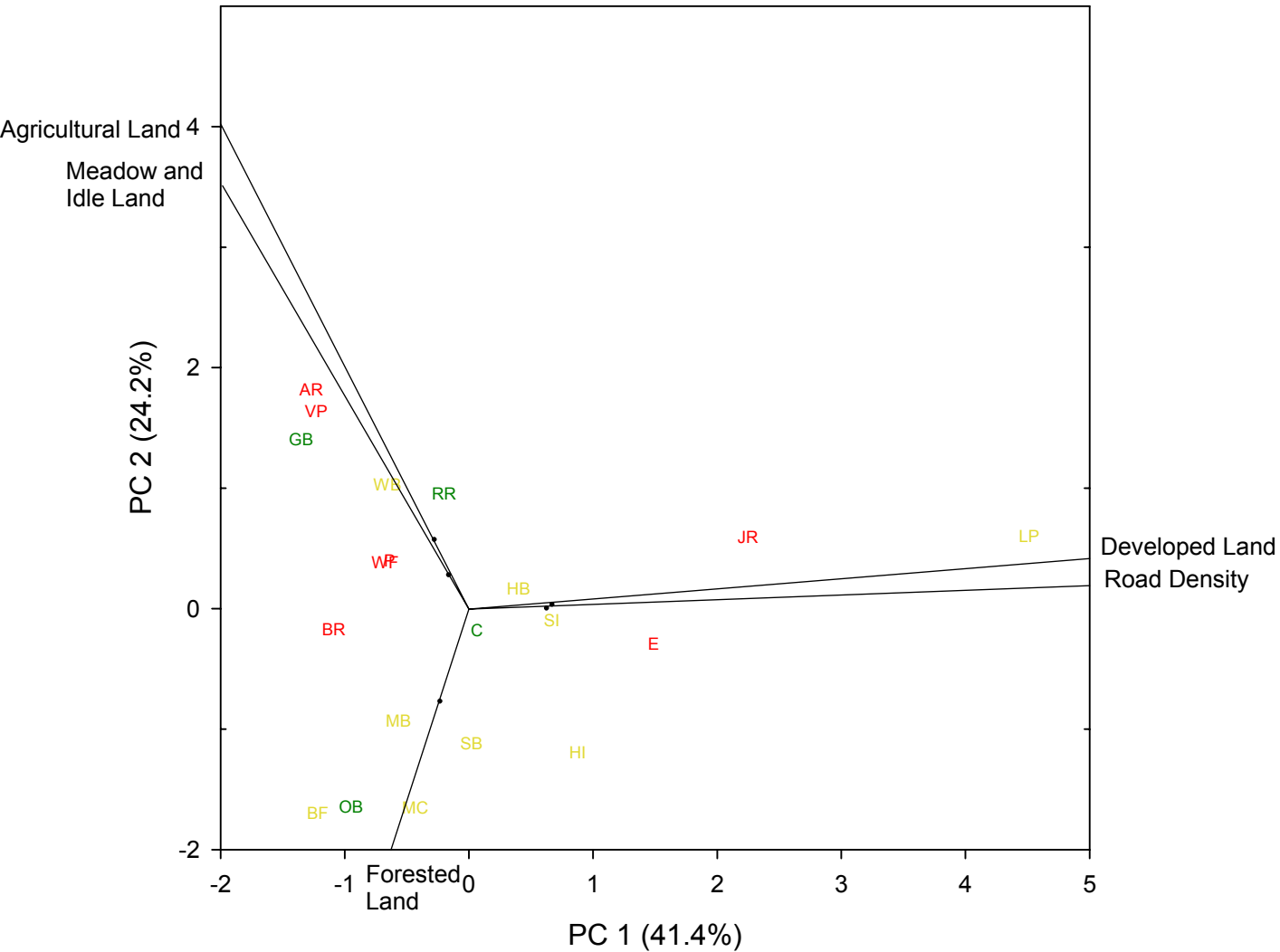
