

Chapter 6

Pasquotank River Subbasin 03-01-55

Including: Northeastern Pamlico Sound

6.1 Subbasin Overview

Subbasin 03-01-55 at a Glance

Land and Water Area

Total area:	574 mi ²
Land area:	96 mi ²
Water area:	478 mi ²

Land Cover (percent)

Surface Water:	89%
Forest/Wetland:	11%
Urban:	<1%
Cultivated Crop:	<1%
Pasture/ Managed Herbaceous:	<1%

Counties

Dare

Communities

Stumpy Point, Rodanthe, Avon,
Waves

Monitored Waterbody Statistics

Aquatic Life:

Total: 0

Recreation:

Total: 315,259.3 ac

Supporting: 315,259.3 ac

Shellfish Harvesting:

Total: 319,557.8 ac

Supporting: 316,953.0 ac

Impaired: 2,604.8 ac

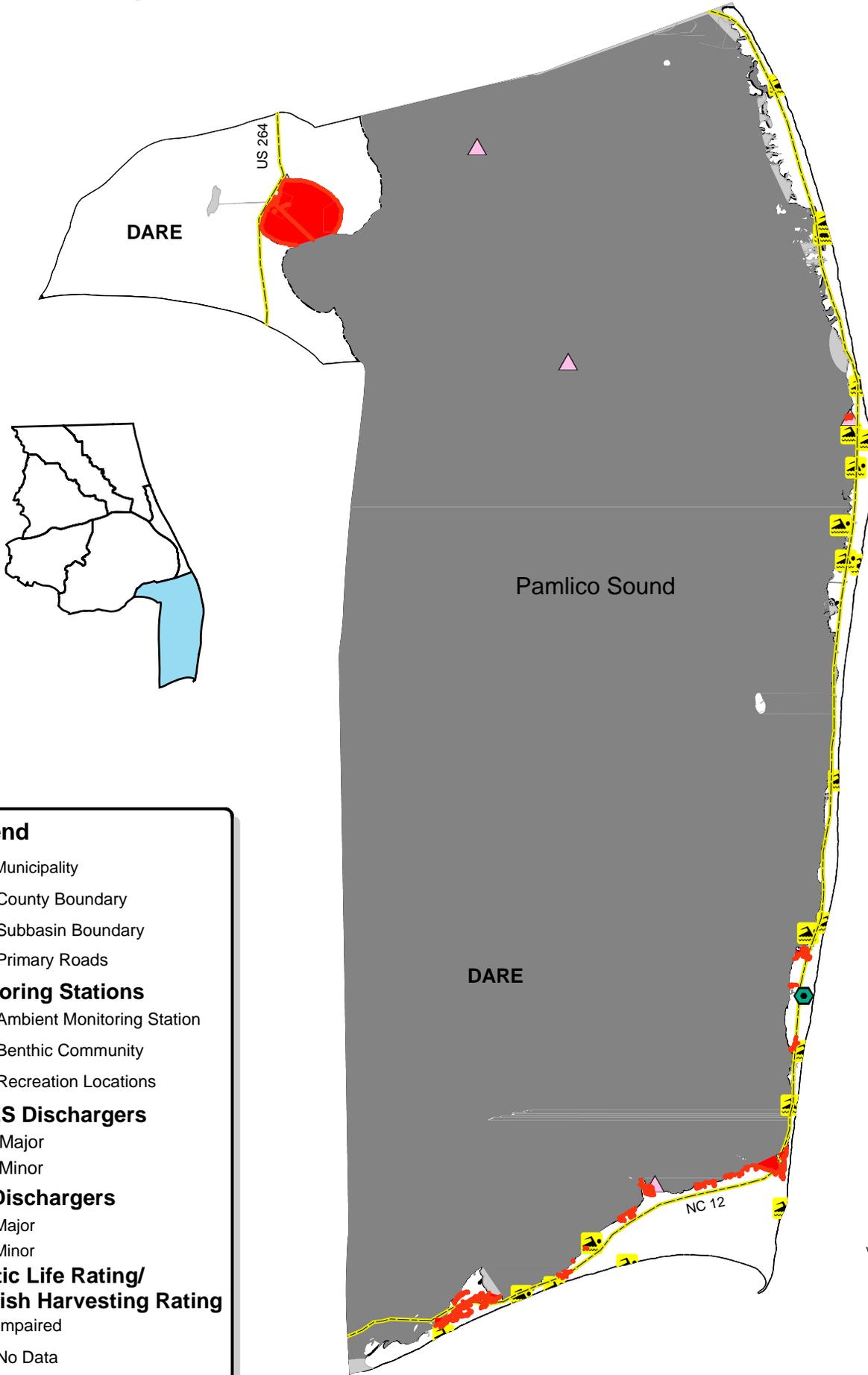
This subbasin consists of Pamlico Sound from Oregon Inlet to Hatteras Inlet and the Outer Banks in Dare County. Subbasin 03-01-55 contains Black Lake and Stumpy Point Bay on the mainland and the Pea Island National Wildlife Refuge and Cape Hatteras National Seashore on the Outer Banks. Ecologically, the subbasin consists primarily of Carolinian Barrier Islands and coastal marshes with portions of the mainland consisting of nonriverine swamps and peatlands. Streams on the mainland are few and low gradient with channelized ditches being common and all are either estuarine or oceanic. Land cover generally consists of surface water and forested wetlands.

