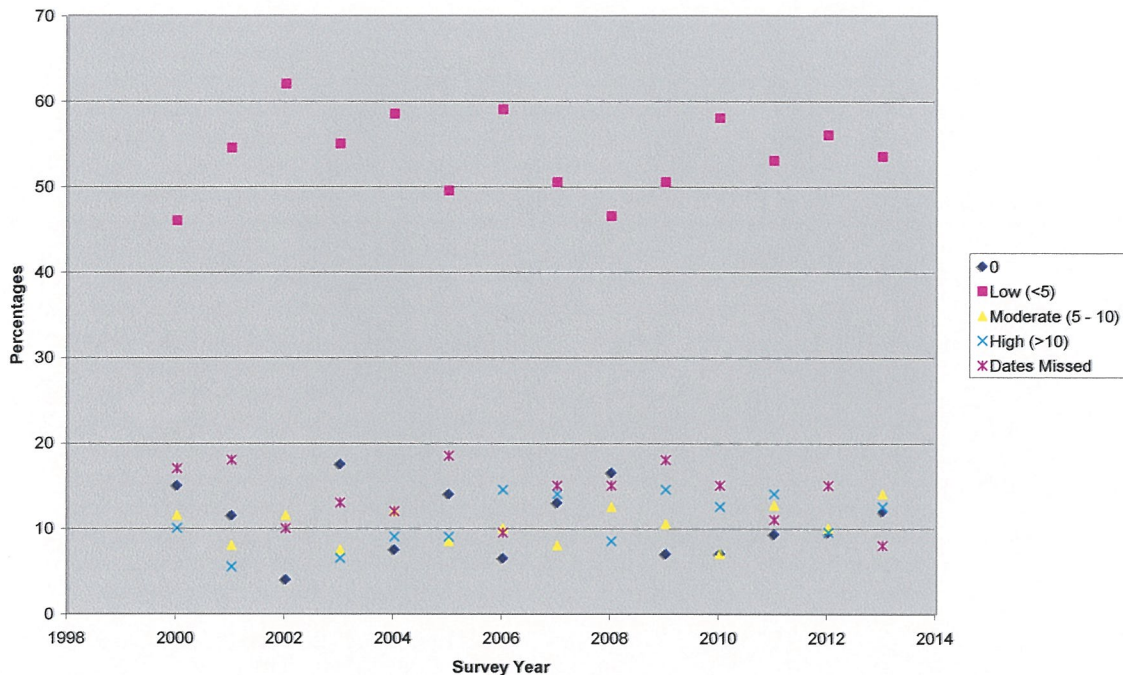
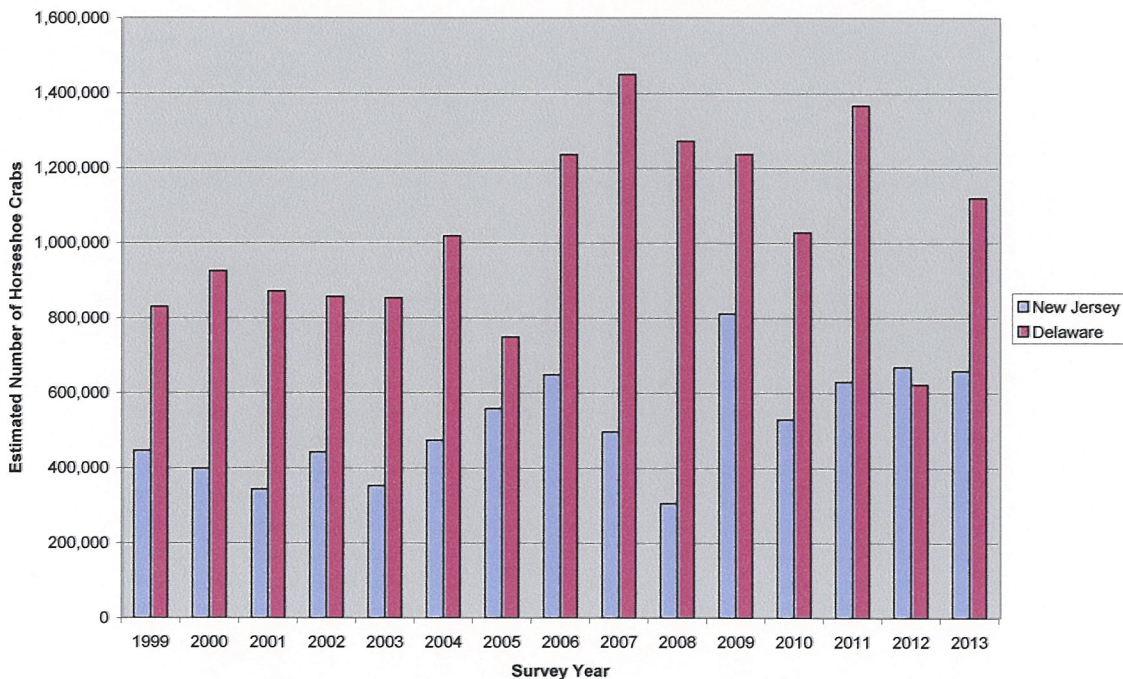