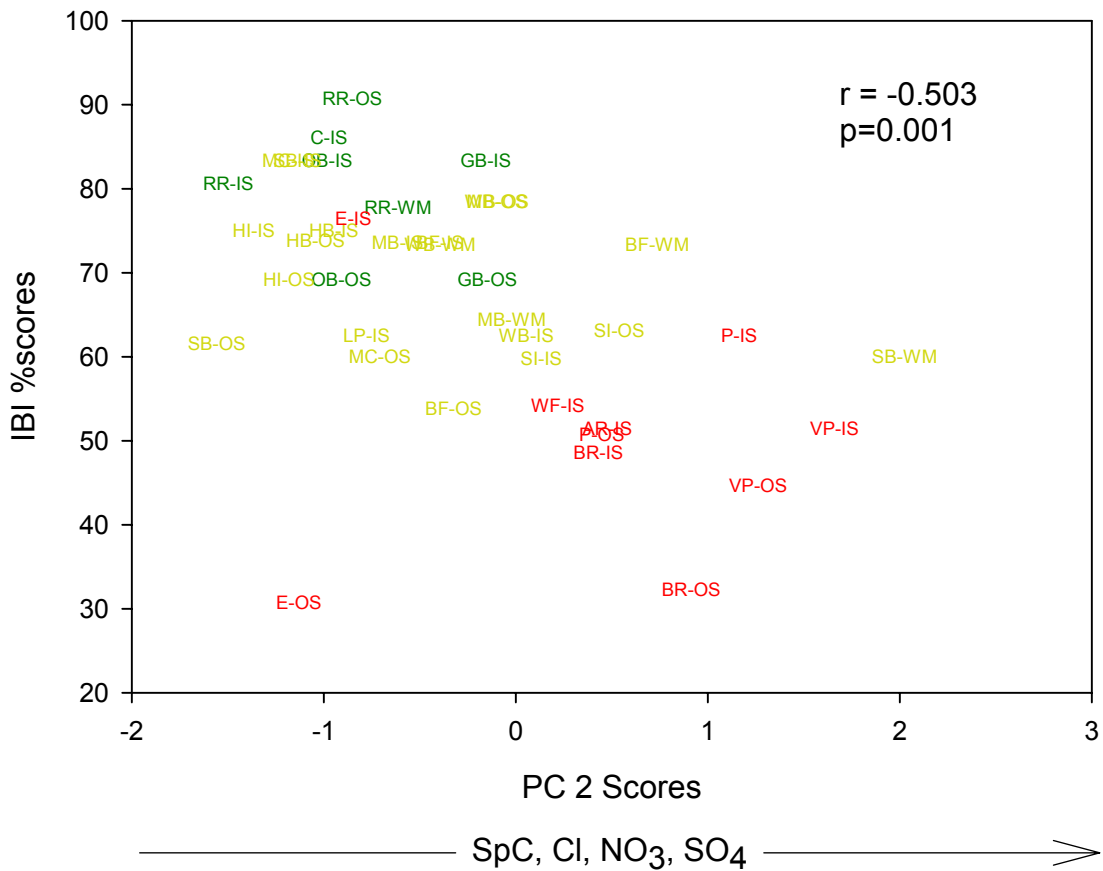