Dare County, located in this subbasin, experiences a high seasonal population fluctuation with tourists visiting the Outer Banks. Dare County projected to experience a population increase of 35 percent by 2020. Additional information regarding population and land use changes throughout the entire basin can be found in Chapter 11.

There are three minor National Pollutant Discharge Elimination System (NPDES) permitted facilities in this subbasin with a total permitted flow of 2.1 MGD. All three facilities are reverse osmosis (RO) water treatment plants (WTP) that discharge filtered backwash or reject water into saline waters. All three are required to monitor whole effluent toxicity (WET). The permit for the Cape Hatteras RO WTP specifies chronic toxicity monitoring. WET results submitted by the facility indicate that it failed to meet its chronic toxicity target on one occasion between January 2000 and December 2005. The permits for the Stumpy Point RO WTP and the Rodanthe/Waves/Salvo RO WTP specify acute toxicity monitoring. No acute effluent toxicity violations were reported at the Stumpy Point RO

WTP; however, results from the Rodanthe/Waves/Salvo RO WTP show that the facility failed to meet its 90 percent acute toxicity target effluent concentration on four occasions between January 2000 and December 2005. There is one non-discharge permit and no stormwater discharge permits for this subbasin. For the listing of NPDES permit holders, refer to Appendix III.

Figure 8 Pasquotank River Subbasin 03-01-55



Legend

- Municipality
- County Boundary
- Subbasin Boundary
- Primary Roads
- Monitoring Stations**
- Ambient Monitoring Station
- Benthic Community
- Recreation Locations
- NPDES Dischargers**
- Major
- Minor
- Non-Dischargers**
- Major
- Minor
- Aquatic Life Rating/
Shellfish Harvesting Rating**
- Impaired
- No Data
- Not Rated
- Supporting

Planning Section
Basinwide Planning Unit
January 8, 2007

Table 18 Pasquotank Subbasin 03-01-55

AU Number	Classification	Length/Area		Aquatic Life Assessment			Recreation Assessment			Shellfish Harvesting		Stressors	Sources
				AL Rating	Station	Result	Year/ Parameter % Exc	REC Rating	Station	Result	SH Rating		
Description													
Askins Creek													
30-22-24	SA;HQW	4.9	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
From source to Pamlico Sound												H-5	
Austin Creek (Clubhouse Creek)													
30-22-31	SA;HQW	7.9	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
From source to Pamlico Sound												H-4	
Beach Slue													
30-22-9	SA;HQW	76.9	S Acres	ND				ND			S	APP	
Entire area of Beach Slue												H-5	
Blackmar Gut													
30-22-13	SA;HQW	4.6	S Acres	NR				ND			I	PRO	Toxic Impacts Fecal Coliform Bacteria
From source to Pamlico Sound												H-5	WWTP NPDES
Boat Creek													
30-22-25	SA;HQW	1.9	S Acres	ND				ND			S	APP	
From source to Pamlico Sound												H-5	
Brooks Creek													
30-22-28	SA;HQW	24.8	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
From source to Pamlico Sound												H-4	
Cape Creek													
30-22-27	SA;HQW	15.8	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
From source to Pamlico Sound												H-5	
Clarks Bay													
30-22-16	SA;HQW	19.8	S Acres	ND				S	N29	NCE	S	APP	
Entire Bay												H-5	
Duck Ponds and Isaac Pond													
30-22-30-1-1	SA;HQW	10.3	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
Entire ponds and connecting streams to The Slash												H-4	
Eagle Nest Bay													
30-22-2	SA;HQW	55.5	S Acres	ND				ND			S	APP	
Entire Bay												H-5	

