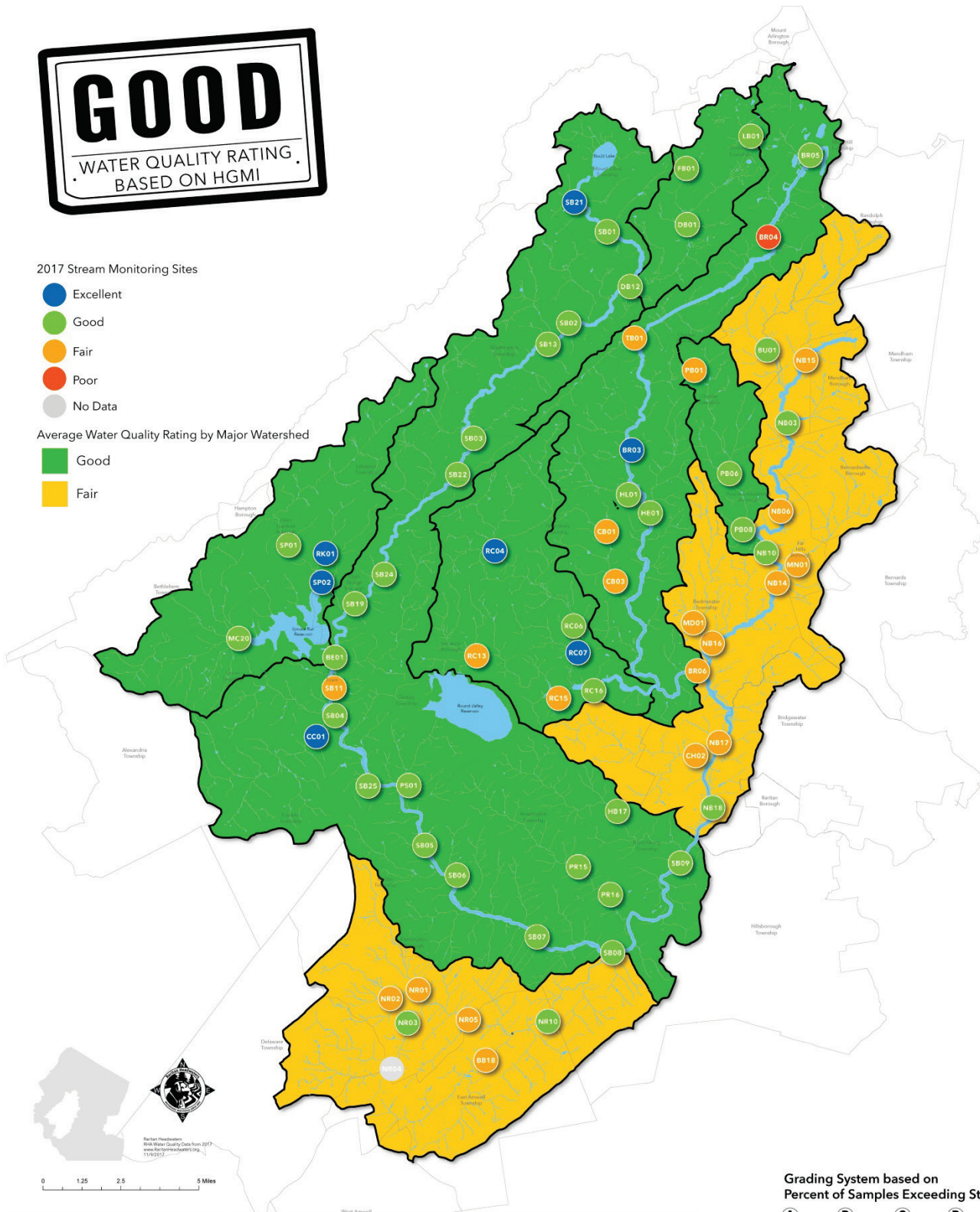# GOOD
WATER QUALITY RATING BASED ON HGMI

2017 Stream Monitoring Sites
- 🔵 Excellent
- 🟢 Good
- 🟠 Fair
- 🔴 Poor
- ⚪ No Data

Average Water Quality Rating by Major Watershed
- 🟩 Good
- 🟨 Fair

Raritan Headwaters
RHA Water Quality Data from 2017
www.RaritanHeadwaters.org
11/9/2017

