

# ***Water Operations Division***

## **Division Overview**

The Water Operations staff is responsible for monitoring water quality leaving the plant and in the distribution system for the residents and visitors of Nags Head. The water plant is staffed two shifts per day, seven days a week and serves as an after-hours contact for Nags Head citizens wishing to report water problems or seeking information concerning other Town departmental activities.

Water Operations is consists of the 8<sup>th</sup> Water Treatment Plant and storage tank, the Gull Street Pump Station and storage tank, and two 500,000-gallon elevated water storage tanks, one in South Nags Head and the other behind the Public Works complex on Lark Avenue. In addition, Water Operations maintains a state certified laboratory for bacteriology to ensure that water quality is in compliance with all state and federal regulations.



**Goals**

To operate a public water system in a manner that provides Nags Head citizens an adequate level of potable water service and fire protection, and ensures the compliance of the water system with all federal and state regulations.

**Objectives**

- Provide effective customer service response to every Nags Head citizen in a timely manner and satisfactorily resolve any needs, questions, or problems that may be presented.
- Update the schedule for replacing equipment and installing new equipment in a time frame consistent with the Water Master Plan. Review water treatment methods and new treatment technologies to ensure safe, cost effective, good tasting potable drinking water.
- Provide a safe work environment for staff and visitors to the water facilities and ensure all water facilities meet or exceed the standards required by the North Carolina Department of Labor, Occupational Safety and Health.
- Provide water at adequate flows and pressures for the Town's fire protection service.
- Constantly review department goals and operations and institute changes when warranted to ensure a more cost effective and efficient operation.
- Continue required water analyses to meet the EPA requirements of the Stage 2 Disinfection/Disinfection By-Product Rule.

**Performance Measures and Workload Indicators**

	<b>FY 05-06</b> <u>Actual</u>	<b>FY 06-07</b> <u>Actual</u>	<b>FY 07-08</b> <u>Actual</u>
Water Pumped to Nags Head (million gallons - MG)	438.257	447.837	425.424
Water Purchased from Dare County Regional Water System	438.257	447.837	425.424
Total hours operations	4,580.95	4,628.64	4,208.09

## Water Operations

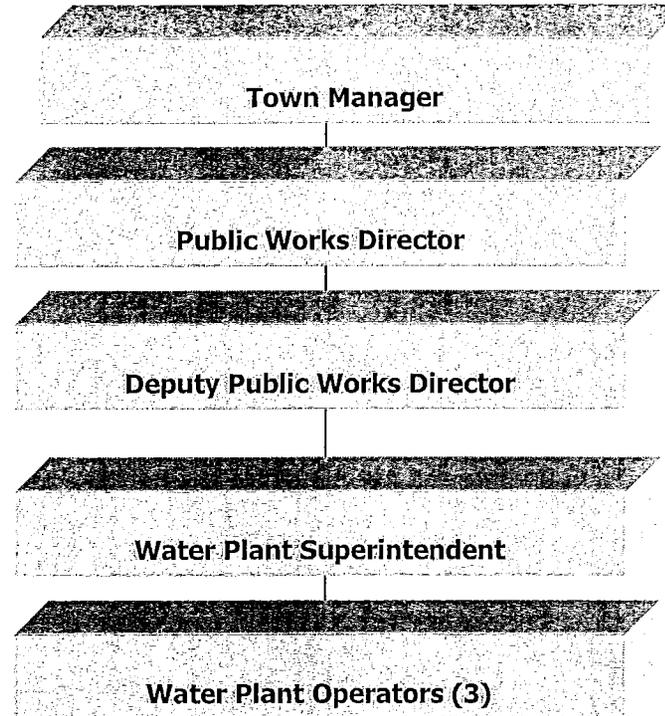
## Objectives and Performance Indicators