Table 18 Pasquotank Subbasin 03-01-55

AU Number	Classification	Length/Area		Aquatic Life Assessment			Recreation Assessment			Shellfish Harvesting		Stressors	Sources
				AL Rating	Station	Result	Year/ Parameter % Exc	REC Rating	Station	Result	SH Rating		
Description													
Goat Island Bay													
30-22-3	SA;HQW	40.8	S Acres	ND			ND			S	APP		
Entire Bay												H-5	
Goose Creek													
30-22-32	SA;HQW	1.7	S Acres	ND			ND			S	APP		
From source to Pamlico Sound												H-4	
Gull Island Bay													
30-22-18	SA;HQW	16.5	S Acres	ND			ND			S	APP		
Entire Bay												H-5	
Hatteras Inlet													
30-22-33	SA;HQW	143.1	S Acres	ND			ND			S	APP		
Entire Inlet												H-4	
Joe Saur Creek													
30-22-29	SA;HQW	17.9	S Acres	ND			ND			I	PRO	Fecal Coliform Bacteria	
From source to Pamlico Sound												H-4	
Long Point Creek													
30-22-26	SA;HQW	6.3	S Acres	ND			ND			S	APP		
From source to Pamlico Sound												H-5	
Midgett Cove													
30-22-15	SA;HQW	36.4	S Acres	ND			ND			S	APP		
From source to Pamlico Sound												H-5	
Mill Creek													
30-22-22	SA;HQW	16.2	S Acres	ND			ND			I	PRO	Fecal Coliform Bacteria	
From source to Pamlico Sound												H-5	
No Ache Bay													
30-22-17	SA;HQW	38.1	S Acres	ND			ND			S	APP		
Entire Bay												H-5	
North Drain													
30-22-14	SA;HQW	2.0	S Acres	ND			ND			S	APP		
From source to Pamlico Sound												H-5	

Table 18 Pasquotank Subbasin 03-01-55

AU Number	Classification	Length/Area		Aquatic Life Assessment			Recreation Assessment			Shellfish Harvesting		Stressors	Sources
				AL Rating	Station	Result	Year/ Parameter % Exc	REC Rating	Station	Result	SH Rating		
Oregon Inlet													
30-22-1	SA;HQW	571.2	S Acres	ND					ND				
	Entire Inlet												S APP H-6

Table 18 Pasquotank Subbasin 03-01-55

AU Number	Classification	Length/Area	Aquatic Life Assessment				Recreation Assessment			Shellfish Harvesting		Stressors	Sources	
			AL Rating	Station	Result	Year/ Parameter % Exc	REC Rating	Station	Result	SH Rating	GA			
Pamlico Sound														
30-22a	SA;HQW	315,239.5	S Acres	NR				S	N26A N26C N28 N28A N29A N31 N33 N33A N38 N39	NCE NCE NCE NCE NCE NCE NCE NCE NCE	S	APP	Low Dissolved Oxygen	WWTP NPDES
	Portion of Pamlico Sound (from Croatan and Roanoke Sounds to a line running from Sandy Point south of Stumpy Point Bay to the northeast tip of Ocracoke Island) in subbasin 03-01-55 except DEH closure areas 30-22b through 30-22j.											H-6		
30-22b	SA;HQW	28.5	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria	
	The waters of Pamlico Sound which include the DEH closed area of a boundary beginning at a point on land west of the Hatteras Ferry Landing at 35 degrees 12' 30" N- 75 degrees 42' 24" W, thence to a point in the ferry channel at 35 degrees 12' 37" N-75 deg											H-4		
30-22c	SA;HQW	15.2	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria	
	The waters of the Pamlico Sound which include the DEH closed area with mouth 1.17 miles southwest of Durant Point.											H-4		
30-22d	SA;HQW	3.6	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria	
	The waters of Pamlico Sound which include the DEH closed area with mouth 321 meters east of east mouth of Austin Creek											H-4		
30-22e	SA;HQW	18.7	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria	
	The waters of Pamlico Sound which include the DEH closed area: all creeks, canals, and tributaries along Hatteras Island between Brooks Point to west mouth of Joe Saur Creek.											H-4		

Table 18 Pasquotank Subbasin 03-01-55

AU Number	Classification	Length/Area		Aquatic Life Assessment				Recreation Assessment			Shellfish Harvesting		Stressors	Sources
				AL Rating	Station	Result	Year/ Parameter % Exc	REC Rating	Station	Result	SH Rating	GA		
Description														
30-22f	SA;HQW	187.8	S Acres	ND				ND				I	PRO	Fecal Coliform Bacteria
The waters of Pamlico Sound which include the DEH closed area: All waters south of a line bginning at a point on the shore north of Buxton at 35 degrees 16' 44" N- 75 degrees 31' 05" W, thence in awesterly direction through Bald Point to a point on the B														
30-22g	SA;HQW	1.3	S Acres	ND				ND				I	PRO	Fecal Coliform Bacteria
The waters of Pamlico Sound which include the DEH closed area at the mouth of Askins Creek														
30-22h	SA;HQW	29.2	S Acres	ND				ND				I	PRO	Fecal Coliform Bacteria
The waters of Pamlico Sound which include the DEH closed area at the mouth of Mill Creek. This includes all waters south of a line from Big Island to the Outer Banks and all waters east of line from Big Island to Gibbs Point.														
Pauls Ditch														
30-22-12	SA;HQW	6.9	S Acres	ND				ND				S	APP	
From source to Pamlico Sound														
Pea Island Bay														
30-22-6	SA;HQW	18.3	S Acres	ND				ND				S	APP	
Entire Bay														
Pea Island Creek														
30-22-5	SA;HQW	4.6	S Acres	ND				ND				S	APP	
Entire Creek														
Peters Ditch														
30-22-23	SA;HQW	2.7	S Acres	ND				ND				I	PRO	Fecal Coliform Bacteria
From source to Pamlico Sound														
Phipps Cove														
30-22-19	SA;HQW	5.8	S Acres	ND				ND				S	APP	
From source to Pamlico Sound														
Round Hammock Bay														
30-22-11	SA;HQW	276.4	S Acres	ND				ND				S	APP	
Entire Bay														

