

COASTAL RECREATIONAL FISHING LICENSE

Final Report

Recipient: NC Division of Marine Fisheries; PI: Sabrina Varnam

Grant Award #: 2012-H-001 (2H40-H001)

Grant Title: Oyster Shell Recycling Program

Grant Award Period: July 1, 2012 – June 30, 2013

Performance Reporting Period: January 1, 2013 through June 30, 2013

Project Costs: \$28,000

Expenditures for the Period:

Category	Expenditures
Fuel	\$5,211.94
Travel (rent/lease state vehicle, meals, lodging)	\$1,872.02
Registration Fees	\$0.00
Supplies	\$3,600.07
Equipment Maintenance	\$1,454.88
Containers	\$10,236.00
Signage	\$0.00
Postage	\$200.71
TOTAL COST	\$22,575.62

Total Cumulative Expenditures: \$22,575.62

Total Remaining Balance: \$5,424.38

Final Project Summary:

100% Completed.

The NCOSRP collected and received oyster shells from its public recycling sites, restaurants that participated, and oyster roast functions that donated their shells. The program had also established a few new sites. However, due to state cutbacks the program started the process of downsizing a bulk of its public recycling sites and restaurants participating. In order for the program to continue and expand we needed to transition into a more efficient way in our handling and collection

procedures through partnerships with county solid waste and private waste companies. By using special containers and bins that can hold large volumes of recycled shell placed at particular locations, we are able to reduce staff time and fuel expenses from having to service many smaller individual locations. DMF staffs from other offices assisted the program by providing service for the collection of oyster shells from public recycling sites, oyster roast functions, and participating restaurants. The program has worked with county solid waste to assist with the collection of shells and provide locations for the public to recycle and for the stockpile of shells. The program has also worked with private waste companies to assist the program and provide service to participating restaurants at a reasonable fee.

The downsizing also included the collection of oyster shells from oyster roast functions. The program worked with such groups and encouraged them to drop the shells off at one of the public recycling sites. If the roast had a large volume of shell then assistance was provided depending upon location of the roast and other factoring circumstances; i.e. staff availability, fuel expense, volunteers to assist, etc.

Outreach was conducted through the media and educational exhibits at festivals, oyster roasts, program participants, and other type functions. Informational materials such as brochures were passed out by staff and/or through the mail. An electronic and paper survey was passed out during festivals, exhibits, and the DMF website to assess the effectiveness of the program. The survey included ten questions that have been compiled over a 1.5 year period. Only about 58% of the people that took the survey have heard of the program and 33.3% do recycle their shells with the program: 32.2% using our bins, 24.2% at seafood markets, 22.1% at the trash convenient sites, 20.3% other locations, and 8.9% at the landfills. Majority, 92.9% said they would recycle their shells at one of our drop off sites if it was nearby. Whether they think outreach is important to them, 45.7% say it is very important to them, 36.6% say it's important, 15.9% somewhat important, and 1.8% not important. All results are included below.

Below is a report with information and tables on the program's performance (shell volume and participants) for the 2012 calendar year. Program's output is recorded in a calendar year format (January 1 through December 31st). The tables also include data on previous year's output as a comparison.

Deviations:

None

2012 Calendar Year Data Report Summary:

For the 2012 calendar year, the Oyster Shell Recycling Program collected 27,345 bushels of shells statewide from 25 counties (Table 1 and Figure 1). Since the inception of the program in the fall of 2003, 187,858 bushels of recycled shells have been donated to the program.

In 2012, restaurants remained the highest in contribution with 16,386 bushels (60%); public donations at 9,230 bushels (34%); and festivals with 1,729 bushels (6%), (Table 2 and Figure 2). Overall, since 2003, restaurants have remained the highest in contribution with 94,202 bushels (50%); public donations at 59,805 bushels (32%); festivals with 11,899 bushels (6%), and shucking house (only donated from 2005-2007) with 21,955 bushels (12%). The 2012 total contributions were slightly higher this year, 618 more than 2011 totals. The program has worked

diligently to increase and maintain the number of public recycling sites, restaurants, and festivals on board as well as public outreach despite having to downsize. A detail report with the total volume of shells for the participating counties based on the type of donation (restaurants, public, and festivals) is included in Tables 3, 4, and 5. This year restaurant volumes did increase by 1,605 bushels where public (<146) and festivals (<841) contributions were slightly lower.

