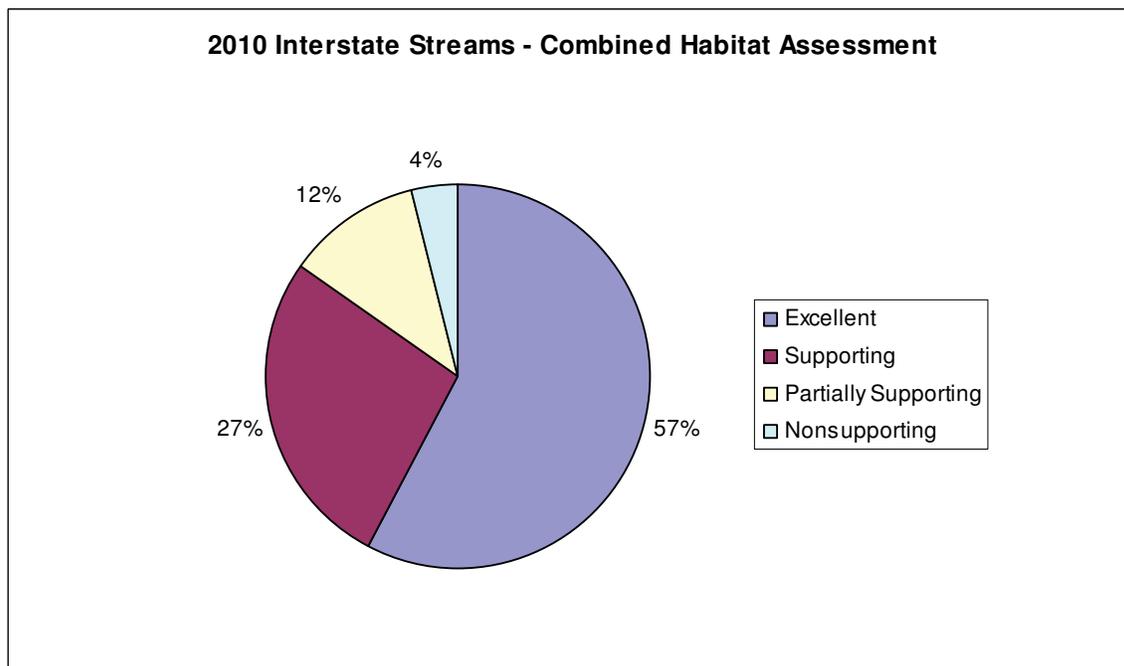
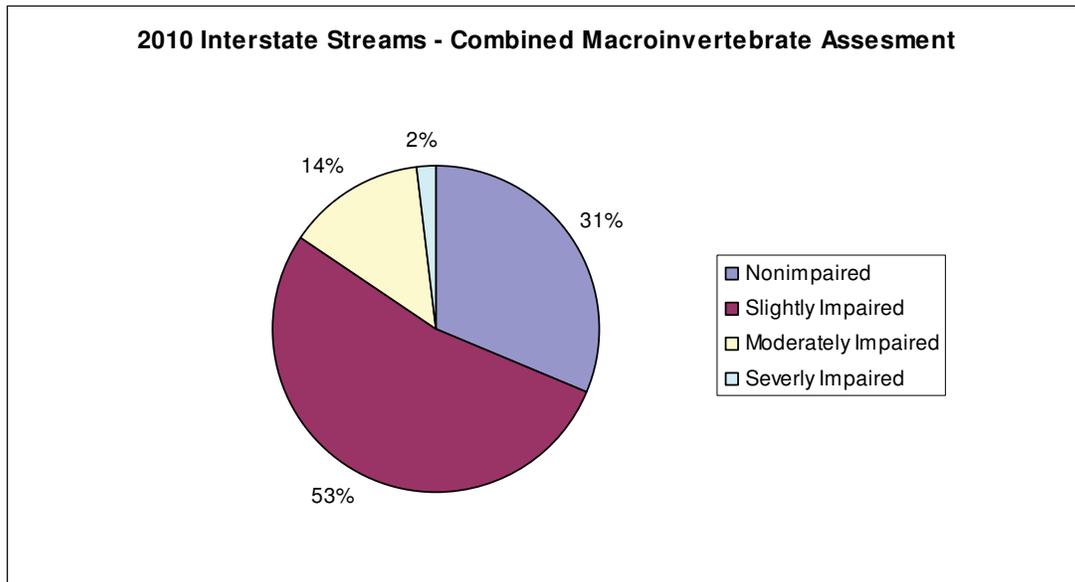