	<u>FY 05-06</u> <u>Actual</u>	<u>FY 06-07</u> <u>Actual</u>	<u>FY 07-08</u> <u>Actual</u>
Distribution water samples reported negative versus positive North Carolina requires 15 monthly distribution system bacteriological samples. There were 180 samples collected from July 1, 2007 to June 30, 2008.	100%	100%	100%
Number of major equipment breakdowns due to equipment failure	0	0	0
Estimate number of customers who have called about disagreeable tastes, color, and odors	8	8	6
Chemical cost per million gallons of water treated (Fresh Pond)	\$340	\$500.07	\$878
Average kWh per total million gallons pumped	1314.09	1224.08	1186.80
Overall fire protection rating for Nags Head, 4 (Scale of 1-10, ISO Rating)	5	5	4

### Major Accomplishments in FY 2007-08

1. Town Hall water tower removed by Isler Demolition
  2. Non Discharge permit for filter back wash water issued to the Town
  3. Improvements made to pipe work and Earthen basin for filter back wash water discharge
  4. Actuators installed on back wash valve of each filter.
  5. Sludge Drying Beds refurbished
  6. Repairs to brick work on filter building
  7. Sample collection for Long Term Enhanced Surface Water Rule (LT2) began March 08
  8. South Nags Head Tower painted by Southern Corrosion
  9. Chorine leak detectors installed at 8<sup>th</sup> Street WTP and Gull Street PS monitored by Johns Brother's Security
- Increase in chemical cost per MG treated related to increased application of algaecide to Fresh Pond. Preferred Fresh Pond level at start is 7'. 2008 start up level was 5.5'.
  - Fresh Pond July 08 thru Aug 08

Water Produced	Chemical cost	Chemical cost per MG treated
25.576 MG	\$22,453.54	\$878*
  - \*If algaecide for lake is not included, the chemical cost per million gallons treated is \$142.00



<u>Position</u>	<u>Grade</u>	<u>Adopted Positions FY 08-09</u>	<u>Existing Positions</u>	<u>Recommended Positions FY 09-10</u>	<u>Adopted Positions FY 09-10</u>
Water Plant Superintendent	17	1	1	1	1
Water Plant Operator*	11	4	3	3	3
<b>TOTAL:</b>		<b>5</b>	<b>4</b>	<b>4</b>	<b>4</b>

\*One Water Plant Operator position was eliminated in FY 08-09 and will not be funded in FY 09-10. Due to budget constraints, one Water Plant Operator position is frozen at this time and not recommended to be funded in FY 09-10.

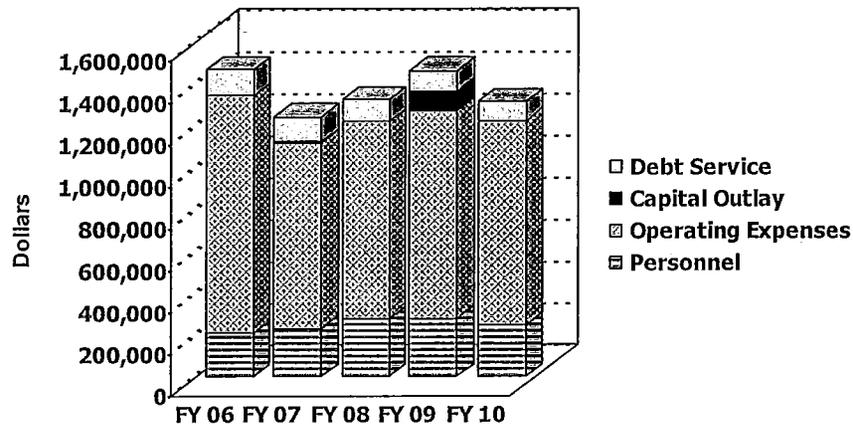
## Highlights

- Debt Service includes the 6<sup>th</sup> year payment of a loan, financed over 15 years, for the new Eighth Street water tower.
- Funds have also been included for a share of the printing costs associated with the annual Water Quality Report.
- Funds are included for water testing in addition to testing required by the North Carolina Department of Environment and Natural Resources.
- Funds are included for an update of the Water Master Plan.