Figure 4. Seasonal Estimates of Horseshoe Crabs 1999-2013



**Figure 5. Seasonal Estimates of Male and Female Horseshoe Crabs  
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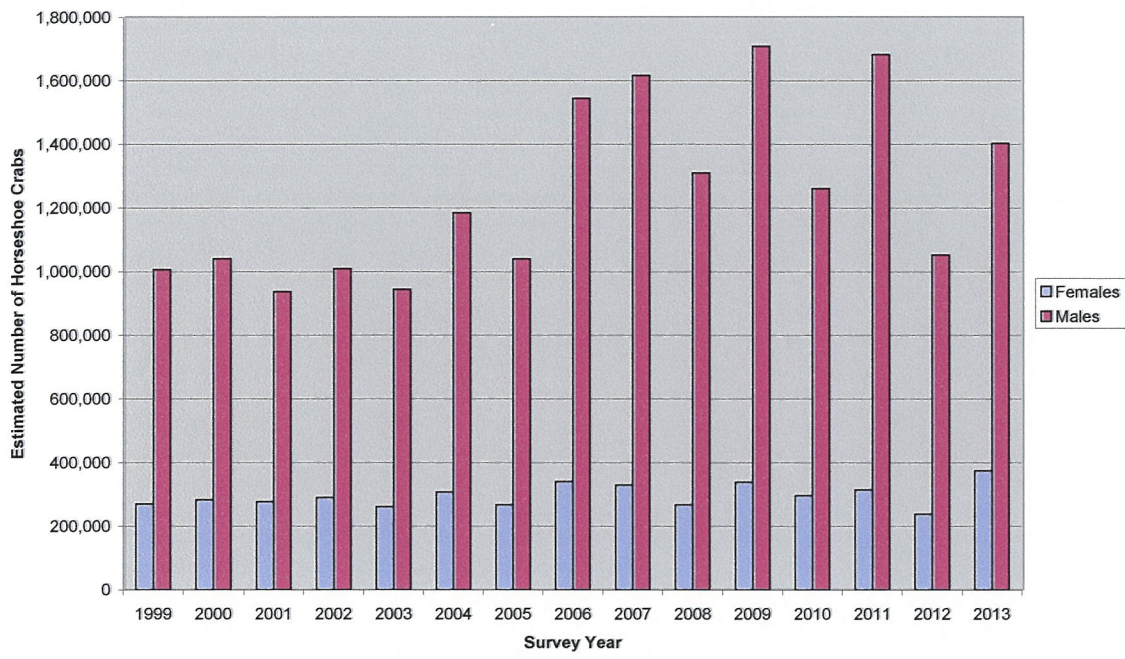