## Results

### Macroinvertebrates and Habitat

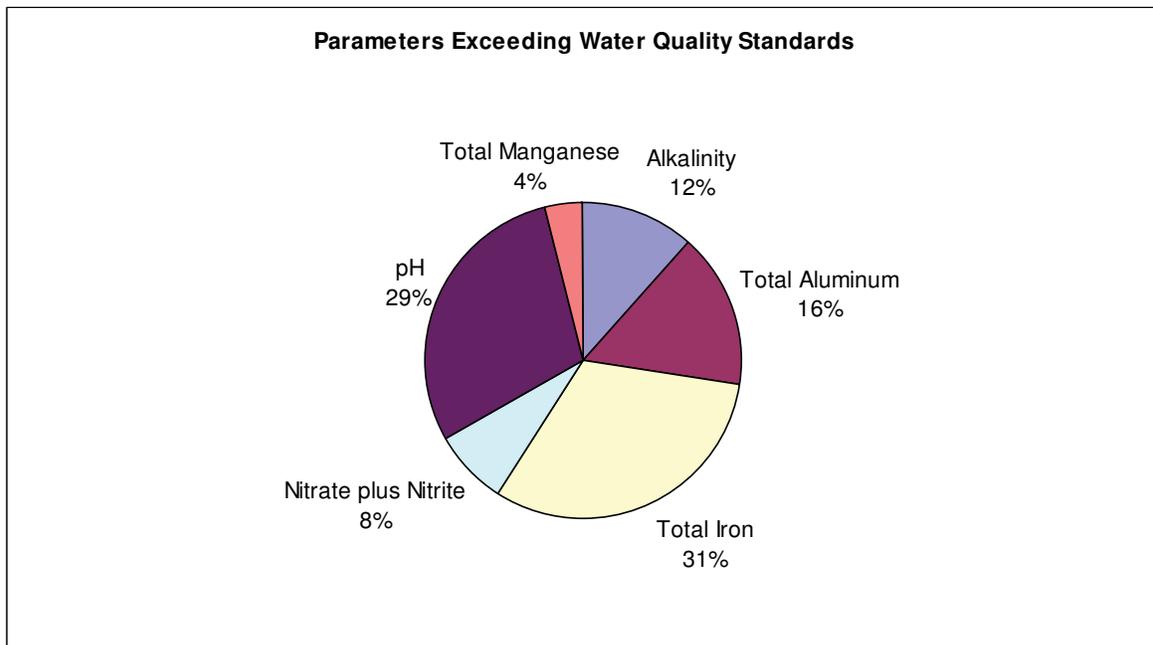
In 2010, 86 percent of the interstate streams assessed had a biological community deemed nonimpaired or slightly impaired. Nonimpaired biological communities were present at 16 of 51 streams assessed, while only one was considered severely impaired. Physical habitat was rated as being excellent or supporting for 84 percent of the streams evaluated. Of the 52 total sites where physical habitat was assessed, 30 sites were rated as excellent while only two were nonsupporting.



## Water Quality

Water quality results based on field and laboratory observations for all interstate streams are presented below. The parameter most frequently exceeding state standards was total iron. Overall, 32 of 53 stations (60 percent) did not have any observations exceeding state standards. During 2010, 10 of 53 (19 percent) stations had more than one measured parameter outside of accepted limits.

| Parameter                   | Standard   | Standard Value                | Number of Observations | Number Exceeding Standards |
|-----------------------------|--|-------------------------------|------------------------|----------------------------|
| <b>Alkalinity</b>           | PA aquatic life                                  | 20 mg/L                       | 115                    | 6                          |
| <b>Total Aluminum</b>       | NY aquatic (chronic)                             | 100 µg/L                      | 60                     | 8                          |
| <b>Total Iron</b>           | NY aquatic (chronic)<br>PA aquatic life          | 300 µg/L<br>1500 µg/L         | 60                     | 16                         |
| <b>Nitrate plus Nitrite</b> | PA public water supply                           | 10 mg/L                       | 95                     | 4                          |
| <b>pH</b>                   | NY general<br>MD aquatic life<br>PA aquatic life | 6.5-8.5<br>6.5-8.5<br>6.0-9.0 | 116                    | 15                         |
| <b>Total Manganese</b>      | NY aquatic (chronic)                             | 300 µg/L                      | 95                     | 2                          |
| <b>Turbidity</b>            | MD aquatic life                                  | 150 NTU                       | 35                     | 0                          |
| <b>Dissolved Oxygen</b>     | PA aquatic life                                  | 5.0 mg/L                      | 115                    | 0                          |



