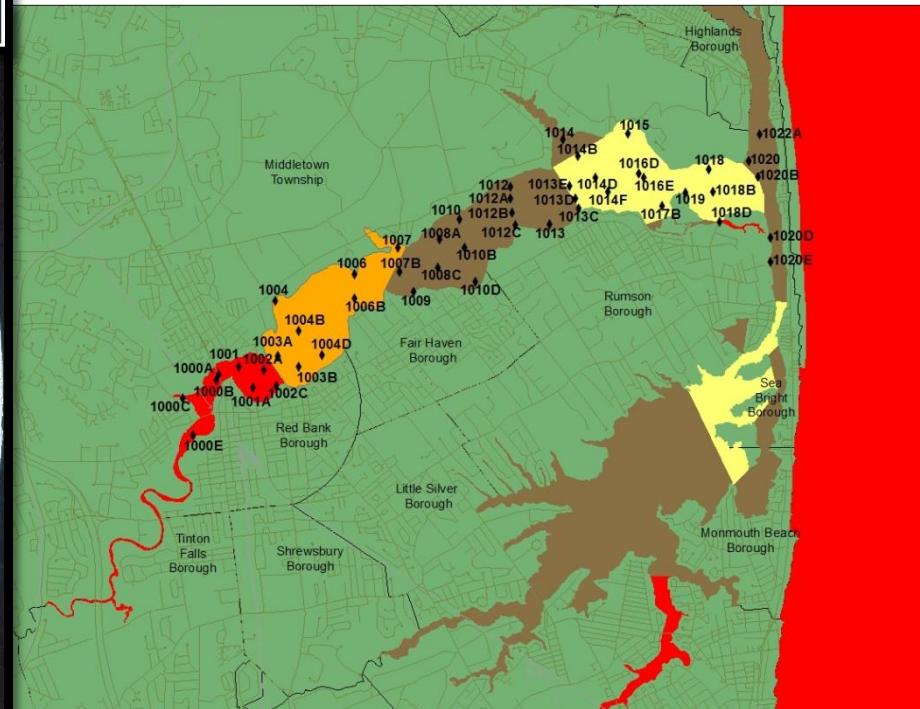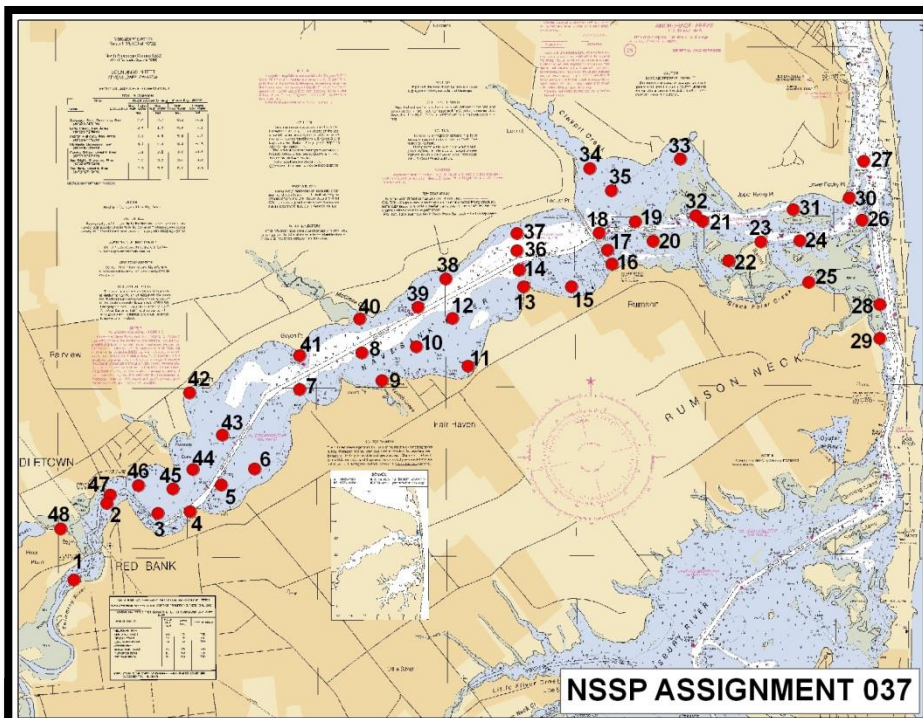# Navesink River – NE2
## 2015 Annual Report
## June 1, 2012 – August 31, 2015