Figure 1. PCA of 20 Coastal Wetland Sites Using 17 Chemical/Physical and Land-Use Variables (Jones Rd is not shown because it lies outside of plot area)



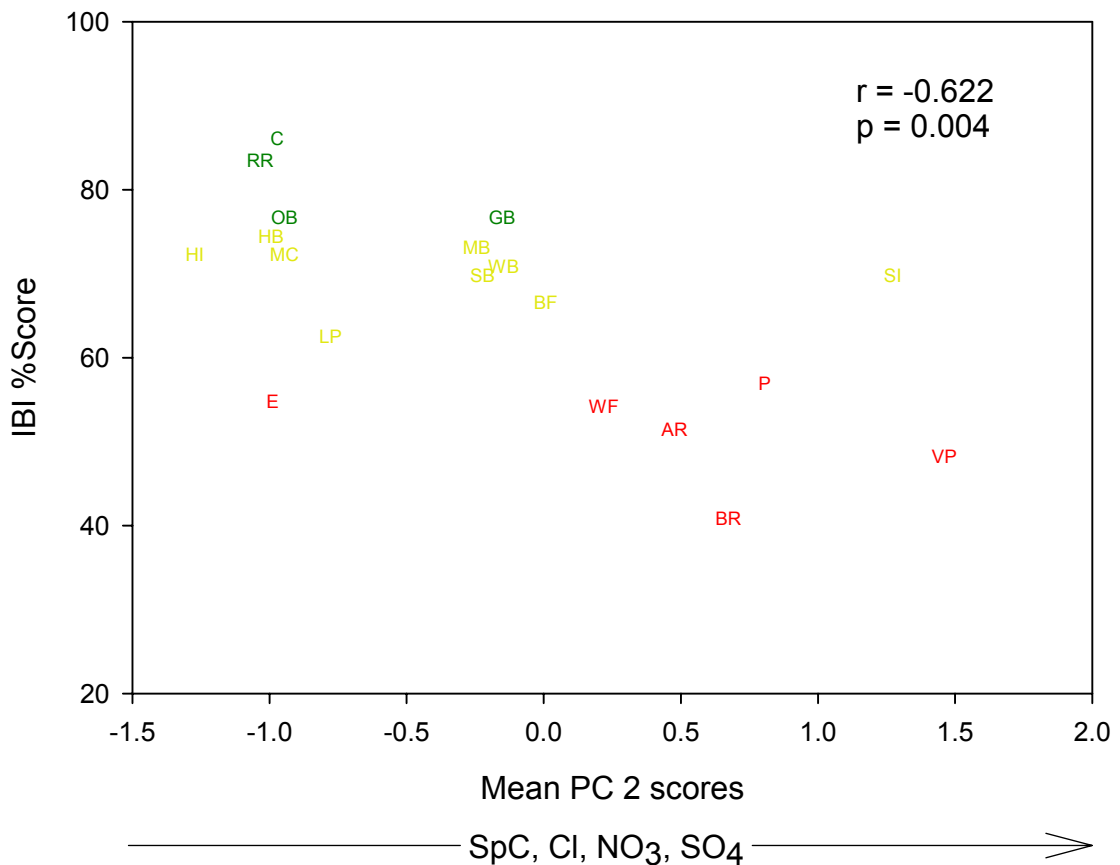
IBI Classes:
 Mildly Impacted
 Moderately Impacted
 Moderately Degraded - Degraded

Figure 3. PCA of 5 Land-use/Cover Parameters for 20 Coastal Wetland Sites in Lakes Michigan and Huron



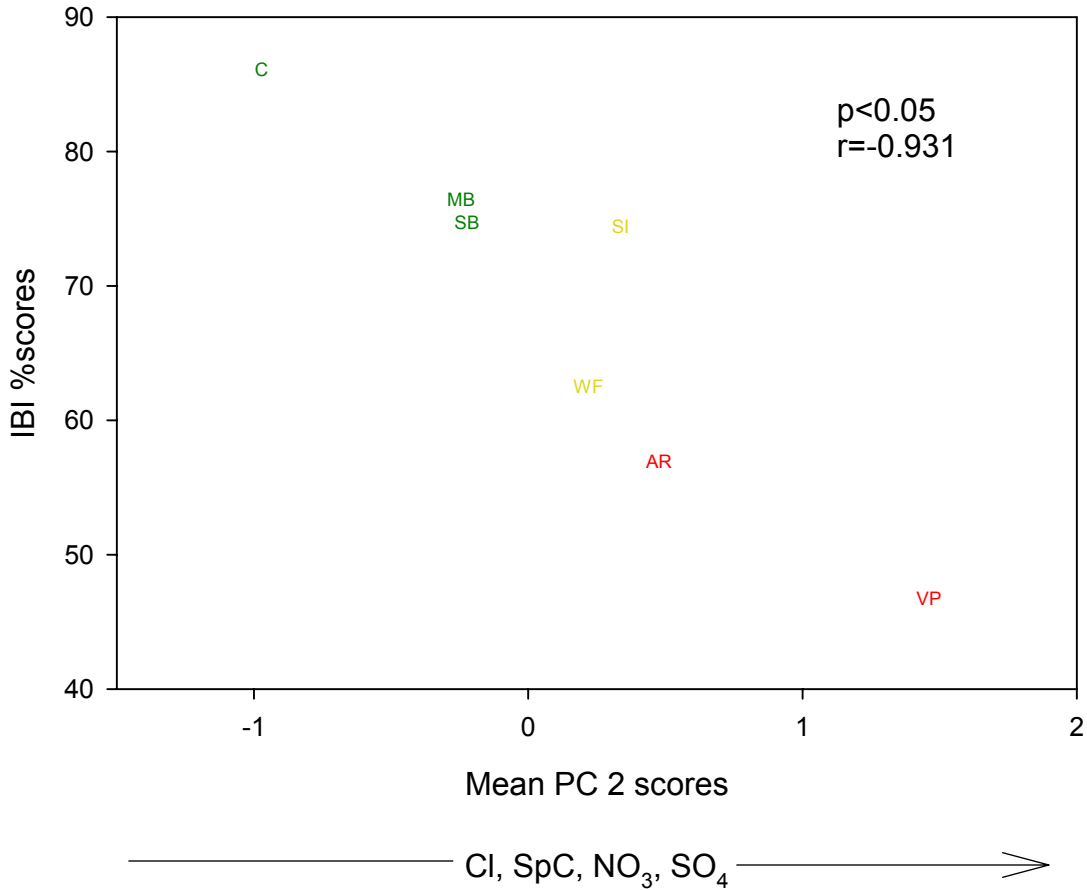
IBI Classes:
 Mildly Impacted
 Moderately Impacted
 Moderately Degraded