*Sites with at Least One Parameter Exceeding State Thresholds*

| <b>Grouping</b> | <b># exceeding</b> | <b>sites available in group</b> | <b>proportion exceeding</b> |
|-----------------|--------------------|---------------------------------|-----------------------------|
| Group 1 (NY)    | 11                 | 13                              | 84.62%                      |
| Group 2 (NY)    | 3                  | 8                               | 37.50%                      |
| Group 1 (MD)    | 2                  | 8                               | 25.00%                      |
| Group 2 (MD)    | 1                  | 3                               | 33.33%                      |
| Group 3         | 4                  | 21                              | 19.05%                      |
| <b>Total</b>    | <b>21</b>          | <b>53</b>                       | <b>39.62%</b>               |

| <b>Grouping</b> | <b># exceeding</b> | <b>sites available in group</b> | <b>proportion exceeding</b> |
|-----------------|--------------------|---------------------------------|-----------------------------|
| Group 1         | 13                 | 21                              | 61.90%                      |
| Group 2         | 4                  | 11                              | 36.36%                      |
| Group 3         | 4                  | 21                              | 19.05%                      |
| <b>Total</b>    | <b>21</b>          | <b>53</b>                       | <b>39.62%</b>               |

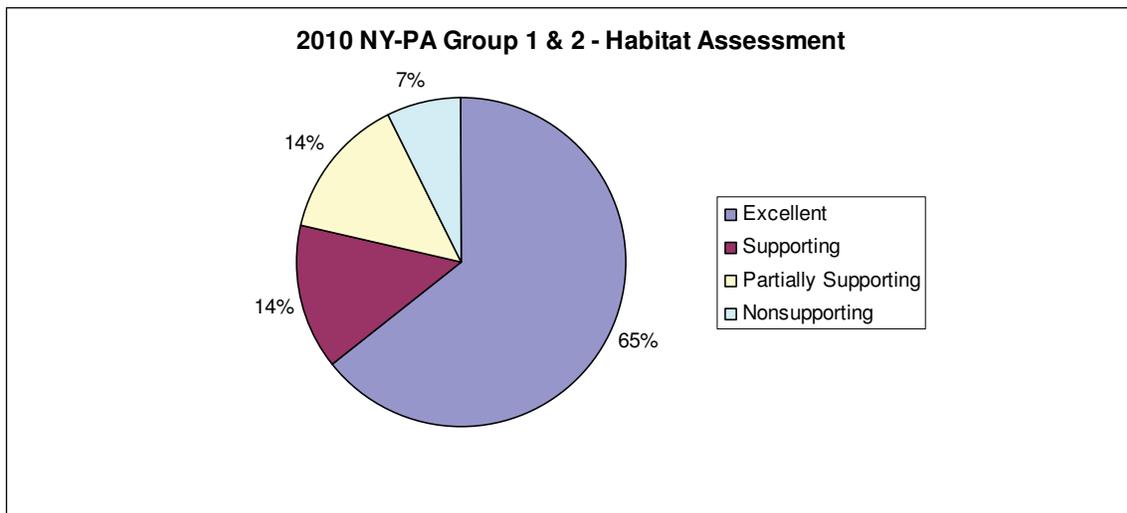
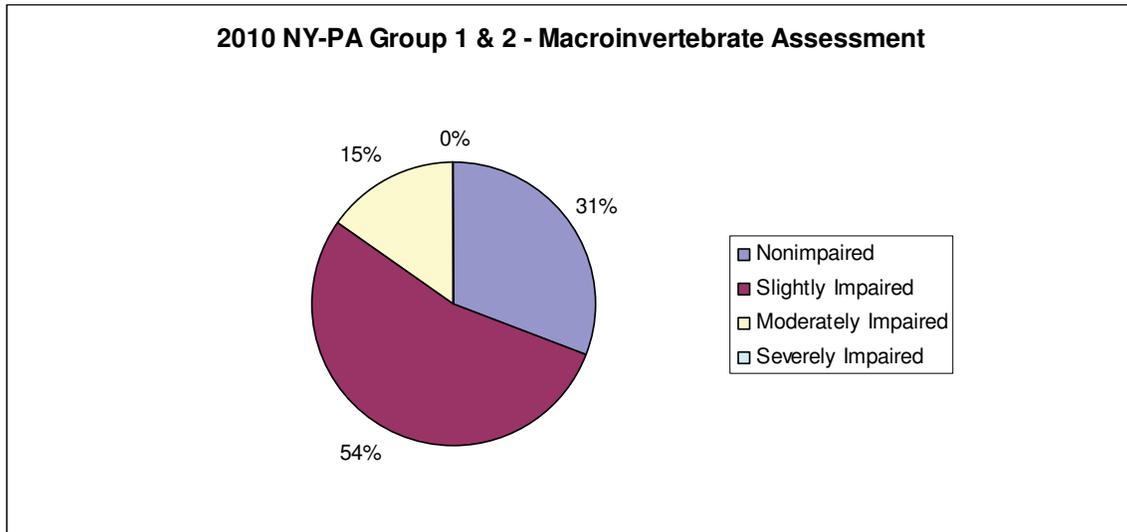
*Sites with Two or More Parameters Exceeding State Thresholds*