# Summary of Data

- [Stations exceeding NSSP SRS Approved Criteria YR](#) –35

- [Annual Trend](#)

- [Stations exceeding NSSP SRS Special Restricted Criteria YR](#) – 17

- [Stations with a Seasonal Component](#) – 33

- Rainfall Impacts (at 0.3 inch of rain)
  - [24hr](#) – 40
  - 48hr – 34
  - 72hr – 18

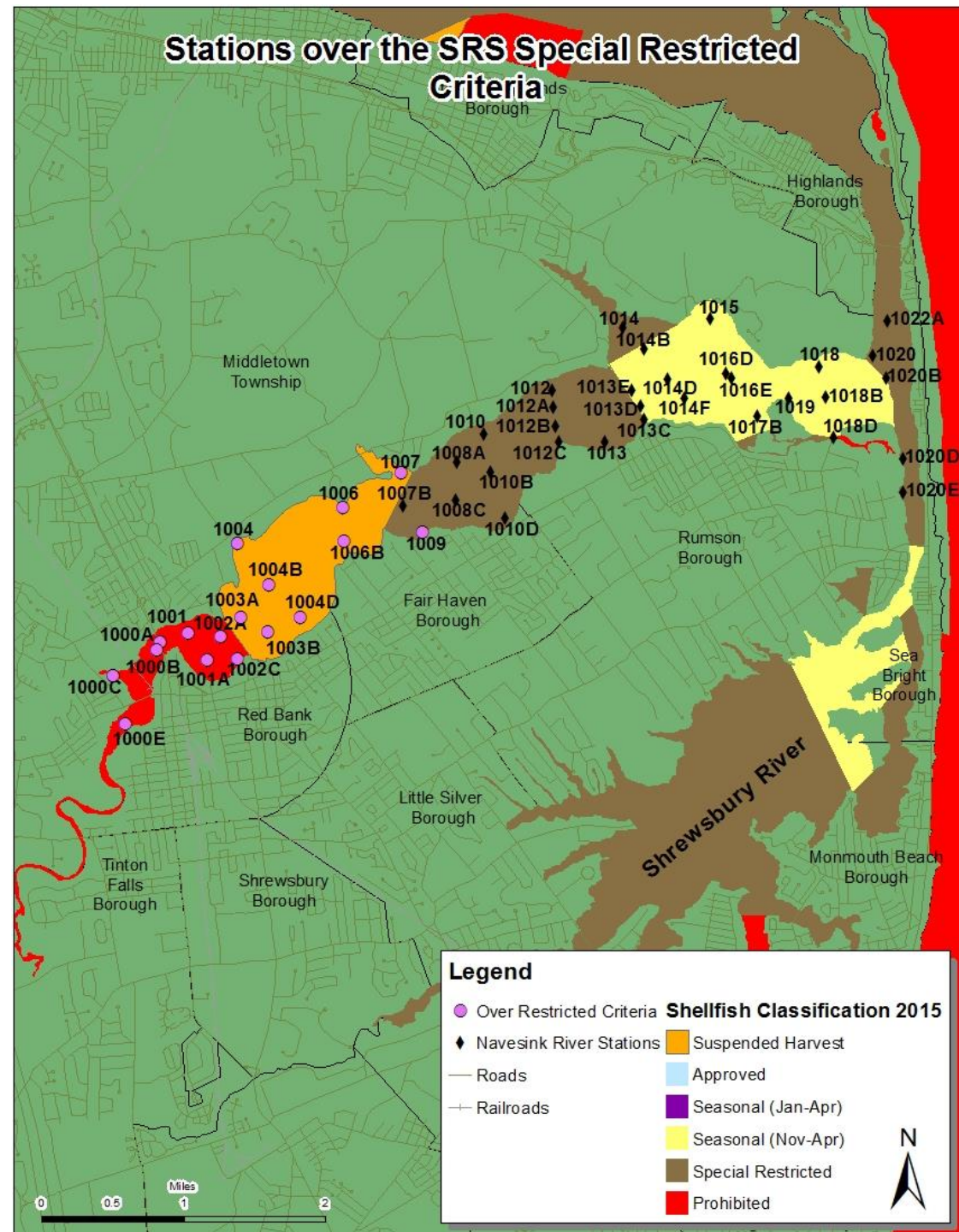# Year Round SRS Special Restricted Evaluation