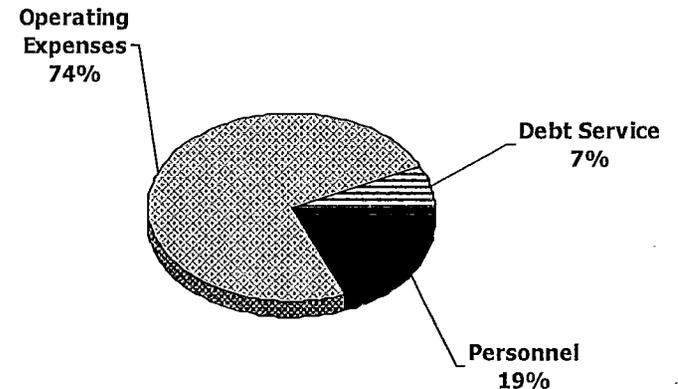
## Expenditures by Function

	<u>FY 2008-2009 Adopted</u>	<u>FY 2009-2010 Adopted</u>	<u>Percent Change</u>
<b>Personnel Services</b>	\$ 277,752	\$ 247,275	-10.97%
<b>Operating Expenses</b>	\$ 996,875	\$ 976,315	-2.06%
<b>Capital Outlay</b>	\$ 95,400	\$ 0	-100%
<b>Debt Service</b>	\$ 93,875	\$ 93,874	0.00%
<b>Total</b>	<b>\$ 1,463,902</b>	<b>\$ 1,317,464</b>	<b>-10.00%</b>

## Adopted Expenditure History



## Adopted FY 2009-2010 Expenditures by Function



TOWN OF NAGS HEAD  
EXPENDITURE BUDGET FY 2009-10

WATER FUND	FY 08/09 ADOPTED BUDGET	FY 08/09 AMENDED BUDGET	UNAUDITED YTD ACTUAL @ 6/30/09	FY 09/10 REQUESTED BUDGET	FY 09/10 RECOMMENDED BUDGET	FY 09/10 ADOPTED BUDGET
<b>WATER OPERATIONS</b>						
<b>SALARIES</b>						
810 510200 SALARIES/WAGES - REGULAR	186,896.00	186,896.00	167,048.07	158,541.00	166,365.00	166,365.00
810 510200 1 SALARIES/WAGES - REGULAR	.00	.00	.00	.00	.00	.00
810 510200 2 SALARIES/WAGES - REGULAR	.00	.00	.00	.00	.00	.00
810 510201 SALARIES - LONGEVITY PAY	5,233.00	5,233.00	6,998.05	4,250.00	4,406.00	4,406.00
810 510300 SALARIES/WAGES - PARTTIME	.00	.00	.00	.00	.00	.00
810 510400 OVERTIME PAY	2,000.00	2,000.00	518.42	3,000.00	2,000.00	2,000.00
810 510400 1 OVERTIME PAY	.00	.00	.00	.00	.00	.00
810 510400 2 OVERTIME PAY	.00	.00	.00	.00	.00	.00
810 510500 HOLIDAY PAY	5,126.00	5,126.00	3,158.61	5,265.00	4,800.00	4,800.00
810 510500 1 HOLIDAY PAY	.00	.00	.00	.00	.00	.00
810 510500 2 HOLIDAY PAY	.00	.00	.00	.00	.00	.00
<b>TOTAL SALARIES</b>	<b>199,255.00</b>	<b>199,255.00</b>	<b>177,723.15</b>	<b>171,056.00</b>	<b>177,571.00</b>	<b>177,571.00</b>
<b>BENEFITS</b>						
810 520600 FICA TAX	15,388.00	15,388.00	12,921.79	13,090.00	13,586.00	13,586.00
810 520600 1 FICA TAX	.00	.00	.00	.00	.00	.00
810 520600 2 FICA TAX	.00	.00	.00	.00	.00	.00
810 520700 GROUP HEALTH INSURANCE	47,276.00	47,276.00	38,827.86	47,276.00	39,211.00	36,516.00
810 520701 RETIREE'S GROUP HEALTH INSUR	.00	.00	-1,566.56	.00	5,539.00	5,605.00
810 520800 RETIREMENT	9,798.00	9,798.00	8,672.88	8,350.00	8,668.00	8,668.00
810 520800 1 RETIREMENT	.00	.00	.00	.00	.00	.00
810 520800 2 RETIREMENT	.00	.00	.00	.00	.00	.00
810 521000 401 K	6,035.00	6,035.00	5,331.84	5,134.00	5,329.00	5,329.00
810 521000 1 401 K	.00	.00	.00	.00	.00	.00
810 521000 2 401 K	.00	.00	.00	.00	.00	.00
<b>TOTAL BENEFITS</b>	<b>78,497.00</b>	<b>78,497.00</b>	<b>64,187.81</b>	<b>73,850.00</b>	<b>72,333.00</b>	<b>69,704.00</b>
<b>OPERATIONS</b>						
810 522011 CAREER DEVELOPMENT OTHER COSTS	800.00	800.00	.00	800.00	.00	.00
810 532000 TRAINING	1,770.00	1,770.00	326.24	995.00	750.00	750.00
810 532002 SAFETY TRAINING	.00	.00	.00	.00	.00	.00
810 532100 BUILDING/EQUIPMENT RENTAL	1,260.00	1,260.00	919.56	1,260.00	1,260.00	1,260.00
810 532100 1 BUILDING/EQUIPMENT RENTAL	.00	.00	.00	.00	.00	.00
810 532100 2 BUILDING/EQUIPMENT RENTAL	.00	.00	.00	.00	.00	.00
810 532200 TELEPHONE	4,800.00	4,800.00	4,082.86	5,604.00	5,604.00	5,604.00