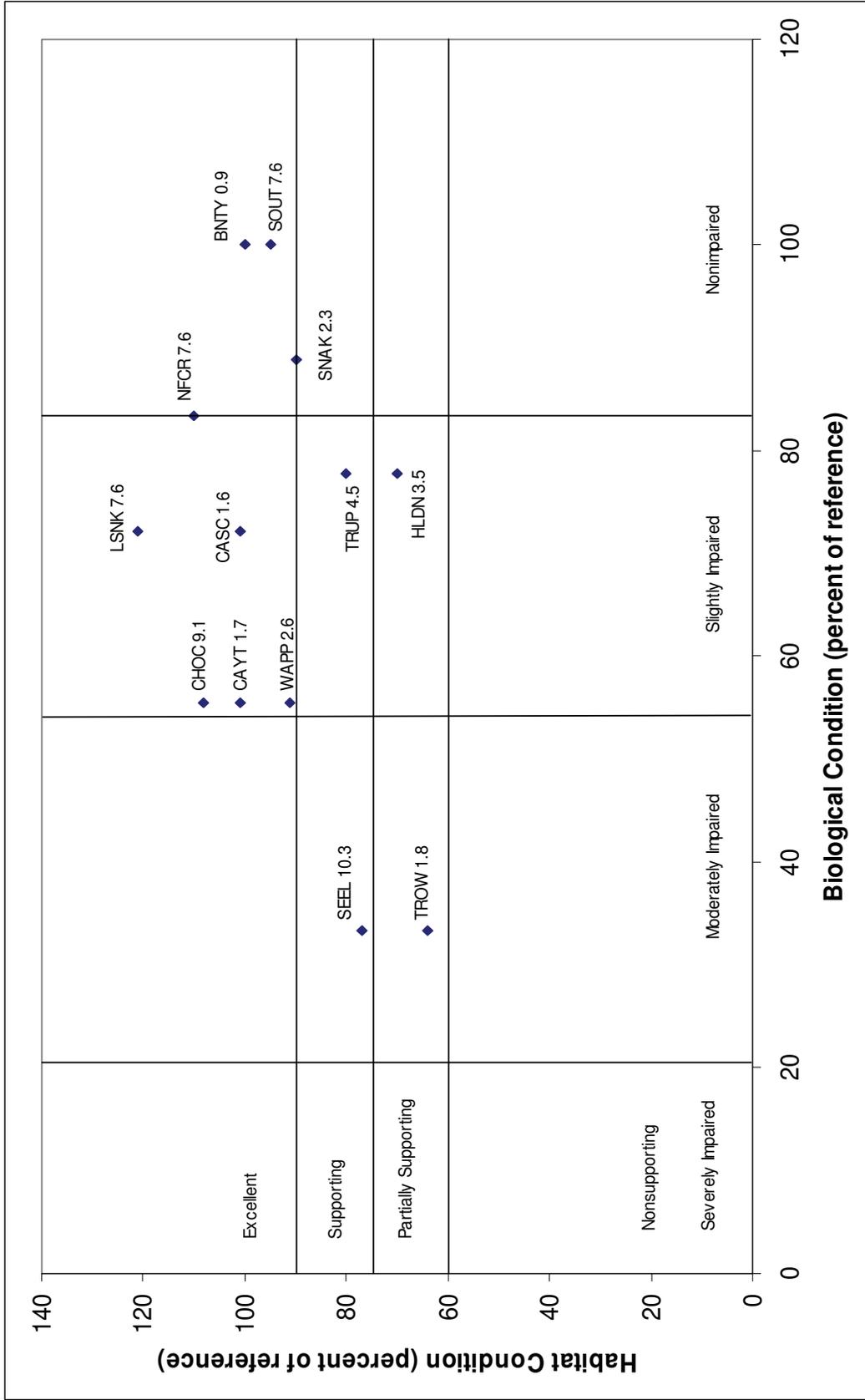
| <b>Grouping</b> | <b># exceeding</b> | <b>sites available in group</b> | <b>proportion exceeding</b> |
|-----------------|--------------------|---------------------------------|-----------------------------|
| Group 1 (NY)    | 6                  | 13                              | 46.15%                      |
| Group 2 (NY)    | 0                  | 8                               | 0.00%                       |
| Group 1 (MD)    | 2                  | 8                               | 25.00%                      |
| Group 2 (MD)    | 0                  | 3                               | 0.00%                       |
| Group 3         | 2                  | 21                              | 9.52%                       |
| <b>Total</b>    | <b>10</b>          | <b>53</b>                       | <b>18.87%</b>               |