## Criteria:
Geometric Mean 88 CFU's/100mL
Est 90th: 163 CFU's/100mL

## Stations Exceeding:

Sixteen stations exceed Special Restricted criteria.

One station in Special Restricted waters: *1009.* No downgrade recommended at this time, intensive shoreline and sampling recommended.





Stations over the SRS Special Restricted Criteria

Highlands Borough

Middletown Township

1015
1014
1014B
1016D 1018 1020
1013E 1014D 1016E 1020B
1012 1012A 1013D 1014F 1019 1018B
1012B 1013C 1017B 1018D
1010 1012C 1013 1020D
1007 1008A 1020E
1006 1007B 1010B
1004 1008C
1004B 1006B 1009 1010D
1003A 1004D Rumson Borough
1001 1002A Fair Haven Borough
1000A 1003B Sea Bright Borough
1000B 1002C
1000C 1001A
1000E Red Bank Borough Little Silver Borough Shrewsbury River

Tinton Falls Borough Shrewsbury Borough Monmouth Beach Borough

### Legend

Shellfish Classification 2015

- ● Over Restricted Criteria
- ♦ Navesink River Stations — Suspended Harvest
- — Roads — Approved
- ┼ Railroads — Seasonal (Jan-Apr)
- Seasonal (Nov-Apr)
- Special Restricted
- Prohibited

N

Miles
0   0.5   1   2

# Rainfall Summary

**Report Area:** NE2

**From:** 6/1/2012  **To:** 8/31/2015

**Report Area** NE2

| Station | Depth | Geo Mean (YR) | Est 90th (YR) | # Samples (YR) | % > | ShellClass |
|---|---|---|---|---|---|---|
| 1007 | S | 29.5 | 339.7 | 31 | 45.2% > 31 | SR |
| 1007B | S | 14.0 | 104.0 | 31 | 25.8% > 31 | SR |
| 1008A | S | 11.6 | 75.9 | 31 | 22.6% > 31 | SR |
| 1008C | S | 14.0 | 107.0 | 31 | 29.0% > 31 | SR |
| 1009 | S | 19.1 | 181.6 | 31 | 29.0% > 31 | SR |