Table 1. 2013 Survey Results- Densities and Estimates

A. New Jersey Beaches (\*Indicates beaches surveyed every year)

Moon Phase	New-2 7-May	New 9-May	New+2 11-May	Full-2 23-May	Full 25-May	Full+2 27-May	New-2 6-Jun	New 8-Jun	New+2 10-Jun	Full-2 21-Jun	Full 23-Jun	Full+2 25-Jun	Totals
<b>Higbees * (0.98 km)</b>													
Density of HSC, Crabs/m	0	0	0	0	0	0.04	0.12	cancel	cancel	0.59	cancel	1.73	
Estimated Number of HSC	0	0	0	0	0	39	118	0	0	578	0	1,695	2,430
<b>North Cape May * (3 km)</b>													
Density of HSC, Crabs/m	0	0	cancel	0	0	0.21	0.02	0.05	cancel	0.37	0.55	0.93	
Estimated Number of HSC	0	0	0	0	0	630	60	150	0	1,110	1,650	2,790	6,390
<b>Villas (2 km)</b>													
Density of HSC, Crabs/m	0	0.1	1.02	1.68	0.07	1.32	1.75	1.76	cancel	1.02	3.38	2.46	
Estimated Number of HSC	0	200	2,040	3,360	140	2,640	3,500	3,520	0	2,040	6,760	4,920	29,120
<b>Townbank (2.3 km)</b>													
Density of HSC, Crabs/m	0	0.14	0.11	0	0.04	4.51	3.4	cancel	1.47	4.36	5.36	4.01	
Estimated Number of HSC	0	322	253	0	92	10,373	7,820	0	3,381	10,028	12,328	9,223	53,820
<b>Norbury's Landing (2.43 km)</b>													
Density of HSC, Crabs/m	0	1.16	2.18	5.33	0.01	7.08	2.75	7.72	8.03	1.54	2.84	2.22	
Estimated Number of HSC	0	2,819	5,297	12,952	24	17,204	6,683	18,760	19,513	3,742	6,901	5,395	99,290
<b>South CSL * (2.2 km)</b>													
Density of HSC, Crabs/m	0.06	8.56	cancel	8.88	0.02	4.58	0.81	5.3	cancel	cancel	cancel	cancel	
Estimated Number of HSC	132	18,832	0	19,536	44	10,076	1,782	11,660	0	0	0	0	62,062
<b>Highs * (0.8 km)</b>													
Density of HSC, Crabs/m	0.38	3.27	8.3	8.18	0.17	4.11	2.91	4.92	3.73	0.61	1.87	0.8	
Estimated Number of HSC	304	2,616	6,640	6,544	136	3,288	2,328	3,936	2,984	488	1,496	640	31,400
<b>Pierces Point (0.7 km)</b>													
Density of HSC, Crabs/m	1.09	13.19	18.05	12.82	0	2.22	1.61	7.46	7.31	5.48	2.06	2.65	
Estimated Number of HSC	763	9,233	12,635	8,974	0	1,554	1,127	5,222	5,117	3,836	1,442	1,855	51,758
<b>Kimbles (1 km)</b>													
Density of HSC, Crabs/m	0	6.34	10.04	6.14	0.02	5.82	0.09	3.32	1.25	0	0.15	0.02	
Estimated Number of HSC	0	6,340	10,040	6,140	20	5,820	90	3,320	1,250	0	150	20	33,190
<b>Reeds * (1.53 km)</b>													
Density of HSC, Crabs/m	1.46	10.9	14.68	8.2	1.17	8.19	0.46	5.52	2.2	0.29	2.98	1.31	
Estimated Number of HSC	2,234	16,677	22,460	12,546	1,790	12,531	704	8,446	3,366	444	4,559	2,004	87,761
<b>Fortescue (2.6 km)</b>													
Density of HSC, Crabs/m	2.79	10.72	11.17	14.67	0.85	5.67	0.93	2.5	3.54	0.79	0.69	0.21	
Estimated Number of HSC	7,254	27,872	29,042	38,142	2,210	14,742	2,418	6,500	9,204	2,054	1,794	546	141,778
<b>Gandys * (1.2 km)</b>													
Density of HSC, Crabs/m	0.4	4.65	5.91	cancel	2.15	4.89	0.93	16.18	2.24	cancel	cancel	12.38	
Estimated Number of HSC	480	5,580	7,092	0	2,580	5,868	1,116	19,416	2,688	0	0	14,856	59,676
<b>Totals</b>	11,167	90,491	95,500	108,194	7,036	84,765	27,745	80,929	47,503	24,320	37,081	43,944	658,675