| <b>Grouping</b> | <b># exceeding</b> | <b>sites available in group</b> | <b>proportion exceeding</b> |
|-----------------|--------------------|---------------------------------|-----------------------------|
| Group 1         | 8                  | 21                              | 38.09%                      |
| Group 2         | 0                  | 11                              | 0.00%                       |
| Group 3         | 2                  | 21                              | 9.52%                       |
| <b>Total</b>    | <b>10</b>          | <b>53</b>                       | <b>18.87%</b>               |

## Results for 2010 New York-Pennsylvania Group 1 & 2 Stream Assessments

Sites that represent the best available combination of conditions, in terms of biological community, water quality, and physical habitat for each group of stream sites are designated as reference sites. In 2010, Bentley Creek at Wellsburg, N.Y. (BNTY 0.9), served as the reference site to which all other New York-Pennsylvania Group 1 and 2 streams were compared. Bentley Creek possessed the best available habitat in the group and shared the highest biological assessment score with South Creek (SOUT 7.6). The macroinvertebrate community was not assessed at Apalachin Creek (APAL 6.9) in 2010. Of the 13 Group 1 and Group 2 streams where the biological community was assessed, four sites had nonimpaired ratings, seven were slightly impaired, and two were classified as moderately impaired. Habitat was rated excellent at nine sites, supporting at two sites, partially supporting at two sites, and nonsupporting at Apalachin Creek at Little Meadows, Pa. (APAL 6.9), where staff noted anomalous conditions.

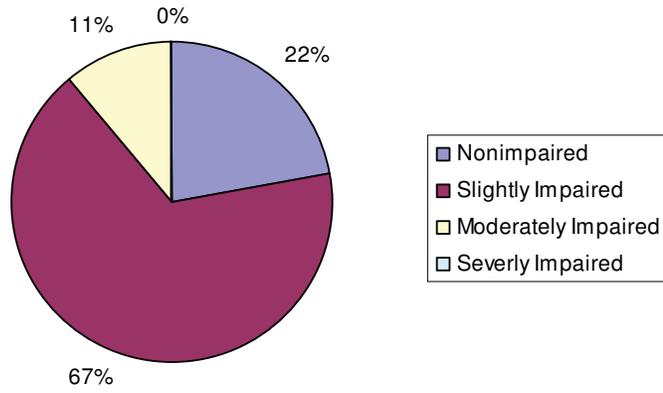




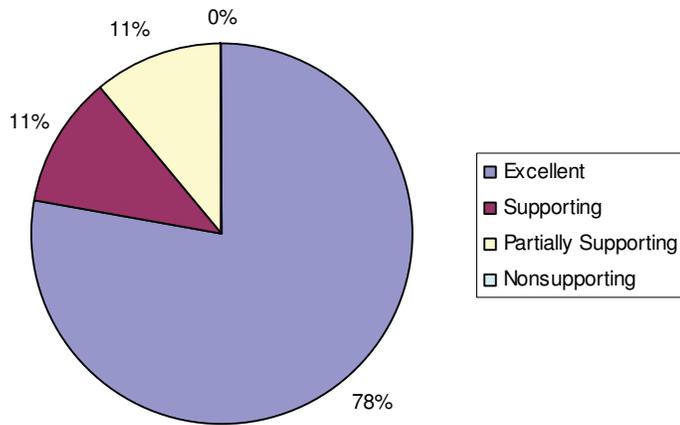
## **Results for 2010 Pennsylvania-Maryland Stream Assessments**