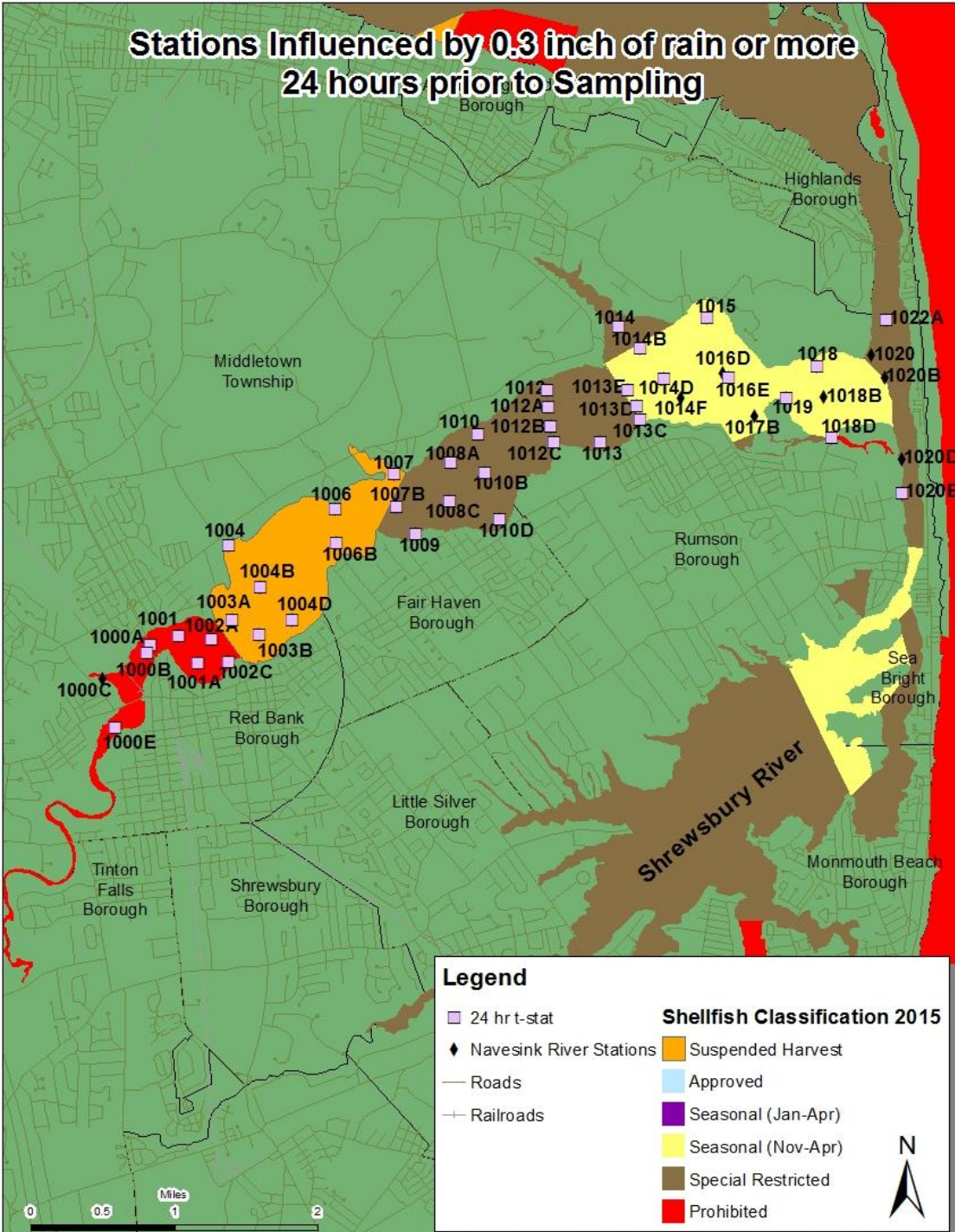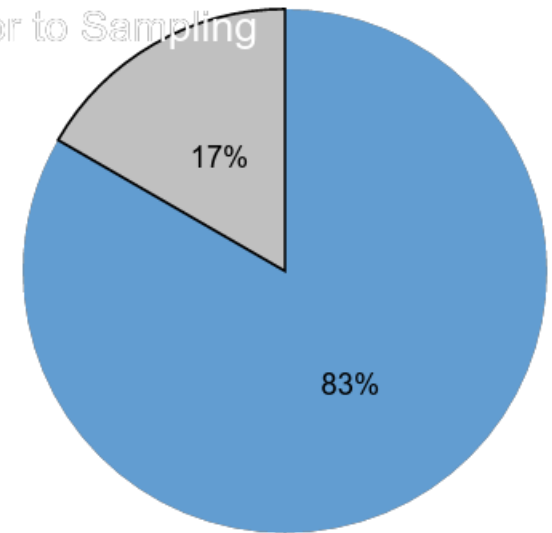| Date | 1007 Results | 1007B Results | 1008A Results | 1008C Results | 1009 Results | NOAA | 24Hrs | 48Hrs | 72Hrs |
|---|---|---|---|---|---|---|---|---|---|
| 6/18/2012 | 15.0 | 9.0 | 6.0 | 12.0 | 3.0 | RA003 | 0.00 | 0.00 | 0.00 |
| 7/31/2012 | 370.0 | 12.0 | 18.0 | 6.0 | 12.0 | RA003 | 0.00 | 0.00 | 0.51 |
| 9/28/2012 | 100.0 | 15.0 | 21.0 | 9.0 | 6.0 | RA003 | 0.09 | 0.10 | 0.10 |
| 12/26/2012 | 3.0 | 3.0 K | 3.0 | 3.0 | 15.0 | RA003 | 0.00 | 0.16 | 0.16 |
| 1/14/2013 | 9.0 | 3.0 | 6.0 | 6.0 | 15.0 | RA003 | 0.00 | 0.00 | 0.66 |
| 2/28/2013 | 180.0 | 30.0 | 9.0 | 39.0 | 15.0 | RA003 | 0.04 | 0.83 | 0.83 |
| 4/5/2013 | 3.0 K | 3.0 | 3.0 | 6.0 | 3.0 K | RA003 | 0.02 | 0.02 | 0.02 |
| 4/23/2013 | 9.0 | 6.0 | 6.0 | 3.0 | 18.0 | RA003 | 0.00 | 0.00 | 0.03 |
| 6/6/2013 | 3.0 | 3.0 K | 3.0 K | 12.0 | 9.0 | RA003 | 0.00 | 0.00 | 0.56 |