Table 18 Pasquotank Subbasin 03-01-55

AU Number	Classification	Length/Area		Aquatic Life Assessment			Recreation Assessment			Shellfish Harvesting		Stressors	Sources
				AL Rating	Station	Result	Year/ Parameter % Exc	REC Rating	Station	Result	SH Rating		
Description													
Sandy Bay													
30-22-30a	SA;HQW	37.6	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
	DEH Closure Area												H-4
30-22-30b	SA;HQW	123.7	S Acres	ND				ND			S	APP	
	Entire Bay excluding DEH closure Area												H-4
Spencer Creek													
30-22-21	SA;HQW	4.4	S Acres	ND				ND			S	APP	
	From source to Pamlico Sound												H-5
Stumpy Point Bay													
30-22-8a	SA;HQW	1,688.5	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
	Entire Bay except DEH area closures												H-3
30-22-8b	SA;HQW	198.2	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
	All those waters bounded by a line beginning at a point 35 degrees 41' 55" N-75 degrees 46' 09" W, thence in a southeasterly direction to a point 400 yards offshore at 35 degrees 41' 46" N- 75 degrees 45' 54" W, thence in a southwesterly direction in a st												H-3
30-22-8c	SA;HQW	260.3	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
	All those waters within an area bounded by a line beginning at a point on the east shore at 35 degrees 41' 44" N- 75 degrees 44' 18" W, thence to a point in the bay at 35 degrees 41' 28" N- 75 degrees 44' 45" W, thence to a point in the bay at 35 degrees												H-3
Terrapin Creek													
30-22-7-1	SA;HQW	2.8	S Acres	ND				ND			S	APP	
	From source to Terrapin Creek Bay												H-5
Terrapin Creek Bay													
30-22-7	SA;HQW	163.7	S Acres	ND				ND			S	APP	
	Entire Bay												H-5
The Drain													
30-22-20	SA;HQW	1.4	S Acres	ND				ND			S	APP	
	From source to Pamlico Sound												H-5

Table 18 Pasquotank Subbasin 03-01-55

AU Number	Classification	Length/Area		Aquatic Life Assessment			Recreation Assessment			Shellfish Harvesting		Stressors	Sources
				AL Rating	Station	Result	Year/ Parameter % Exc	REC Rating	Station	Result	SH Rating		
Description													
The Slash													
30-22-30-1	SA;HQW	30.9	S Acres	ND				ND			I	PRO	Fecal Coliform Bacteria
From source to Sandy Bay												H-4	
The Trench													
30-22-4	SA;HQW	51.5	S Acres	ND				ND			S	APP	
From source to Pamlico Sound												H-5	
Wreck Creek													
30-22-10	SA;HQW	43.5	S Acres	ND				ND			S	APP	
Entire Creek												H-5	

Use Categories:	Monitoring data type:	Results:	Use Support Ratings 2006:
AL - Aquatic Life	MF - Fish Community Survey	E - Excellent	S - Supporting, I - Impaired
REC - Recreation	MB - Benthic Community Survey	G - Good	NR - Not Rated
SH - Shellfish Harvesting	MA - Ambient Monitoring Site	GF - Good-Fair	NR*- Not Rated for Recreation (screening criteria exceeded)
	ML - Lake Monitoring	F - Fair	ND-No Data Collected to make assessment
	N- DEH RECMON	P - Poor	NR+-Not rated because draft criteria used for rating
		NI - Not Impaired	Results
GA - DEH SS Classification and Growing Area		S- Severe Stress	CE-Criteria Exceeded > 10% and more than 10 samples
APP- Approved		M-Moderate Stress	NCE-No Criteria Exceeded
CAO- Conditionally Approved-Open		N- Natural	Miles/Acres
CAC- Conditionally Approved-Closed			FW- Fresh Water
PRO- Prohibited			S- Salt Water

Aquatic Life Rating Summary			Recreation Rating Summary			Fish Consumption Rating Summary			Shellfish Harvesting Rating Summary		
NR	e	315,244.1 S Acres	S	m	315,259.3 S Acres	I	e	319,580.0 S Acres	S	m	316,953.0 S Acres
ND		4,335.9 S Acres	ND		4,320.6 S Acres	I	e	117.6 FW Miles	I	m	2,604.8 S Acres
ND		117.6 FW Miles	ND		117.6 FW Miles						

Flooding continues to be a concern along the Outer Banks. Groundwater levels are high, limiting the lands ability to infiltrate rainwater. Also, the increase in impervious surfaces contributes to higher stormwater runoff and flooding events.