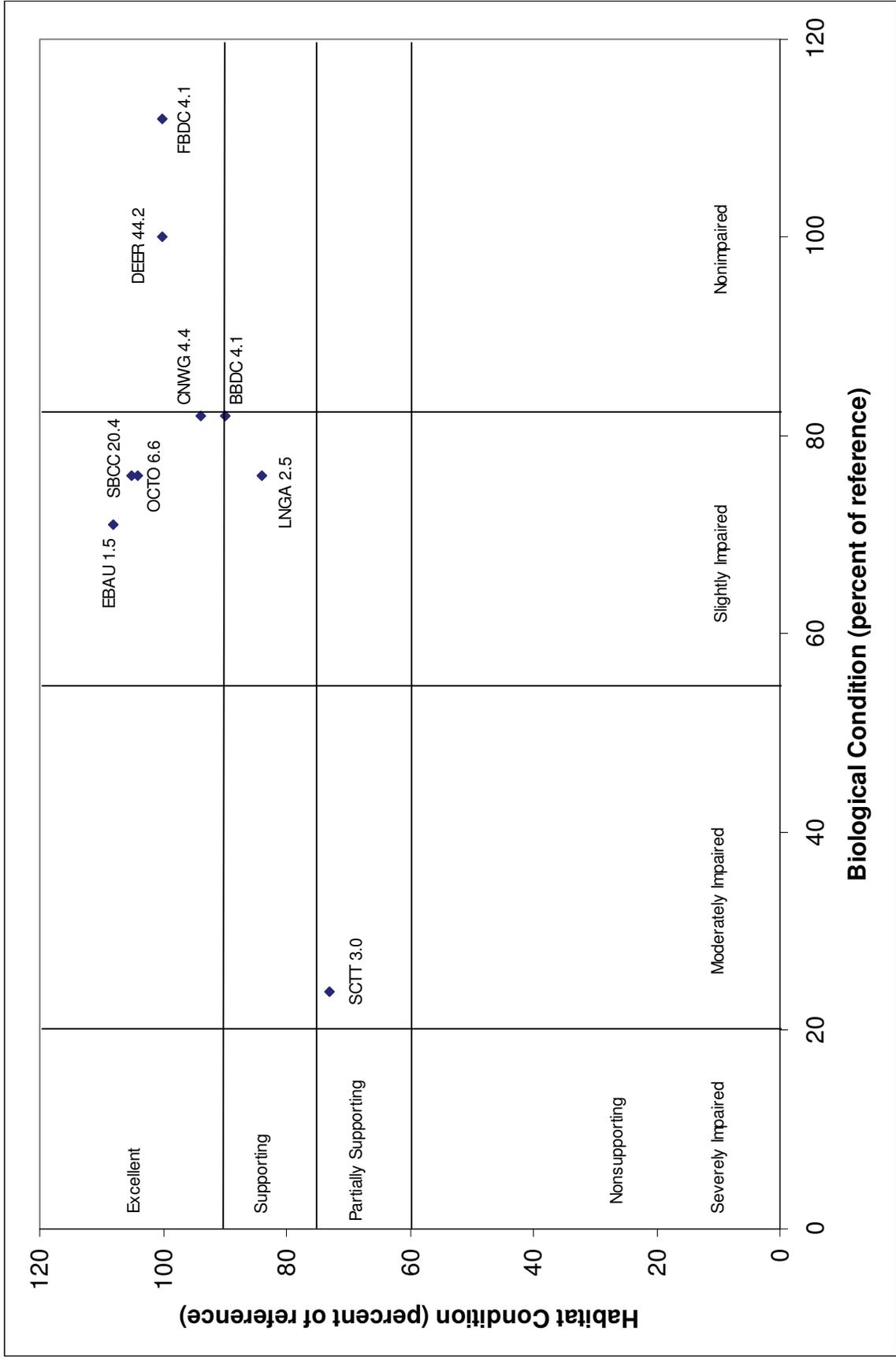
Sites that represent the best available combination of conditions, in terms of biological community, water quality, and physical habitat for each group of stream sites are designated as reference sites. In 2010, Deer Creek at Gorsuch Mills, Md. (DEER 44.2), served as the reference station to which all other Pennsylvania-Maryland Group 1 and 2 streams were compared. Deer Creek possessed excellent available physical habitat, a nonimpaired macroinvertebrate community, and consistently favorable water quality index scores. Deer Creek also served as the reference station for the group in 2008. Physical habitat at Group 1 and 2 sites was considered excellent or supporting, with biological communities scoring as nonimpaired or slightly impaired at 89 percent of the streams surveyed. Scott Creek (SCTT 3.0) was the lone station within the group which had a moderately impaired macroinvertebrate community and partially supporting physical habitat.