Table 1. 2013 Survey Results - Densities and Estimates  
 B. Delaware Beaches (\*Indicates Beaches Surveyed Every Year)

Month Phase	New-2 7-May	New 9-May	New+2 11-May	Full-2 23-May	Full 25-May	Full+2 27-May	New-2 6-Jun	New 8-Jun	New+2 10-Jun	Full-2 21-Jun	Full 23-Jun	Full+2 25-Jun	Totals
<b>Cape Henlopen (1.5 km)</b>													
Density of HSC, Crabs/m	0.21	1.48	3.5	4.95	1.61	9.93	0.6	0.68	cancel	1.59	1.41	cancel	
Estimated Number of HSC	315	2,220	5,250	7,425	2,415	14,895	900	1,020	0	2,385	2,115	0	38,940
<b>Broadkill (1.5 km)</b>													
Density of HSC, Crabs/m	0	0.1	0.03	3.25	0.54	4.19	0.39	0.26	2.84	3.06	7.54	4.41	
Estimated Number of HSC	0	150	45	4,875	810	6,285	585	390	4,260	4,590	11,310	6,615	39,915
<b>Primehook * (2.0 km)</b>													
Density of HSC, Crabs/m	0	1.48	11.42	14.05	3.32	8	0.46	0.89	5.63	3.50	4.57	4.76	
Estimated Number of HSC	0	2,960	22,840	28,100	6,640	16,000	920	1,780	11,260	7,000	9,140	9,520	116,160
<b>Fowler * (3 km)</b>													
Density of HSC, Crabs/m	0	0.06	0.06	3.6	0.56	3.4	0.88	2.97	0.3	0.20	0.04	0.04	
Estimated Number of HSC	0	180	180	10,800	1,680	10,200	2,640	8,910	900	600	120	120	36,330
<b>Slaughter * (3 km)</b>													
Density of HSC, Crabs/m	cancel	0.11	7.13	17.57	3.58	18.83	0.14	6.94	cancel	2.04	2.61	cancel	
Estimated Number of HSC	0	330	21,390	52,710	10,740	56,490	420	20,820	0	6,120	7,830	0	176,850
<b>Big Stone * (5.0 km)</b>													
Density of HSC, Crabs/m	0	1.87	1.28	8.83	1.36	10.64	0.01	1.52	cancel	0.2	1.3	1.78	
Estimated Number of HSC	0	9,350	6,400	44,150	6,800	53,200	50	7,600	0	1,000	6,500	8,900	143,950
<b>Bennetts Pier (2.6 km)</b>													
Density of HSC, Crabs/m	0	0.03	0.2	0.84	0.69	0.62	0	0.81	1.99	0.02	0	cancel	
Estimated Number of HSC	0	78	520	2,184	1,794	1,612	0	2,106	5,174	52	0	0	13,520
<b>South Bowers (2.3 km)</b>													
Density of HSC, Crabs/m	0	8.24	13.21	10.71	2.87	6.63	0.12	1.01	5.24	0.86	1.93	0.89	
Estimated Number of HSC	0	18,952	30,383	24,633	6,601	15,249	276	2,323	12,052	1,978	4,439	2,047	118,933
<b>North Bowers * (1.3 km)</b>													
Density of HSC, Crabs/m	0.01	6.47	8.36	16.29	4.78	10.64	1.79	3.37	8.18	1.65	1.78	cancel	
Estimated Number of HSC	13	8,411	10,868	21,177	6,214	13,832	2,327	4,381	10,634	2,145	2,314	0	82,316
<b>Ted Harvey WMA (1.0 km)</b>													
Density of HSC, Crabs/m	0	13.3	10.9	23.34	5.3	14.26	0.13	7.19	cancel	7.28	11.91	9.63	
Estimated Number of HSC	0	13,300	10,900	23,340	5,300	14,260	130	7,190	0	7,280	11,910	9,630	103,240
<b>Klitts Hummock * (1.0 km)</b>													
Density of HSC, Crabs/m	0	11.89	13.09	21.86	10.41	16.97	3.21	5.73	5.18	0.13	3.76	4.51	
Estimated Number of HSC	0	11,890	13,090	21,860	10,410	16,970	3,210	5,730	5,180	130	3,760	4,510	96,740
<b>Pickering (1 km)</b>													
Density of HSC, Crabs/m	0	17.77	26	35.1	11.63	21.77	1.35	10.36	15.33	0.65	6.89	6.33	
Estimated Number of HSC	0	17,770	26,000	35,100	11,630	21,770	1,350	10,360	15,330	650	6,890	6,330	153,180
<b>Woodland * (0.5 km)</b>													
Density of HSC, Crabs/m	0	0	0	0	0	0.24	0	0.14	0	cancel	0	0	
Estimated Number of HSC	0	0	0	0	0	120	0	70	0	0	0	0	190
<b>Totals</b>	328	85,591	147,866	276,354	71,034	240,883	12,808	72,680	64,790	33,930	66,328	47,672	1,120,264