TOWN OF NAGS HEAD  
EXPENDITURE BUDGET FY 2009-10

	FY 08/09 ADOPTED BUDGET	FY 08/09 AMENDED BUDGET	UNAUDITED YTD ACTUAL @ 6/30/09	FY 09/10 REQUESTED BUDGET	FY 09/10 RECOMMENDED BUDGET	FY 09/10 ADOPTED BUDGET
<b>WATER FUND</b>						
810 532200 1 TELEPHONE	.00	.00	.00	.00	.00	.00
810 532200 2 TELEPHONE	.00	.00	.00	.00	.00	.00
810 532300 UTILITIES	45,000.00	45,000.00	36,166.25	48,085.00	48,085.00	48,085.00
810 532400 TRAVEL	2,000.00	2,000.00	1,146.78	1,825.00	1,000.00	1,000.00
810 532500 POSTAGE	2,750.00	2,750.00	1,648.42	5,200.00	3,200.00	3,200.00
810 532600 ADVERTISING	260.00	260.00	.00	260.00	260.00	260.00
810 532700 PRINTING	2,339.00	2,339.00	2,163.55	2,839.00	2,839.00	2,839.00
810 543100 FUEL COSTS	7,200.00	7,200.00	3,551.22	5,112.00	5,112.00	5,112.00
810 543300 DEPARTMENT SUPPLIES	38,650.00	38,650.00	30,211.37	33,025.00	30,000.00	30,000.00
810 543300 1 DEPARTMENT SUPPLIES	.00	.00	.00	.00	.00	.00
810 543300 2 DEPARTMENT SUPPLIES	.00	.00	.00	.00	.00	.00
810 543400 OTHER SUPPLIES	7,200.00	7,200.00	6,874.49	6,800.00	6,000.00	6,000.00
810 543400 1 OTHER SUPPLIES	.00	.00	.00	.00	.00	.00
810 543400 2 OTHER SUPPLIES	.00	.00	.00	.00	.00	.00
810 543405 OTHER SUPPLIES - COMPUTER	.00	.00	.00	1,450.00	.00	.00
810 543500 MAINT/REPAIR BUILDINGS	23,000.00	23,000.00	21,814.53	18,000.00	5,000.00	5,000.00
810 543500 1 MAINT/REPAIR BUILDINGS	.00	.00	.00	.00	.00	.00
810 543500 2 MAINT/REPAIR BUILDINGS	.00	.00	.00	.00	.00	.00
810 543600 MAINT/REPAIR EQUIPMENT	22,000.00	23,591.00	17,264.49	30,500.00	18,000.00	18,000.00
810 543600 1 MAINT/REPAIR EQUIPMENT	.00	.00	.00	.00	.00	.00
810 543600 2 MAINT/REPAIR EQUIPMENT	.00	.00	.00	.00	.00	.00
810 543700 MAINT/REPAIR VEHICLES	2,100.00	2,100.00	1,086.24	1,400.00	1,400.00	1,400.00
810 543700 1 MAINT/REPAIR VEHICLES	.00	.00	.00	.00	.00	.00
810 543700 2 MAINT/REPAIR VEHICLES	.00	.00	.00	.00	.00	.00
810 543701 VEHICLE REPAIRS	.00	.00	.00	.00	.00	.00