A map including the locations of the NPDES facilities and water quality monitoring stations is presented in Figure 8. Table 15 contains a summary of assessment unit numbers (AU#) and lengths, streams monitored, monitoring data types, locations and results, along with use support ratings for waters in the subbasin. Appendix V provides definitions of the terms used throughout this basin plan.

Neither benthic samples nor ambient stations are located in this subbasin; however, there are several recreational monitoring stations (RECMON) located throughout the subbasin. These stations are evaluated by the NC Division of Environmental Health (DEH). Long-term trends in water quality cannot be assessed in this subbasin. Refer to the *2006 Pasquotank River Basinwide Assessment Report* <http://h2o.enr.state.nc.us/esb/Basinwide/PASQUOTANK2006Final.pdf> and Appendix I for more information on monitoring.

Many of the waters in subbasin 03-01-55 are classified for shellfish harvesting (Class SA). Many are also classified as High Quality Waters (HQW) or Outstanding Resource Waters (ORW). Several management strategies are in place to protect these waters.

Waters in the following sections and in Table 15 are identified by an assessment unit number (AU#). This number is used to track defined segments in the water quality assessment database, list 303(d) Impaired waters, and to identify waters throughout the basin plan. The AU# is a subset of the DWQ index number (classification identification number). A letter attached to the end of the AU# indicates that the assessment is smaller than the DWQ index segment. No letter indicates that the AU# and the DWQ index segment are the same.

6.2 Use Support Assessment Summary

All surface waters in the state are assigned a classification appropriate to the best-intended use of that water. Waters are regularly assessed by DWQ to determine how well they are meeting their best-intended use. Table 16 provides a summary of use support for waters in subbasin 03-01-55.

In subbasin 03-01-55, use support was assigned for aquatic life, recreation, fish consumption and shellfish harvesting categories. Waters are Supporting, Impaired, Not Rated, and No Data in the aquatic life and recreation categories on a monitored or evaluated basis. All waters are Impaired in the fish consumption category on an evaluated basis based on fish consumption advice issued by the Department of Health and Human Services (DHHS). There are no water supply watersheds designated in this subbasin.

Criteria for making use support determinations for the shellfish harvesting category were based on Division of Environmental Health (DEH) Sanitary Surveys (SS) growing area classifications. The problem parameter for all shellfish waters is the potential for fecal coliform standards exceedances. Differences in acreage estimates between basin cycles are not just related to changes in water quality. Changes in acreage are related to more refined methods of estimating acreages, changes in growing area classifications, extension of closure areas as a result of additional boat slips, and to changes in use support methodology.

For more information about use support determinations, refer to Appendix II or the *Supplemental Guide to North Carolina's Basinwide Planning: Support Document for Basinwide Water Quality Plans* found at DWQ's website <http://h2o.enr.state.nc.us/basinwide/SupplementalGuide.htm>.

Table 16 Summary of Use Support Ratings by Category in Subbasin 03-01-55

Use Support Rating	Aquatic Life		Recreation		Shellfish Harvesting	
	Freshwater	Saltwater	Freshwater	Saltwater	Freshwater	Saltwater
Monitored Waters						
Supporting	0	0	0	315,259.3 ac	0	316,953.0 ac
Impaired*	0	0	0	0	0	2,604.8 ac (0.8%)
Total	0	0	0	315,259.3 ac	0	319,557.8 ac
Unmonitored Waters						
Not Rated	0	315,244.1 ac	0	0	0	0
No Data	117.6 mi	4,335.9 ac	117.6 mi	4,320.6 ac	0	0
Total	117.6 mi	319,580 ac	117.6 mi	4,320.6 ac	0	0
Totals						
All Waters	117.6 mi	319,580 ac	117.6 mi	319,579.9 ac	0	319,557.8 ac

* The noted percent Impaired is the percent of monitored miles/acres only.

6.3 Status and Recommendations of Previously and Newly Impaired Waters

The following waters were either identified as Impaired in the previous basin plan (2002) or are newly Impaired based on recent data. If previously identified as Impaired, the water will either remain on the state's 303(d) list or will be delisted based on recent data showing water quality improvements. If the water is newly Impaired, it will likely be placed on the 2008 303(d) list. The current status and recommendations for addressing these waters are presented below, and each is identified by an assessment unit number (AU#). Information regarding 303(d) listing and reporting methodology is presented in Chapter 15.

For more information about use support determinations for the Impaired Class SA waters presented in Table 17 below, refer to Appendix II or the *Supplemental Guide to North Carolina's Basinwide Planning: Support Document for Basinwide Water Quality Plans* found at DWQ's website <http://h2o.enr.state.nc.us/basinwide/SupplementalGuide.htm>. Refer to Figure 8 for a map of subbasin 03-01-55.