**2010 PA-MD Group 1 & 2 - Macroinvertebrate Assessment**



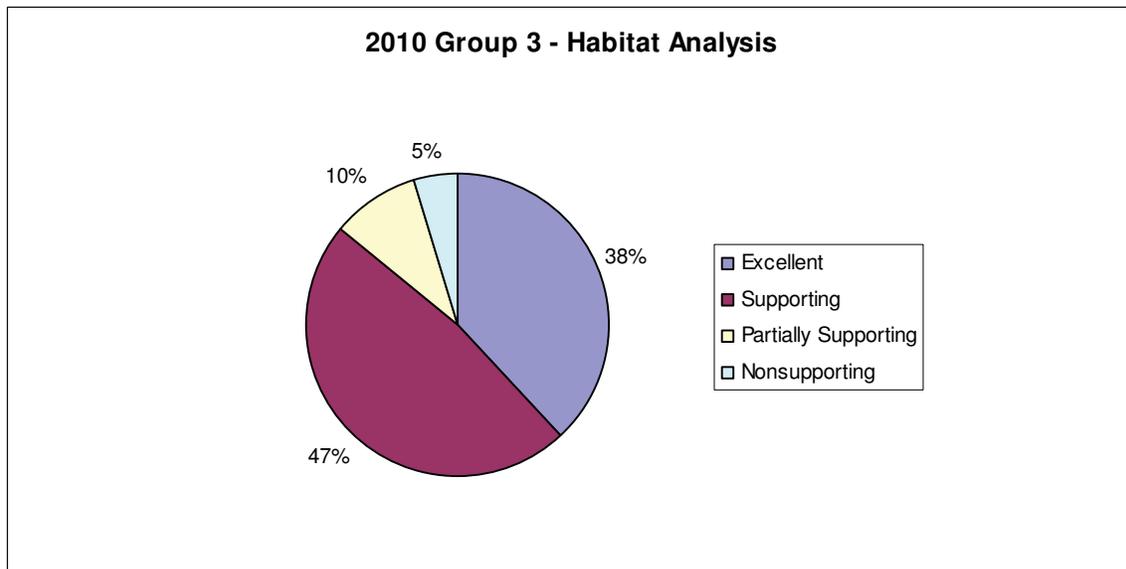
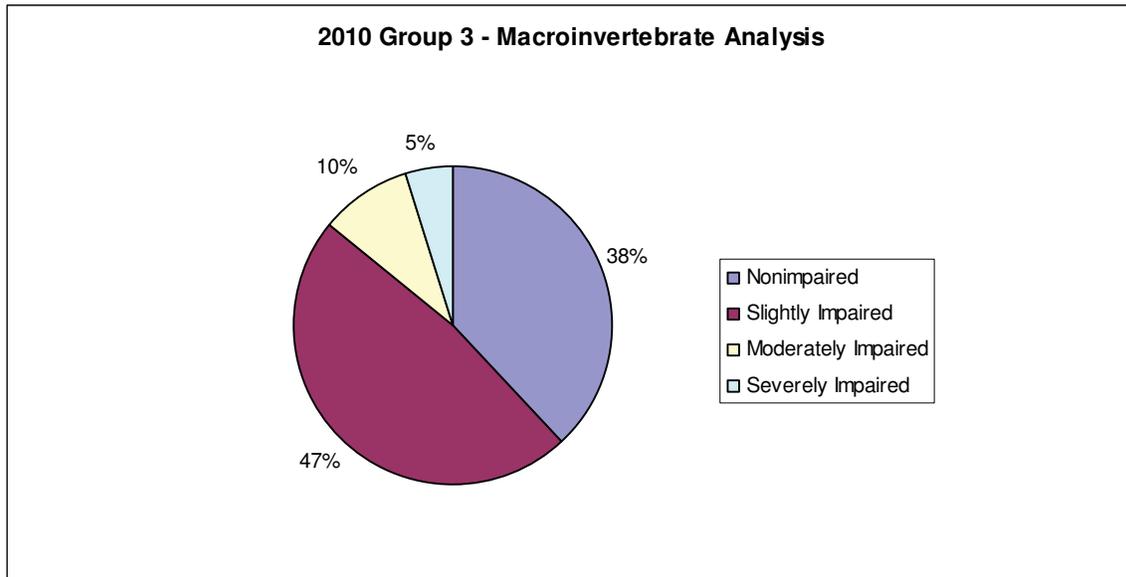
**2010 PA-MD Group 1 & 2 - Habitat Assessment**