Figure 4. IBI scores (as percent of total possible) for individual vegetation zones vs. principal component 2 scores of the chemical/physical PCA.



IBI Classes:
 Mildly Impacted
 Moderately Impacted
 Moderately Degraded

Figure 5. IBI scores (as percent of total possible) vs. principal component 2 scores (means of all vegetation zones per site) for 20 wetland sites.



IBI Classes:

Mildly Impacted

Moderately Impacted

Moderately Degraded - Degraded

Figure 6. Macroinvertebrate IBI scores for 7 sites using data at lowest operational taxonomic unit in response to water quality measured by mean PC 2 scores (mean of all vegetation zones per site) of the chemical/physical PCA conducted on data from 20 wetland sites.

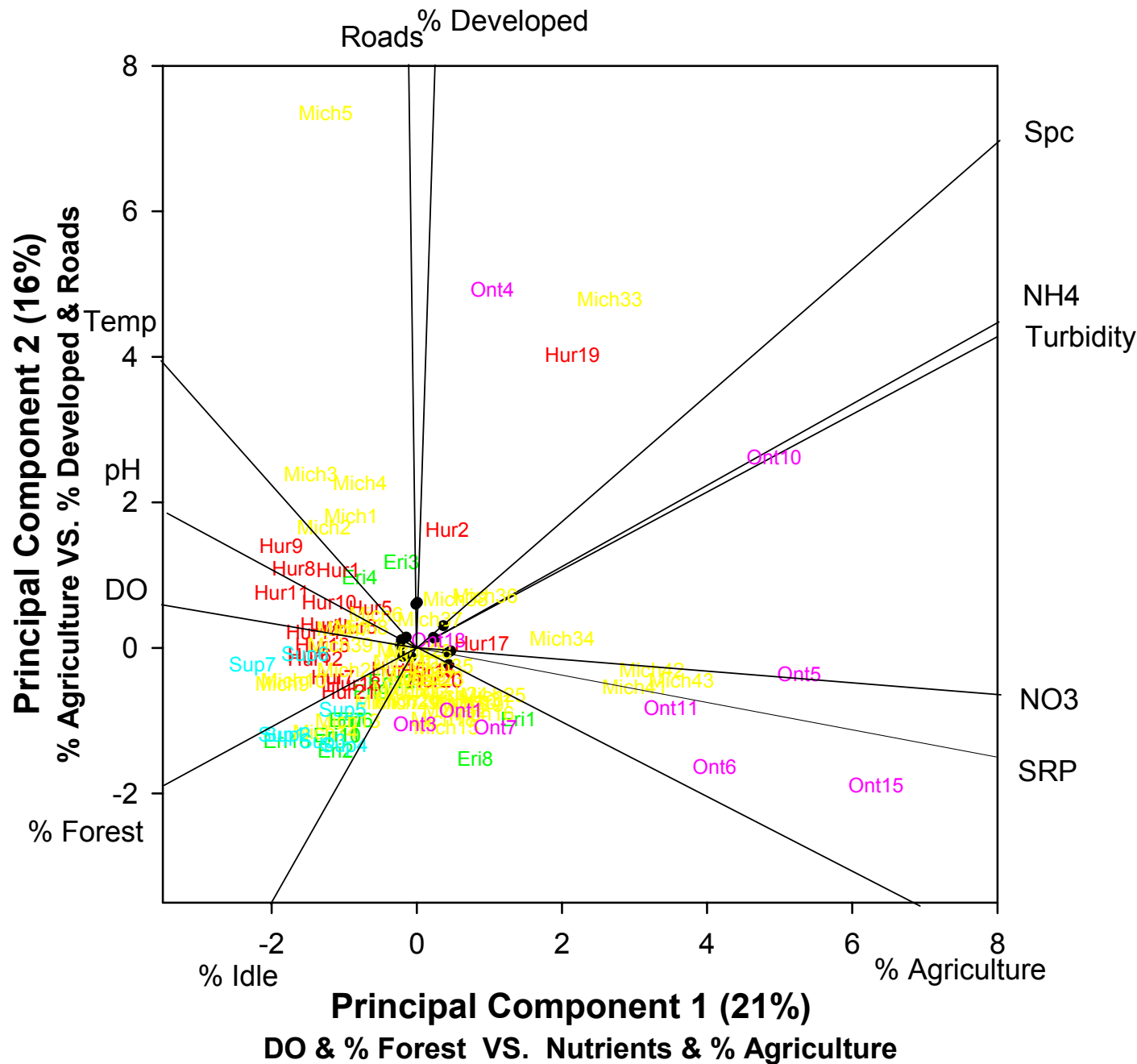


Figure 7. PCA of Chemical/Physical and Land-use/covers data. Color coded by lake.