In 2012, the program had an addition of 9 participants (3 restaurants and 6 public recycling sites) totaling 60 restaurants & 131 public recycling sites. One new county was added for a public drop off site; Cabarrus County. There was a loss of 30 participants (18 public recycling locations and 10 restaurants) during the 2012 year. The number of restaurants participating decreased by 16 and public sites increased by 6 from 2011. Sixteen public sites did close on 12/1/12 in Carteret, Craven and Pamlico due to the downsizing of shell run collections by DMF staff in the Morehead City office the use of bins and 20yd roll-off containers were set-up at strategic locations for the public, oyster roast functions, and restaurants to drop off their shells. Some of the other closures were due to closed sites, new owners, lack of volunteers or staff to assist with the collection at these sites or they had stopped serving oysters on the half shell (the closure numbers were not subtracted from the site totals for 2012 since they were still open at one point during the 2012 year). These closures may not reflect a drop in shell volume until the end of 2013.

Volunteer involvement continues to decrease as in previous years. For 2012, a total of eleven volunteer groups had assistance the program with shell collections (conservation groups/clubs parks and schools). Keeping volunteers onboard for more than one year is becoming a challenge. Servicing sites is not easy work. It can be difficult at times for the volunteers to deal with the weight of the cans, hauling of the cans, smell, and out of pocket expenses like travel. However, conservation groups do assist with public awareness through program brochures and education. An estimated 127 hrs and 1,793.2 miles were devoted by the volunteers to the program for the collection of shells with some outreach opportunities. That is less than last year's time and miles which does not reflect all time since some volunteers do not want to keep logs on shell collections and outreach at festivals.

The program's outreach has been cutback since 2010 compared to previous years despite the increase in request from county and state agencies, environmental groups, and schools for the recycling program's participation. Previously, these type of participation had averaged 22-25 (public speaking, conferences, festivals, and exhibits) attended by the Coordinator which was decreased down to 3 in 2012. Due to shortage of staff and staff availability in DMF's Resource Enhancement section and per supervisor's suggestion it was decided to cut back on outreach involving the attendance of staff. However, the program did work closely with volunteers, non-profit groups, and the public affairs office within DMF to assist with public outreach. Despite these cuts, outreach should continue which is a big part of the success of the program. Volunteers and other participants (county and state) have stepped onboard and assisted at festivals and talks using exhibit set-up and program information. The program continues to at least mail out information upon request for these types of functions.

Survey Questions and Tables are included below:

NC Oyster Shell Recycling Program Survey Questions:

Do you like to eat oysters? *Yes = 81.1%; No = 18.9%*

Have you heard of the NC Oyster Shell Recycling Program before today?

Yes = 58.2%; No = 41.8%

Do you recycle your oyster shells at one of the NC Oyster Shell Recycling Program's recycling sites? *Yes = 33.3%; No = 66.7%*

If so, which type of site do you use most frequently?

Trash Convenient Sites = 22.1%

Landfills = 8.9%

Bin Locations = 32.2%

Seafood Markets = 24.2%

Other = 20.3%

If not, would you recycle your oyster shells if we set up a site in your area?

Yes = 92.9%; No = 7.1%

Do you live in NC?

Yes = 88.5%; No = 11.5%

Do you have restaurants or seafood markets in your area that recycle oyster shells?

Yes = 35.2%; No = 8.1%; Don't Know = 56.7%

If no, then are there any that you think may be interested in the Oyster Shell Recycling Program?

Yes = 55.6%; No = 44.4%

Do you encourage others to recycle their oyster shells (friends, restaurants, seafood markets, oyster roast functions)?

Yes = 70.8%; No = 29.2%

How important is outreach for this program to you?

Not Important = 1.8%

Somewhat Important = 15.9%

Important = 36.6%

Very Important = 45.7%

Would you like information on our volunteer program?

Yes = 36.5%; No = 63.5%

Table 1. Number of bushels of oyster shells donated to DMF from 2003 to 2012 based on county and year.