| 7/23/2013 | 2,700.0 L | 130.0 | 210.0 | 240.0 | 330.0 | RA003 | 0.92 | 0.94 | 0.94 |
| 8/6/2013 | 220.0 | 12.0 | 42.0 | 6.0 | 42.0 | RA003 | 0.00 | 0.00 | 0.06 |
| 9/3/2013 | 170.0 | 200.0 | 93.0 | 170.0 | 90.0 | RA003 | 0.12 | 0.13 | 0.14 |
| 11/19/2013 | 3.0 K | 3.0 | 3.0 K | 3.0 K | 21.0 | RA003 | 0.01 | 0.27 | 0.32 |
| 12/18/2013 | 24.0 | 45.0 | 30.0 | 21.0 | 33.0 | RA003 | 0.21 | 0.21 | 0.21 |
| 1/15/2014 | 27.0 | 30.0 | 3.0 | 15.0 | 3.0 | RA003 | 0.37 | 0.37 | 0.37 |
| 3/12/2014 | 3.0 | 3.0 K | 3.0 K | 3.0 | 3.0 K | RA003 | 0.00 | 0.00 | 0.00 |
| 4/2/2014 | 9.0 | 3.0 | 3.0 | 3.0 K | 21.0 | RA003 | 0.00 | 0.12 | 0.41 |
| 5/1/2014 | 700.0 | 1,100.0 | 800.0 | 700.0 | 500.0 | RA003 | 3.71 | 4.23 | 4.23 |
| 5/13/2014 | 27.0 | 15.0 | 6.0 | 21.0 | 30.0 | RA003 | 0.08 | 0.08 | 0.25 |
| 6/26/2014 | 52.0 | 97.0 | 33.0 | 93.0 | 130.0 | RA003 | 1.15 | 1.15 | 1.15 |
| 9/9/2014 | 42.0 | 15.0 | 30.0 | 9.0 | 15.0 | RA003 | 0.00 | 0.00 | 0.76 |