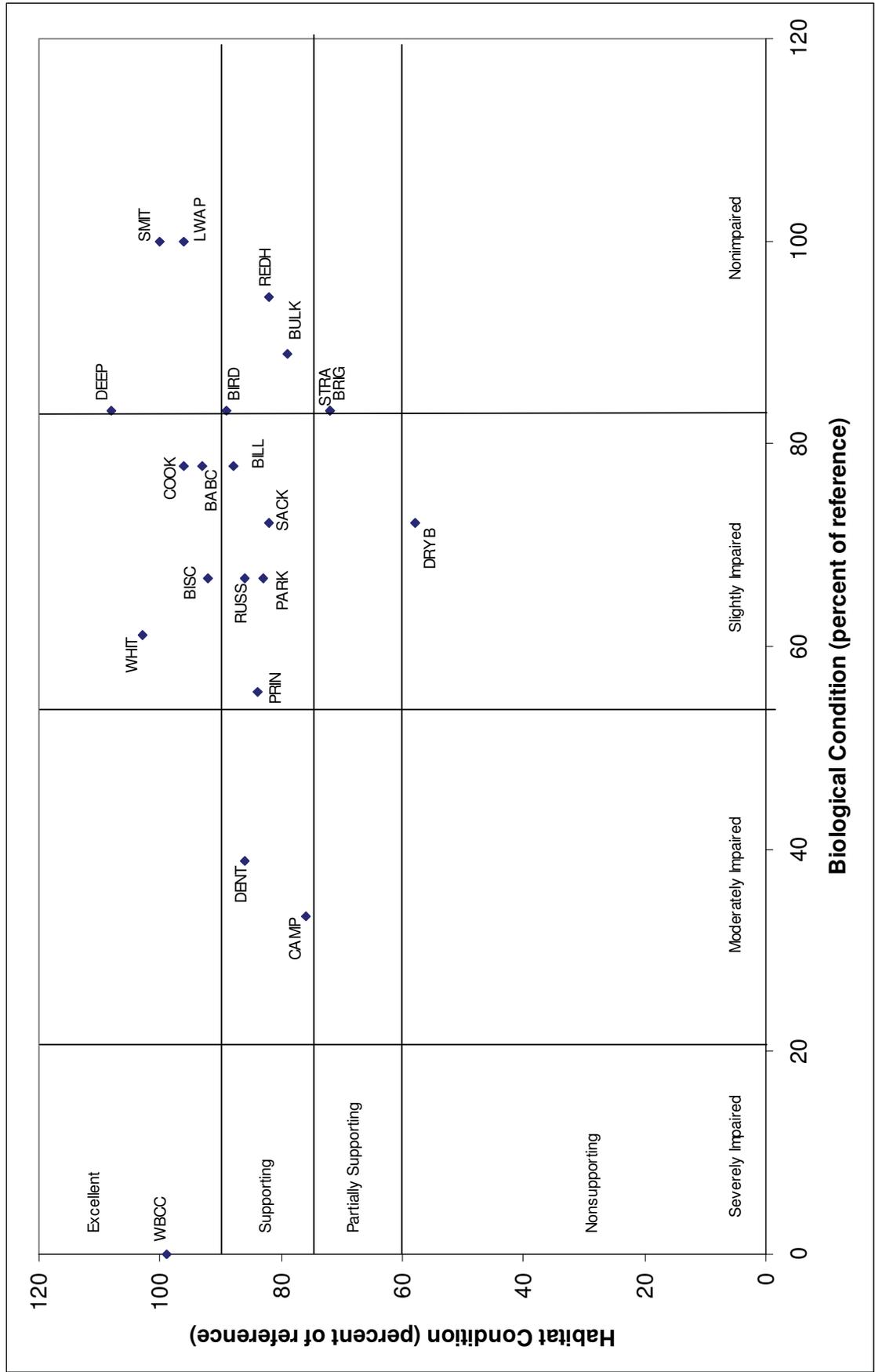




## Results for 2010 New York-Pennsylvania Group 3 Stream Assessments

Sites that represent the best available combination of conditions, in terms of biological community, water quality, and physical habitat for each group of stream sites are designated as reference sites. In 2010, Smith Creek near East Lawrence, Pa. (SMIT), served as the reference station to which all other Group 3 streams were compared. Smith Creek had a nonimpaired biological community and excellent physical habitat. Based on historical data, Smith Creek has consistently been one of the best streams in Group 3. Eighty-five percent of Group 3 streams received a rating of nonimpaired or slightly impaired. Physical habitat was assessed as being excellent or supporting in 85 percent of Group 3 interstate streams.





## Results for 2010 Large Rivers Assessment

Sites that represent the best available combination of conditions, in terms of biological community, water quality, and physical habitat for each group of stream sites are designated as reference sites. In 2010, the Tioga River at Lindley, N.Y. (TIOG 10.8), served as the reference site to which all other large river sites were compared. This station also served as the reference site in 2008. Physical habitat was rated as excellent for the fifth consecutive year. The biological community at TIOG 10.8 was assessed as nonimpaired. Overall, habitat at the large river sites is very good. Only one station, COWN 2.2, had conditions rated as partially supporting. Eighty-seven percent of large river stations had nonimpaired or slightly impaired macroinvertebrate communities.