- Superior
- Michigan
- Huron
- Erie
- Ontario

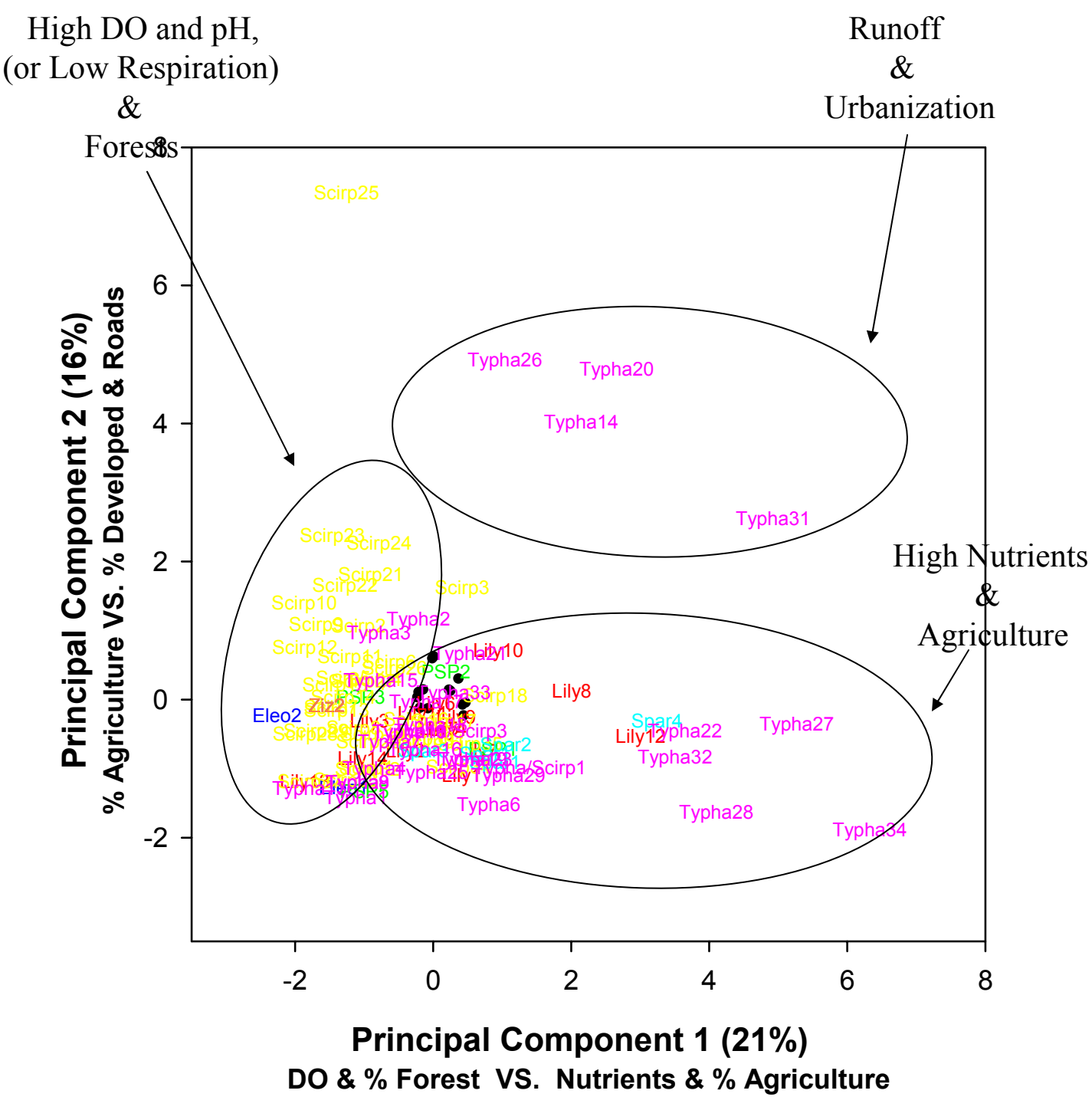


Figure 8. PCA of land-use and chemistry for 104 plant zones. Color coded by vegetation zone.

- Spargainium