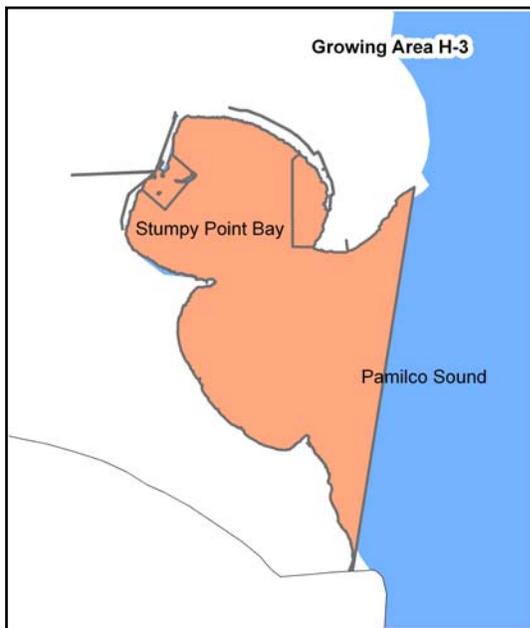
Table 17 Summary of DEH Growing Areas H-3, H-4, H-5, H-6 Classifications in Subbasin 03-01-55

Class SA Waters	Assessment Unit #	Growing Area Classification	DEH Growing Area
Stumpy Point Bay	30-22-8a	PRO	H-3
	30-22-8b	PRO	
	30-22-8c	PRO	
Austin Creek	30-22-31	PRO	H-4
Brooks Creek	30-22-28	PRO	H-4
Duck Ponds and Isaac Pond	30-22-30-1-1	PRO	H-4
Joe Saur Creek	30-22-29	PRO	H-4

Pamlico Sound	30-22a1	APP	H-4, H-5, H-6
	30-22a2	PRO	
	30-22b	PRO	
	30-22c	PRO	
	30-22d	PRO	
	30-22e	PRO	
	30-22f	PRO	
	30-22g	PRO	
	30-22h	PRO	
Sandy Bay	30-22-30a	PRO	H-4
	30-22-30b	APP	
The Slash	30-22-30-1	PRO	H-4
Askins Creek	30-22-24	PRO	H-5
Blackmar Gut	30-22-13	PRO	H-5
Cape Creek	30-22-27	PRO	H-5
Mill Creek	30-22-22	PRO	H-5

PRO=Prohibited, CAC=Conditionally Approved Closed, CAO=Conditionally Approved Open

6.3.1 Stumpy Point Growing Area H-3



The following DWQ Class SA waters and the Impaired assessment units associated with these waters are located within Growing Area H-3. If the entire Class SA water is located within more than one growing area it is noted in Table 17 or refer to the basinwide Growing Area map in the Executive Summary.

According to the *Sanitary Survey of Stumpy Point, Area H-3* (DEH Shellfish Sanitation & Recreational Water Quality Section, May 2006), oyster production is considered fair and there is no clam production. The entire area consists of marsh and forest of the Alligator River National Wildlife Refuge with the exception of the community of Stumpy Point. The area has a total population of 230 people with little seasonal variation. The population is not expected to grow unless a WWTP is constructed to facilitate

further development. There are two seafood businesses in area H-3.

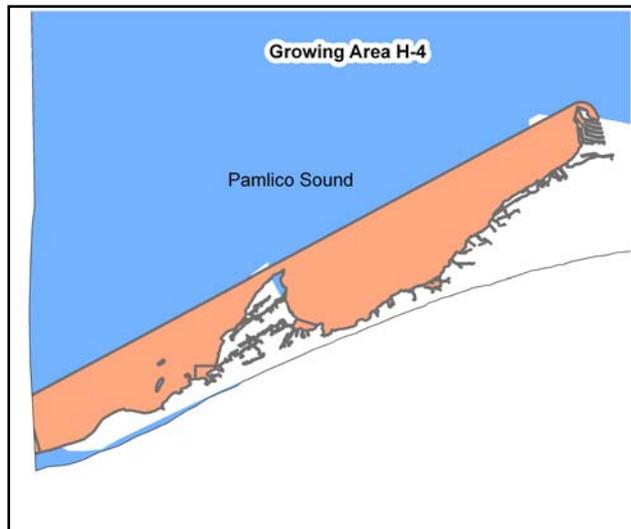
Stumpy Point Bay [AU# 30-22-8a, 30-22-8b and 30-22-8c]

Stumpy Point Bay (2,147.0 acres) is Impaired for shellfish harvesting. Stumpy Point Bay is classified by DEH SS as prohibited in growing area H-3 due to potential fecal coliform bacteria levels. Stumpy Point Bay [AU# 30-22-8a, AU# 30-22-8b and 30-22-8c] will be added to the state's 303(d) list of Impaired waters.