County	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Alamance								164	268	303.8
Beaufort	35	68	7,750	5,861.1	10,011	944.5	709.9	840	736	626.6
Bladen								202.6	211.3	219
Brunswick	300	250	187.5	812.8	1,903	1,258	2,300.9	1,794.6	1,987	1,880
Carteret		124.9	372.1	2,179.6	4,956.2	3,562	3,726.8	4,278.2	5,010.2	4,433.9
Chowan								90	73	40.5
Columbus				446.9	2,583.2	2,602.7	2,067.3	2,082.9	2,390.8	2,526.3
Craven		8	21.5	185	370.5	559.6	485.9	703.5	640.9	480
Cumberland								128.9		80
Currituck							120.9	122.7	12.5	42.5
Dare	3,905.7 ¹				1,542.5	1,690.9	1,863.1	1,736	1,510	1,336.4
Durham								26.3		32.2
Edgecombe			150	217	245	300	341.8	340	210	374
Hyde						84	63	149	84	40
Iredell					1,410.3					
Johnston								35		
Martin					301.5	217.8				
Mecklenburg					82.5					
New Hanover		465.5	2,211.5	1,431.2	2,995.4	4,051.5	4,755.7	4,753.8	6,098.6	6,068.4
Onslow	20	50	70	97.5	166	603.4	1,300.8	805.1	1,080.7	413
Orange							400	568.6	186	684.8
Pamlico		59.3	173.6	496.4	515.1	408.9	399	585.1	341.3	282.3
Pender			21	119.9	712.4	822.5	1,313.6	201.8	119	170
Pitt	350		75	1,013	885.7	984.6	488.3	333.2	299.5	468.1
Rowan					129.4			587		
Sampson					32		26	35	209	245.3
Scotland						35	43	36	38	36
Tyrrell								17.8	2	

Table 1 (continued). Number of bushels of oyster shells donated to DMF from 2003 to 2011 based on county and year.

County	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Vance							238	355	335	140
Wake					3,016.7	5,476.9	1,519.3	2,405.8	4,296.5	5,707.9
Washington				26	126	77.3	41.8	3.8		
Wilson	6	27.5	60	780	644	300	811.9	352	588	714
Total	711	1,053.2	11,092.2	17,572.1	32,628.4	23,979.6	23,017	23,733.7	26,727.3	27,345

¹Due to the lack of documentation from program partners in Dare County, type of donation can't be determined. All donations are credited to 2006.