0   1.25   2.5   5 Miles

Grading System based on Percent of Samples Exceeding Standard

A	B	C	D	F
0-20%	21-40%	41-60%	61-80%	81-100%

SUMMARY OF OTHER REGIONAL INDICATORS

ADDITIONAL Indicators measuring stream health

- **C** NITRATES
- **D** PHOSPHATE
- **C** SPECIFIC CONDUCTANCE
- **A** TEMPERATURE
- **A** DISSOLVED OXYGEN
- **A** pH
- **A** TURBIDITY
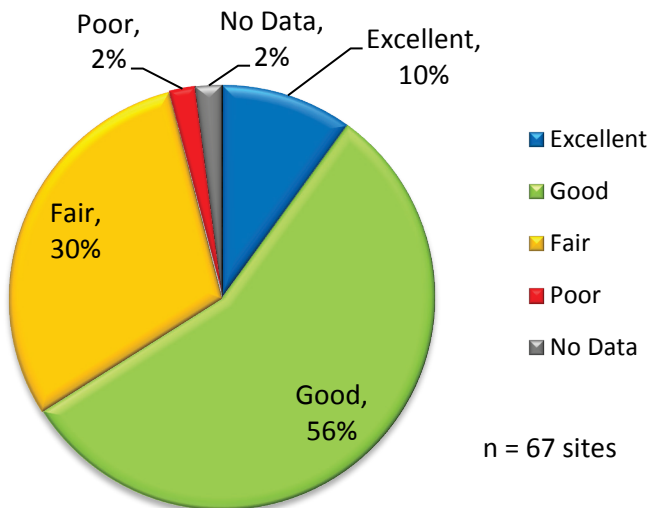- **C** BACTERIA
- **A** HABITAT SCORE

Explanation of Regional Water Quality Report 2017

The overall water quality rating for the region is based upon the average High Gradient Macroinvertebrate Index (HGMI) Score for the 67 sites in the North and South Branch Raritan Watershed. The HGMI takes into account seven metrics that measure the presence, abundance, and pollution tolerance of the benthic macroinvertebrate community. Benthic macroinvertebrates are animals without backbones that live at the bottom of the stream, which you can see without the aid of a microscope, and serve as long-term indicators of stream health. HGMI is based on a scale from 0 to 100. HGMI Scores are rated as Excellent (63 – 100), Good (<63 to 42), Fair (<42 to 21), and Poor (<21).

The background of each major watershed is color coded by the average water quality ratings of the stream monitoring sites that fall within it. Each circle in the map represents a stream monitoring site. The individual sites are color coded based upon its individual water quality rating.

The report also includes a summary of other regional indicators that may be affecting the overall water quality rating. The benthic macroinvertebrates provide a long-term picture of the overall stream health, while the chemical parameters provide a snapshot of the stream's health at a particular moment in time. The parameters were graded based upon a one-time grab sample that was collected in June. Nitrates, phosphates, specific conductance, temperature, dissolved oxygen, pH, turbidity, bacteria, and visual habitat were graded by the percentage of the sites exceeding a given screening level in the North and South Branch Raritan Watershed. The NJDEP's surface water quality standards provided the screening levels for the different factors. Since no standard exists for nitrates, 2 ppm was designated as the screening level. The visual habitat score is based on a scale of 0 to 200 and rated as Optimal (160-200), Sub-optimal (110-159), Marginal (60-109), and Poor (<60). Since no standards exist for visual habitat, ratings of marginal or poor were designated as the screening level.

Summary of 2017 Water Quality Ratings

Poor, 2%
No Data, 2%
Excellent, 10%
Fair, 30%
Good, 56%

Legend: Excellent, Good, Fair, Poor, No Data

n = 67 sites

Changes between 2016-17	% of Sites
Remained Acceptable	46
Remained Unacceptable	24
Improved	15
Declined	7
New	6
No Data	2

A stream with an "excellent" or "good" rating is acceptable for aquatic life use according to the Federal Clean Water Act. A stream with a "fair" or "poor" rating is considered impaired and unacceptable for aquatic life use.

Resources

- Interested in becoming a stream monitoring volunteer? Contact Maria Berezin at MBerezin@RaritanHeadwaters.org
- Tree planting assistance is available at Raritan Headwaters. Please contact Dr. Kristi MacDonald at KMacDonald@RaritanHeadwaters.org
- Riparian Buffer Fact Sheets produced by the North Jersey Resource and Development Council: http://northjerseyrcd.org/stream-restoration/
- Funding is available for planting trees through the Nature Conservancy's Roots for Rivers program. Program contact is Michelle DiBlasio at michelle.diblasio@tnc.org.
- WikiWatershed Model My Watershed is an initiative of the Stroud™ Water Research Center: https://wikiwatershed.org/