**Table 2. Comparison of Data on Horseshoe Crabs Spawning on Delaware Bay Shores  
Years 1999-2013**

	23-May-13	22-May-12	3-Jun-11	29-May-10	24-May-09	3-Jun-08	1-Jun-07	27-May-06	8-Jun-05	21-May-04	14-Jun-03	28-May-02	5-Jun-01	18-May-00	30-May-99
Horseshoe Crabs	384,548	341,062	477,715	472,759	586,298	346,319	463,587	503,435	527,520	356,739	259,957	333,553	216,929	272,770	422,775
New Jersey Estimate	108,194	184,046	190,449	193,463	245,444	69,669	112,497	222,653	222,168	105,973	60,272	130,164	19,726	70,293	141,720
Delaware Estimate	276,354	157,016	287,266	279,296	340,854	276,650	351,090	280,782	305,352	250,766	199,685	203,389	197,203	202,477	281,055
Beaches in DE	13	13	13	13	13	13	13	13	13	13	13	13	13	11	9
Beaches in NJ	12	12	12	12	13	12	11	11	11	11	10	10	10	11	13
Beaches in DE	Slaughter	Pickering	Big Stone	Big Stone	Big Stone	Big Stone	Big Stone	Big Stone	Big Stone	Big Stone	Big Stone	S. Bowers	Slaughter	Slaughter	Slaughter
	Pickering	Ted Harvey	Slaughter	Slaughter	Slaughter	Slaughter	Slaughter	Slaughter	S. Bowers	Slaughter	Slaughter	Slaughter	Big Stone	Big Stone	Big Stone
	Big Stone	S. Bowers	S. Bowers	S. Bowers	S. Bowers	Pickering	S. Bowers	S. Bowers	Bennets	Pickering	Pickering	Big Stone			
		Big Stone	Pickering	Pickering	Pickering				Slaughter		Ted Harvey	Pickering			
									Pickering						
Beaches in NJ	Fortescue	Fortescue	South CSL	South CSL	South CSL	South CSL	South CSL	South CSL	South CSL	South CSL	South CSL	South CSL	South CSL	South CSL	Townbank
	Norburys	South CSL	Norburys	Norburys	Norburys	Norburys		Norburys	Norburys	Fortescue	Fortescue	Gandys			Norburys
		Gandys	Fortescue	Gandys	Reeds			Fortescue	Villas	Norburys	Norburys	Sea Breeze			South CSL