The Stumpy Point area does not have any central wastewater collection or treatment facilities. Unsuitable soils in this area leave homeowners with limited on-site wastewater treatment options. Currently, 63 of the 110 known septic systems are known to have straight pipe discharges that drain to a canal emptying directly into Stumpy Point Bay, or have failed. A new WWTP to serve the residents of Stumpy Point has been proposed. A Septic Tank Effluent Pump

system would collect the wastewater in Stumpy Point and deliver it to a membrane bioreactor wastewater treatment plant to provide advanced tertiary biological treatment and accomplish disinfection by an ultraviolet light system. This system would discharge into Bayview Drive Canal.

6.3.2 Hatteras Growing Area H-4



The following DWQ Class SA waters and the Impaired assessment units associated with these waters are located within Growing Area H-4. If the entire Class SA water is located within more than one growing area it is noted in Table 17 or refer to the basinwide Growing Area map in the Executive Summary.

According to the *Sanitary Survey of Hatteras Area, Area H-4* (DEH Shellfish Sanitation & Recreational Water Quality Section, May 2002, March 2007), an overall decline in water quality has occurred. As a result of the 2007 survey an additional 4.5 acres will be reclassified from approved to prohibited for

shellfish harvesting. The area covers 5,800 acres, of which 229.5 acres are closed for shellfish harvesting. Oyster production is considered poor and clam production is poor. Samples taken near an area referred to as Little Ditch, showed extremely high bacteria counts, but no major pollution sources were noted. Area H-4 is located along the Outer Banks at the western end of Hatteras Island where tourism is the main industry. Hatteras Village has an approximate population of 1,700 with an increase to 6,000 during peak tourist months; the Town of Frisco has approximately 700 permanent residents, increasing to 5,000. There is no WWTP within this area and all residences and businesses utilize conventional septic systems. Many of the septic systems are old and are installed in fill or coarse sand, allowing possible discharge to adjacent water via groundwater. Hatteras Landing uses a low-pressure pipe system for waste disposal. Additional multifamily residences are being built on fill in this area.

Austin Creek (Clubhouse Creek) [AU# 30-22-31]

Austin Creek (7.9 acres) is Impaired for shellfish harvesting. Austin Creek is classified by DEH SS as prohibited in growing area H-4 due to potential fecal coliform bacterial levels. Austin Creek will remain on the state's 303(d) list of Impaired waters.

Brooks Creek [AU# 30-22-28]

Brooks Creek (24.8 acres) is Impaired for shellfish harvesting. Brooks Creek is classified by DEH SS as prohibited in growing area H-4 due to potential fecal coliform bacterial levels. Brooks Creek will remain on the state's 303(d) list of Impaired waters.

Duck Ponds and Isaac Pond [AU# 30-22-30-1-1]

Duck Ponds and Isaac Pond (10.3 acres) are Impaired for shellfish harvesting. Duck Ponds and Isaac Pond are classified by DEH SS as prohibited in growing area H-4 due to potential fecal coliform bacterial levels. Duck Ponds and Isaac Pond will be added to the state's 303(d) list of Impaired waters.

Joe Saur Creek [AU# 30-22-29]

Joe Saur Creek (17.9 acres) is Impaired for shellfish harvesting. Joe Saur Creek is classified by DEH SS as prohibited in growing area H-4 due to potential fecal coliform bacterial levels. Joe Saur Creek will remain on the state's 303(d) list of Impaired waters.

Portions of the Pamlico Sound [AU# 30-22b, 30-22c, 30-22d and 30-22e]

Portions of the Pamlico Sound (66.0 acres) is Impaired for shellfish harvesting. The Pamlico Sound is classified by DEH SS as prohibited in growing area H-4 due to potential fecal coliform bacterial levels. The Pamlico Sound will remain on the state's 303(d) list of Impaired waters.

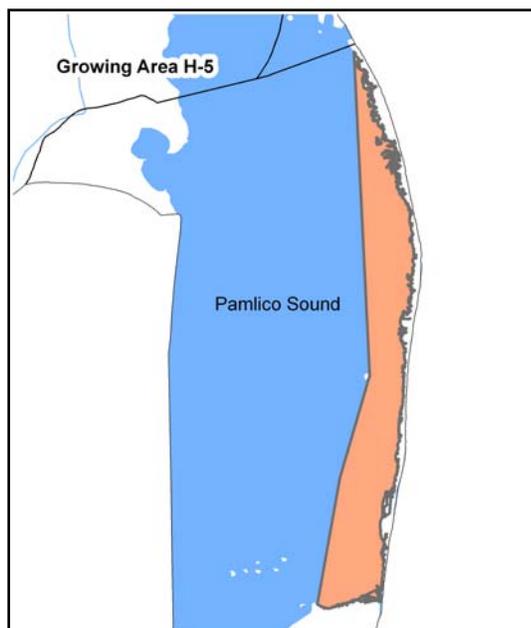
Sandy Bay [AU# 30-22-30a]

Sandy Bay (37.6 acres) is Impaired for shellfish harvesting. Sandy Bay is classified by DEH SS as prohibited in growing area H-4 due to potential fecal coliform bacterial levels. Sandy Bay will remain on the state's 303(d) list of Impaired waters.