| 10/6/2014 | 80.0 | 30.0 | 15.0 | 33.0 | 160.0 | RA003 | 0.00 | 1.02 | 1.07 |
| 11/17/2014 | 600.0 | 42.0 | 93.0 | 100.0 | 1,400.0 | RA003 | 0.42 | 0.42 | 0.43 |
| 12/4/2014 | 39.0 | 73.0 | 9.0 | 55.0 | 24.0 | RA003 | 0.07 | 0.46 | 0.59 |
| 1/7/2015 | 3.0 K | 12.0 | 21.0 | 12.0 | 3.0 K | RA003 | 0.01 | 0.01 | 0.38 |
| 3/20/2015 | 6.0 | 3.0 K | 3.0 K | 3.0 K | 3.0 K | RA003 | 0.00 | 0.00 | 0.01 |
| 4/1/2015 | 3.0 K | 3.0 K | 3.0 K | 3.0 K | 3.0 K | RA003 | 0.12 | 0.13 | 0.13 |
| 4/16/2015 | 6.0 | 3.0 K | 3.0 K | 3.0 K | 3.0 K | RA003 | 0.00 | 0.22 | 0.22 |
| 4/30/2015 | 15.0 | 3.0 | 3.0 K | 3.0 K | 3.0 K | RA003 | 0.00 | 0.00 | 0.00 |
| 6/1/2015 | 48.0 | 100.0 | 42.0 | 230.0 | 400.0 | RA003 | 0.39 | 0.39 | 0.39 |
| 7/17/2015 | 170.0 | 6.0 | 6.0 | 3.0 K | 6.0 | RA003 | 0.00 | 0.18 | 1.08 |
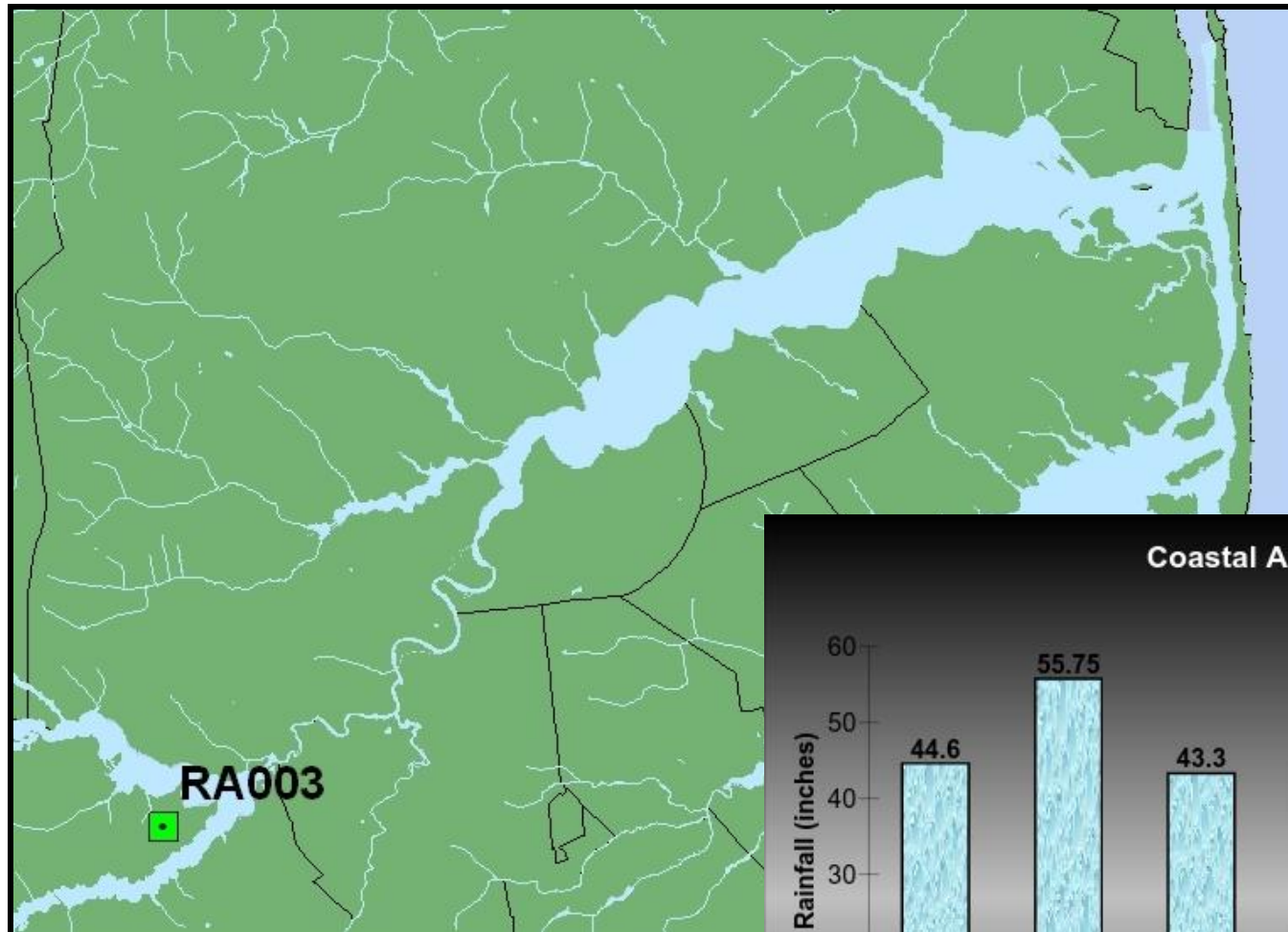
- NOAA Rainfall [Station RA003](#)
- Impacted at 0.3 inch rain
- More t-statistics at 24-48 hours prior to sampling, Immediate Impact