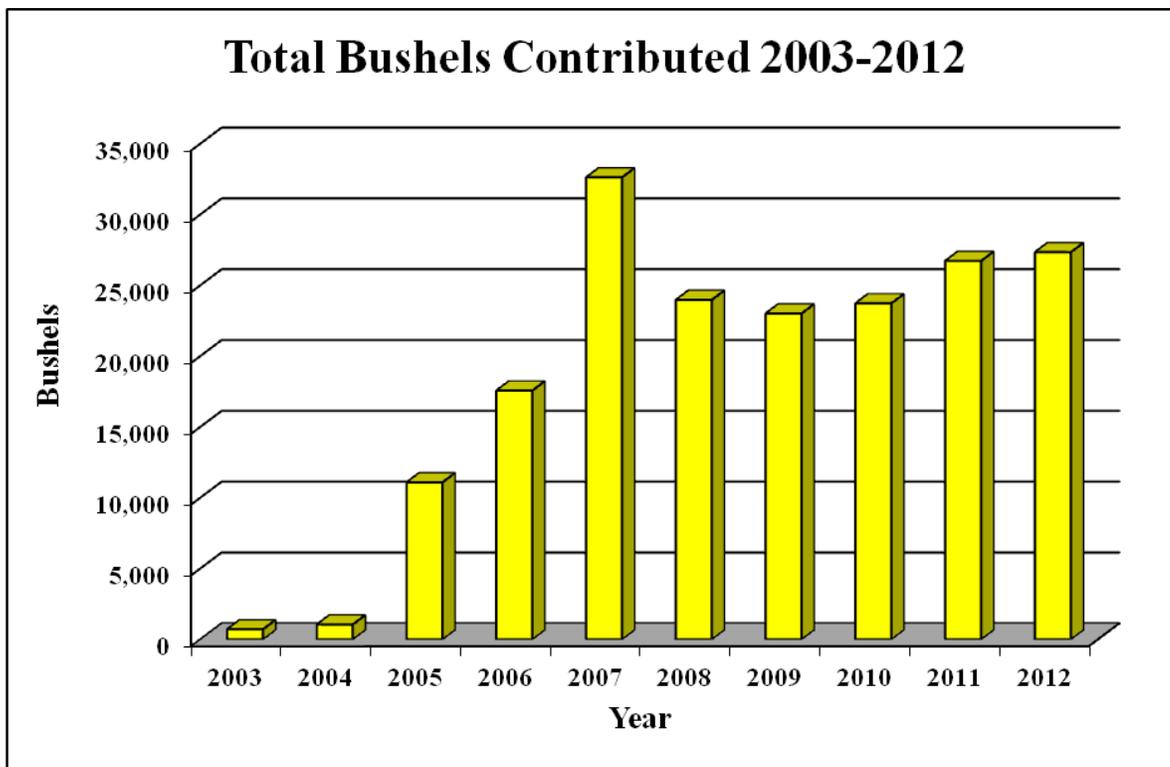


Figure 1. Total Bushels Contributed from 2003-2012.

Table 2. Total bushels contributed to DMF from 2003 to 2012 based on donation type.

Year	Festivals	Public	Restaurants	Shucking House
2003	361		350	
2004	535	335.7	182.5	
2005	251.5	1,750.2	1,340.5	7,750
2006 ¹	739	6,386.9	5,246.2	5,200
2007	1,292.5	6,866.6	15,465.4	9,005
2008	932.9	7,180.7	15,865.9	
2009	1,401	10,034.4	11,581.5	
2010	2,086.5	8,645	13,002.3	
2011	2,570.6	9,375.2	14,781.6	
2012	1,729.3	9,229.6	16,386.2	

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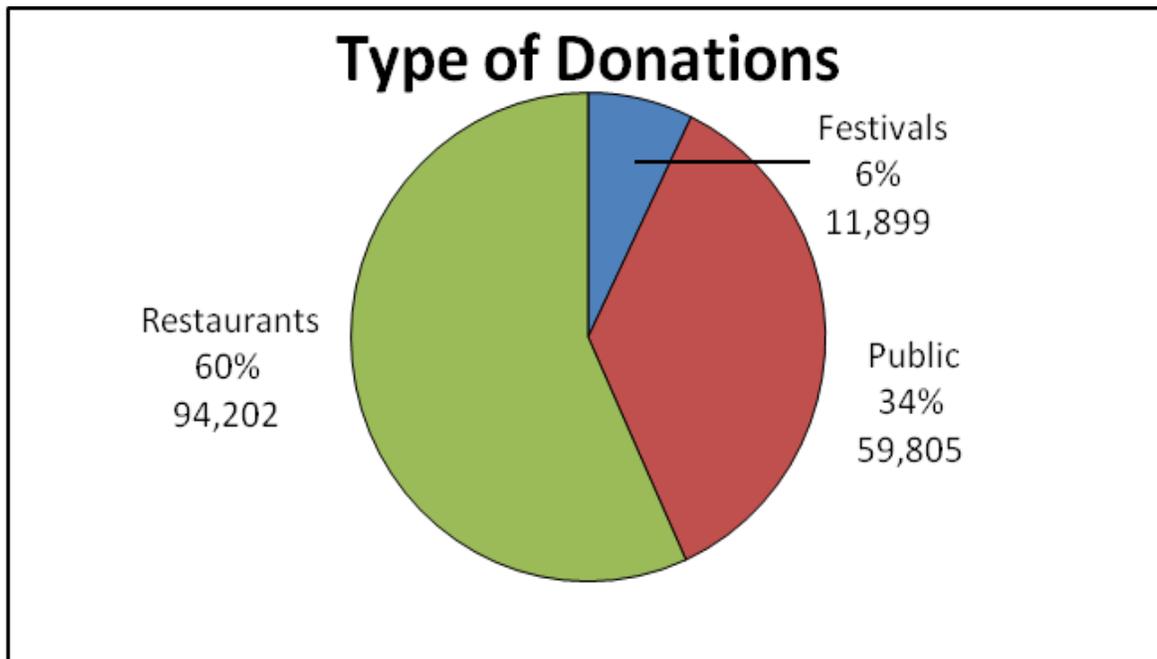


Figure 2. Type of Donations based on Restaurants, Festivals, and Public Contributions from 2003-2012.

Table 3. Number of bushels of oyster shells restaurants donated to DMF from 2003 to 2012 based on county and year.