The Slash [AU# 30-22-30-1]

The Slash (30.9 acres) is a tributary to Sandy Bay and Impaired for shellfish harvesting. The Slash is classified by DEH SS as prohibited in growing area H-4 due to potential fecal coliform bacterial levels. The Slash will remain on the state's 303(d) list of Impaired waters.

6.3.3 Outer Banks Growing Area H-5



The following DWQ Class SA waters and the Impaired assessment units associated with these waters are located within Growing Area H-5. If the entire Class SA water is located within more than one growing area it is noted in Table 17 or refer to the basinwide Growing Area map in the Executive Summary.

According to the *Sanitary Survey of Outer Banks, Area H-5 (DEH Shellfish Sanitation & Recreational Water Quality Section, October 2002, September 2006)*, water quality has declined in some areas. As a result of the 2006 survey approximately 15 acres will be closed to shellfish harvesting in Askins Creek and an additional 10 acres has been reclassified as prohibited near Salvo Marina. However, 120 acres in

the Cape Creek Area has been opened for shellfish harvesting. Area H-5 includes 66,800 acres and oyster and clam production is considered fair. The survey area is characterized by three small-populated areas separated by miles of uninhabited dunes and marshes. The permanent population is estimated at 2,400 while seasonal tourism increases population to 40,000. Several hurricanes impacted this area during this last Sanitary Survey resulting in debris from destroyed houses, fuel tanks and vehicles being washed into the waterways. Most of the area is within Cape Hatteras National Seashore and will never be developed.

Askins Creek [AU# 30-22-24]

Askins Creek (4.9 acres) is Impaired for shellfish harvesting. Askins Creek is classified by DEH SS as prohibited in growing area H-5 due to potential fecal coliform bacterial levels. Askins Creek will remain on the state's 303(d) list of Impaired waters.

Beach Slue [AU# 30-22-9]

Beach Slue is listed on the 2004 303(d) list of Impaired waters for shellfish harvesting. Beach Slue (76.9 acres) is currently Supporting for shellfish harvesting. Beach Slue is now classified by DEH SS as approved for harvesting, therefore DWQ will recommend that Beach Slue be removed from the state's 303(d) list of Impaired waters.

Blackmar Gut [AU# 30-22-13]

Blackmar Gut (4.6 acres) is Impaired for shellfish harvesting. Blackmar Gut is classified by DEH SS as prohibited in growing area H-5 due to potential fecal coliform bacterial levels. Blackmar Gut will be added to the state's 303(d) list of Impaired waters.

Blackmar Gut is Not Rated on an evaluated basis in the aquatic life category due to WET failures associated with the Rodanthe/Waves/Salvo Reverse Osmosis (RO) Water Treatment Plant (WTP) (Permit NC0083909). Between January 2000 and December 2005, the facility failed to meet its 90 percent acute toxicity target effluent concentrations on four occasions.

Cape Creek [AU# 30-22-27]

Cape Creek (15.8 acres) is Impaired for shellfish harvesting. Cape Creek is classified by DEH SS as prohibited in growing area H-5 due to potential fecal coliform bacterial levels. Cape Creek will remain on the state's 303(d) list of Impaired waters.

Eagle Nest Bay [AU# 30-22-2]

Eagle Nest Bay was listed on the 2004 303(d) list of Impaired waters for shellfish harvesting. Eagle Nest Bay (55.5 acres) is currently Supporting for shellfish harvesting. Eagle Nest Bay is now classified by DEH SS as approved for harvesting, therefore DWQ will recommend that Eagle Nest Bay be removed from the state's 303(d) list of Impaired waters.

Mill Creek [AU# 30-22-22]

Mill Creek (16.2 acres) is Impaired for shellfish harvesting. Mill Creek is classified by DEH SS as prohibited in growing area H-5 due to potential fecal coliform bacterial levels. Mill Creek will remain on the state's 303(d) list of Impaired waters.

Portions of the Pamlico Sound [AU# 30-22f, 30-22g and 30-22h]

Portions of the Pamlico Sound (218.3 acres) are Impaired for shellfish harvesting. The Pamlico Sound is classified by DEH SS as prohibited in growing area H-5 due to potential fecal coliform bacterial levels. The Pamlico Sound will remain on the state's 303(d) list of Impaired waters.

Peters Ditch [AU# 30-22-23]

Peters Ditch (2.7 acres) is Impaired for shellfish harvesting. Peters Ditch is classified by DEH SS as prohibited in growing area H-5 due to potential fecal coliform bacterial levels. Peters Ditch will remain on the state's 303(d) list of Impaired waters.