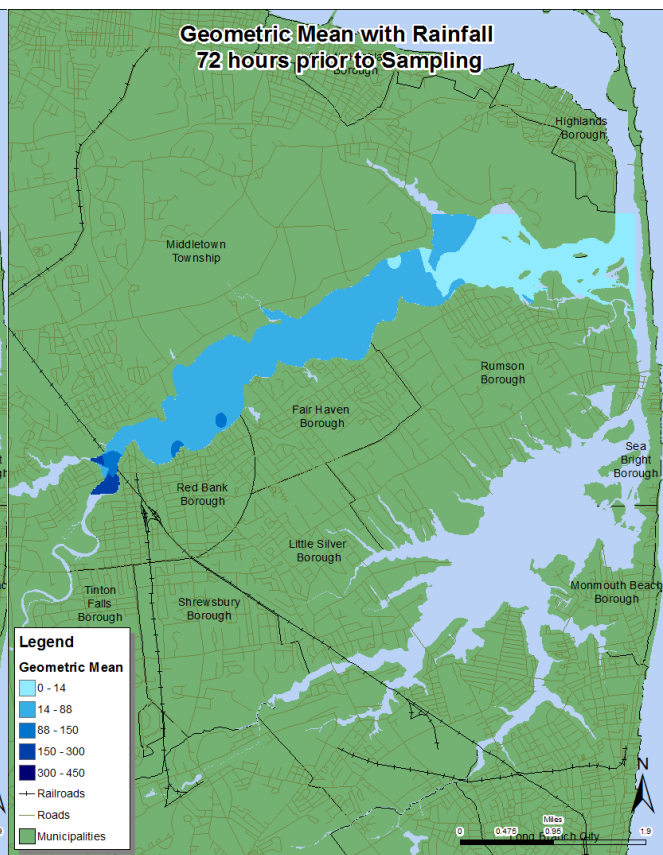Coastal Annual Rainfall
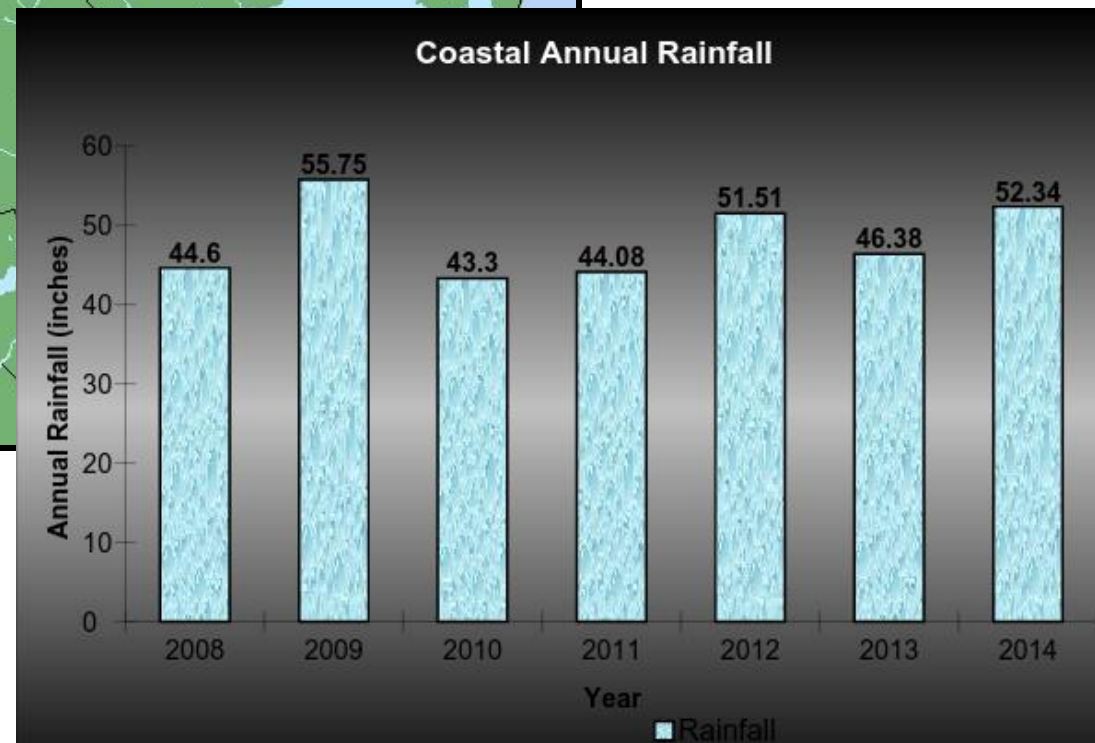
**Stations Influenced by 0.3 inch of rain or more 24 hours prior to Sampling**