- Scirpus
- Lily
- PSP
- Typha
- Zizania
- Eleocharis

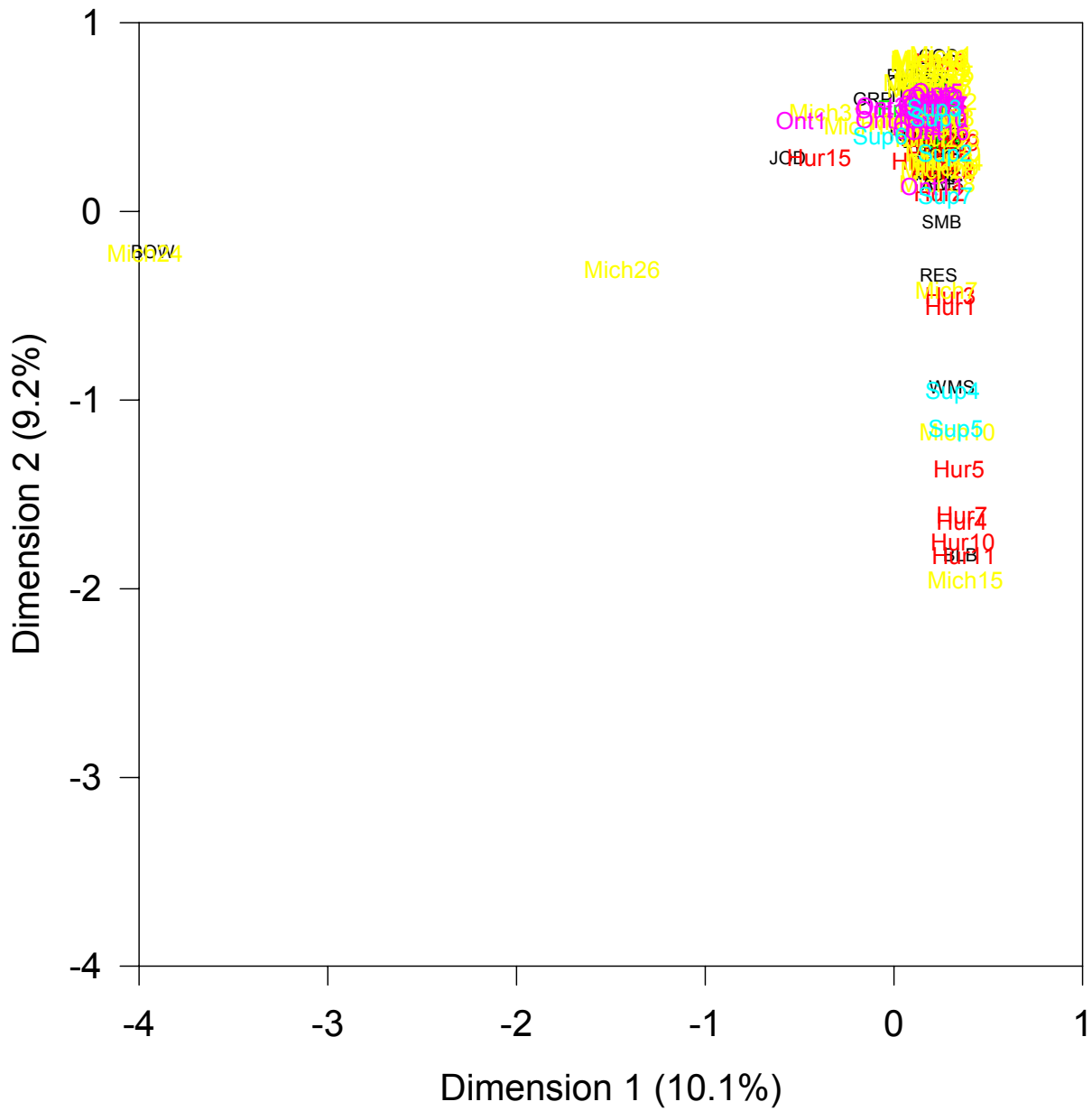


Figure 9. Correspondence Analysis Using 2002 Fish Data 104 Plant Zones - 42 Fish Species