**Table 3. Percentages of Horseshoe Crab Densities 1999-2013**

Survey Year	State	Percentage				Dates Missed
		0	Low (<5)	Moderate (5-10)	High (>10)	
1999	New Jersey	4	65	10	6	15
	Delaware	8	43	6	11	31
2000	New Jersey	16	54	10	5	14
	Delaware	14	38	13	15	20
2001	New Jersey	10	63	5	5	17
	Delaware	13	46	11	6	19
2002	New Jersey	3	61	10	8	13
	Delaware	5	63	13	12	7
2003	New Jersey	17	60	7	3	13
	Delaware	18	50	8	10	13
2004	New Jersey	5	63	9	8	14
	Delaware	10	54	15	10	10
2005	New Jersey	14	48	6	10	21
	Delaware	14	51	11	8	16
2006	New Jersey	5	64	8	12	11
	Delaware	8	54	12	17	8
2007	New Jersey	16	58	1	10	15
	Delaware	10	43	15	18	15
2008	New Jersey	21	51	8	0	19
	Delaware	12	42	17	17	11
2009	New Jersey	4	50	8	14	24
	Delaware	10	51	13	15	12
2010	New Jersey	5	60	6	8	20
	Delaware	9	56	8	17	10
2011	New Jersey	10	58	15	7	10
	Delaware	8	49	10	21	12
2012	New Jersey	6	56	16	8	14
	Delaware	13	56	4	11	16
2013	New Jersey	11	56	15	8	10
	Delaware	13	51	13	17	6

**Table 4. Seasonal Estimates of Horseshoe Crabs 1999-2013**

<b>Year</b>	<b>New Jersey</b>	<b>Delaware</b>	<b>Total</b>
<b>1999</b>	447,128	830,405	1,277,533
<b>2000</b>	398,847	925,837	1,324,684
<b>2001</b>	343,351	871,375	1,214,726
<b>2002</b>	442,586	857,362	1,299,948
<b>2003</b>	352,800	853,721	1,206,521
<b>2004</b>	474,019	1,019,014	1,493,033
<b>2005</b>	557,956	749,473	1,307,429
<b>2006</b>	648,728	1,236,627	1,885,355
<b>2007</b>	496,535	1,450,837	1,947,372
<b>2008</b>	306,306	1,272,312	1,578,618
<b>2009</b>	811,724	1,237,476	2,049,200
<b>2010</b>	529,606	1,028,611	1,558,217
<b>2011</b>	630,091	1,367,112	1,997,203
<b>2012</b>	668,950	622,619	1,291,569
<b>2013</b>	658,675	1,120,264	1,778,939

**Table 5. Seasonal Estimates of Male and Female Horseshoe Crabs 1999-2013**

<b>Year</b>	<b>Sex Ratio</b>	<b>Females</b>	<b>Males</b>
<b>1999</b>	<b>3.72</b>	<b>270,664</b>	<b>1,006,869</b>
<b>2000</b>	<b>3.67</b>	<b>283,658</b>	<b>1,041,026</b>
<b>2001</b>	<b>3.38</b>	<b>277,335</b>	<b>937,391</b>
<b>2002</b>	<b>3.48</b>	<b>290,167</b>	<b>1,009,781</b>
<b>2003</b>	<b>3.61</b>	<b>261,718</b>	<b>944,803</b>
<b>2004</b>	<b>3.85</b>	<b>307,842</b>	<b>1,185,191</b>
<b>2005</b>	<b>3.89</b>	<b>267,368</b>	<b>1,040,061</b>
<b>2006</b>	<b>4.53</b>	<b>340,932</b>	<b>1,544,423</b>
<b>2007</b>	<b>4.90</b>	<b>330,064</b>	<b>1,617,308</b>
<b>2008</b>	<b>4.90</b>	<b>267,562</b>	<b>1,311,056</b>
<b>2009</b>	<b>5.04</b>	<b>339,271</b>	<b>1,709,929</b>
<b>2010</b>	<b>4.25</b>	<b>296,803</b>	<b>1,261,414</b>
<b>2011</b>	<b>5.36</b>	<b>314,026</b>	<b>1,683,177</b>
<b>2012</b>	<b>4.41</b>	<b>238,737</b>	<b>1,052,832</b>
<b>2013</b>	<b>3.74</b>	<b>375,304</b>	<b>1,403,635</b>