Borough

Highlands
Borough

1015
1014
1014B
1016D
1018
1022A
1020
1020B

Middletown
Township

1012        1013F  1014D  1016E
1012A  1013D  1014F                1019    1018B
1010   1012B         1013C                      1018D
1008A         1012C  1013
1007                                 1017B         1020D
1006  1007B                          1020E
1004B         1008C
1004  1006B  1008C  1010D
1003A  1004D        1010B
1001  1002A              Rumson
1000A  1002A              Borough
1003B
1000B  1002C
1000C  1001A

Red Bank
Borough

Fair Haven
Borough

Sea
Bright
Borough

1000E

Little Silver
Borough

Shrewsbury River

Tinton
Falls
Borough

Shrewsbury
Borough

Monmouth Beach
Borough

**Legend**

□ 24 hr t-stat

♦ Navesink River Stations

— Roads

+ Railroads

**Shellfish Classification 2015**

- Suspended Harvest
- Approved
- Seasonal (Jan-Apr)
- Seasonal (Nov-Apr)
- Special Restricted
- Prohibited

Miles
0   0.5   1   2

N

**Stations Impacted by Rainfall 24hrs prior to Sampling**

17%

83%

**Geometric Mean with Rainfall 24 hours prior to Sampling**

Legend
Geometric Mean
- 0 - 14
- 14 - 88
- 88 - 150
- 150 - 300
- 300 - 450
- Railroads
- Roads
- Municipalities

**Geometric Mean with Rainfall 48 hours prior to Sampling**

Legend
Geometric Mean
- 0 - 14
- 14 - 88
- 88 - 150
- 150 - 300
- 300 - 450
- Railroads
- Roads
- Municipalities

**Geometric Mean with Rainfall 72 hours prior to Sampling**

Legend
Geometric Mean
- 0 - 14
- 14 - 88
- 88 - 150
- 150 - 300
- 300 - 450
- Railroads
- Roads
- Municipalities

- Rainfall impact and lack of point source discharges, suggests a Non Point Source Pollution (NPS).

- NPS Pollution, we are all part of, everything we do on land can affect the water through storm water runoff, we have documented high bacteria counts from storm water runoff with no failing infrastructure.

- Sources could be failing/old septic systems, sewage infrastructure issues, wildlife, domestic animals (dogs, horses etc.), agriculture (animal activities).

- Should move forward with no blame to anyone, best approach is for all groups to work together to try to improve water quality.

- Storm sampling is conducted to collect samples pre-storm, first flush, 1 hour, and 2 hours from shore by potential sources. Also boat samples collected to monitor the main flow of the river.

- Perform bacterial analysis, and ARA for samples with high bacteria counts.

- Present findings to all partners as soon as possible to start to look into areas with high bacteria counts, to try to start the process of any actions to correct water quality problems immediately.