Superior
Michigan
Huron
Erie
Ontario

Correspondence Analysis Using 2002 Fish Data 104 Plant Zones - 26 Species

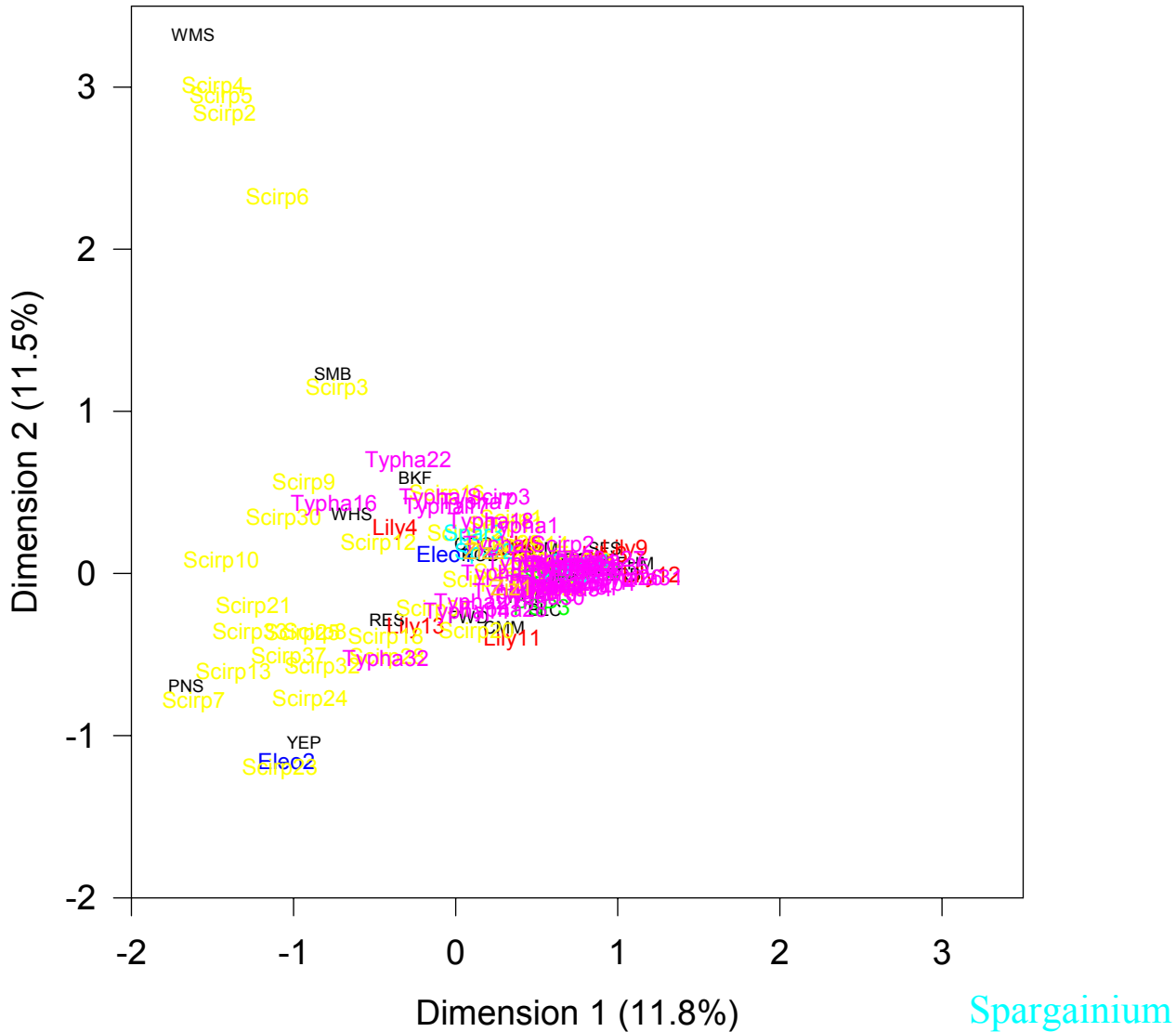


Figure 10. Correspondence analysis using Data from 104 plant zones representing 26 fish species.