County	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Alamance								164	268	303.4
Beaufort				382.5	420	345.6	249	327.2	349.1	233.6
Brunswick			187.5	395	840.7	828.5	1,104.1	929.5	962.5	1,026
Carteret				492.5	1,980.8	1,306.4	1,112.7	1,715.9	2,428	1,802.4
Chowan								75	25.8	
Columbus				375	2,440.1	2,512.7	1,953.9	2,011.6	2,276.5	2,434
Craven						122.6	105.7	167	183.1	206.3
Currituck							120.9	122.7	0.5	
Dare	392 ¹				1,361	1,319	1,364.5	1,200.3	1,183.7	1,037.5
Edgecombe			150	217	245	300	341.8	340	210	374
Hyde						84	63	65		
Iredell					1,410.3					
Martin					301.5	217.8				
Mecklenburg					82.5					
New Hanover		182.5	990	847.3	1,314.7	1,943.9	1,856.5	1,666.2	1,929.6	2,427.5
Onslow						254.6	553.9	380.1	230.7	
Orange								568.6	186	684.8
Pamlico			13	356.9	370.2	200.5	185.1	182.6	124.3	103.1
Pender					125.6	40	188.6	191.3		
Pitt	350			982	675.7	538.9	350.9	92.4		
Rowan					129.4			587		
Tyrrell								17.8	2	
Wake					2,990.4	5,476.9	1,229.7	1,846.1	3,833.8	5,039.3
Washington				26	126	74.5	33.8			
Wilson				780	644	300	767.4	352	588	714
Total	350	182.5	1,340.5	5,246.2	15,457.9	15,865.9	11,581.6	13,002.3	14,781.6	16,386.2

¹Due to the lack of documentation from program partners in Dare County, type of donation can't be determined. All donations are credited to 2006.

Table 4. Number of bushels of oyster shells public donated to DMF from 2003 to 2012 based on county and year.

County	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beaufort				169	490.7	529.8	374.6	400.8	214.8	220.5
Bladen								202.6	211.3	219
Brunswick				105.8	599.9	106.0	813.8	419.1	600.5	454
Carteret		124.9	372.1	1,496.1	2,733.7	2,241.5	2,543.5	2,517.7	2,532.3	2,583
Chowan									32.3	21.5
Columbus				71.9	143.1	90	113.4	11.3	34.3	36.3
Craven			21.5	168.1	335.2	409.2	368.1	494.6	422.2	247.5
Currituck									12	42.5
Dare	3,499.7 ¹				119.5	252.4	382.6	447.3	242.3	259.4
Durham								26.3		32.2
Johnston								35		
New Hanover		159	970	488.4	1,417.7	1,963.6	2,587.7	2,804.1	3,917.5	3,372.4
Onslow			70	97.5	101	148.8	647	75	50	225
Orange							400			
Pamlico		51.8	160.6	139.5	144.9	208.4	213.9	402.5	194.5	179.2
Pender			21	119.9	586.8	782.5	1,125	10.5	119	170
Pitt			75	31	194.1	445.7	137.3	234.8	299.5	468.1
Sampson									30	30.3
Wake							289.5	559.6	462.7	668.7
Washington						2.8	8	3.8		
Wilson			60				30			
Total		335.7	1,750.2	6,386.9	6,866.6	7,180.7	10,034.4	8,645	9,375.2	9,229.6

¹Due to the lack of documentation from program partners in Dare County, type of donation can't be determined. All donations are credited to 2006.

Table 5. Number of bushels of oyster shells festivals donated to DMF from 2003 to 2012 based on county and year.

County	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Beaufort	35	68		109.6	95.3	69	86.3	112	172.1	172.5
Brunswick	300	250		312	462.4	323.5	383	446	424	400
Carteret				191	234.3	14.1	70.6	44.6	49.9	48.5
Chowan								15	15	19
Columbus								60	80	56
Craven		8		16.9	35.3	27.8	12	42	35.6	26.3
Cumberland								128.9		80
Dare	14 ¹				62	119.5	116	88.5	84	39.5
Hyde								84	84	40
New Hanover		124	251.5	95.5	263	144	311.5	283.5	251.5	268.5
Onslow	20	50			65	200	100	350	800	188
Pamlico		7.5							22.5	
Pitt					15.9			6		
Sampson					32		26	35	179	215
Scotland						35	43	36	38	36
Vance							238	355	335	140
Wake					26.3					
Wilson	6	27.5					14.6			
Total	361	535	251.5	739	1,291.5	932.9	1,401	2,086.5	2,570.6	1,729.3

¹Due to the lack of documentation from program partners in Dare County, type of donation can't be determined. All donations are credited to 2006.