810 543900 UNIFORMS	3,700.00	3,700.00	3,323.38	1,980.00	1,875.00	1,875.00
810 544000 PROFESSIONAL FEES	18,030.00	18,030.00	8,527.05	63,880.00	34,480.00	34,480.00
810 544500 CONTRACTED SERVICES	13,350.00	22,805.00	15,993.70	12,285.00	10,285.00	10,285.00
810 544500 1 CONTRACTED SERVICES	.00	.00	.00	.00	.00	.00
810 544500 2 CONTRACTED SERVICES	.00	.00	.00	.00	.00	.00
810 544800 PURCHASES FOR RESALE	753,999.00	809,779.00	634,284.46	772,381.00	750,000.00	750,000.00
810 555000 DEPRECIATION EXPENSE	.00	.00	.00	.00	.00	.00
810 555300 DUES AND SUBSCRIPTIONS	2,645.00	2,645.00	2,190.81	2,298.00	3,808.00	3,808.00
810 555400 INSURANCE	44,022.00	44,022.00	35,128.00	47,357.00	47,357.00	47,357.00
810 555400 1 INSURANCE	.00	.00	.00	.00	.00	.00
810 555400 2 INSURANCE	.00	.00	.00	.00	.00	.00
810 569900 COST REIMBURSEMENT	.00	95,084.00	95,084.00	.00	.00	.00
810 577433 CAPITAL OUTLAY BUDGETARY	.00	.00	.00	.00	.00	.00
<b>TOTAL OPERATIONS</b>	<b>996,875.00</b>	<b>1,158,785.00</b>	<b>921,787.40</b>	<b>1,063,336.00</b>	<b>976,315.00</b>	<b>976,315.00</b>
<b>CAPITAL OUTLAY</b>						
810 577200 CAPITAL OUTLAY BUILDINGS	.00	.00	.00	.00	.00	.00
810 577300 CAPITAL OUTLAY OTHER	.00	.00	.00	.00	.00	.00

TOWN OF NAGS HEAD  
EXPENDITURE BUDGET FY 2009-10

	FY 08/09 ADOPTED BUDGET	FY 08/09 AMENDED BUDGET	UNAUDITED YTD ACTUAL @ 6/30/09	FY 09/10 REQUESTED BUDGET	FY 09/10 RECOMMENDED BUDGET	FY 09/10 ADOPTED BUDGET
WATER FUND						
810 577400 CAPITAL OUTLAY EQUIPMENT	95,400.00	100,460.00	100,460.00	.00	.00	.00
TOTAL CAPITAL OUTLAY	95,400.00	100,460.00	100,460.00	.00	.00	.00
DEBT SERVICE						
810 578100 L/P PRINCIPAL	61,955.00	61,955.00	61,955.04	64,340.00	64,340.00	64,340.00
810 578200 LEASE PURCHASE INTEREST	31,920.00	31,920.00	31,919.57	29,534.00	29,534.00	29,534.00
TOTAL DEBT SERVICE	93,875.00	93,875.00	93,874.61	93,874.00	93,874.00	93,874.00
TOTAL WATER OPERATIONS	1,463,902.00	1,630,872.00	1,358,032.97	1,402,116.00	1,320,093.00	1,317,464.00