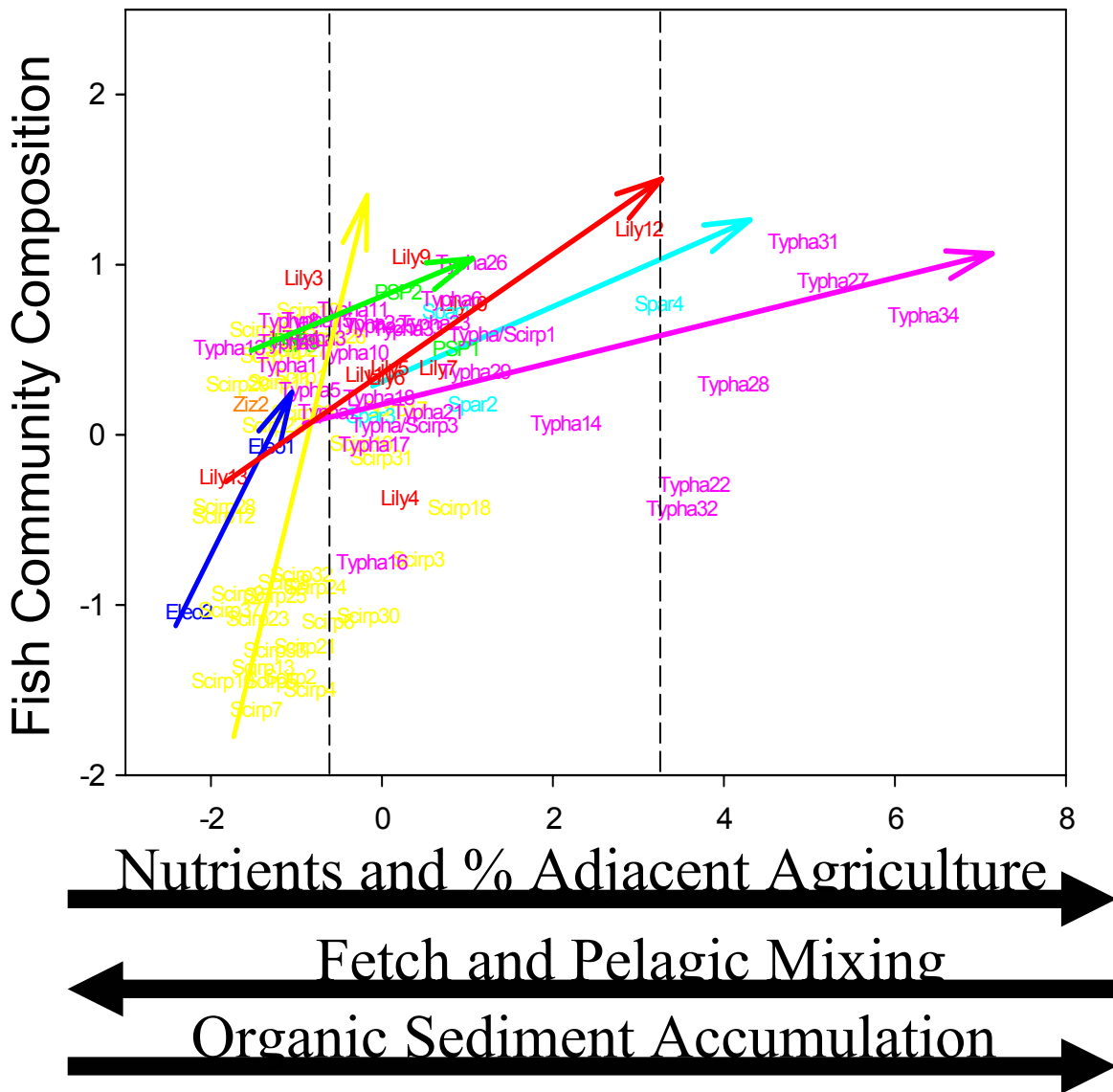


Figure 11. Correlation of fish community composition and abiotic data.

- Banded Killifish
- Pugnose Shiner
- Redear Sunfish
- Smallmouth Bass
- White Sucker
- Yellow Perch
- Brook Silverside
- Brown Bullhead
- Fathead Minnow
- Golden Shiner
- Green Sunfish
- Spotfin Shiner

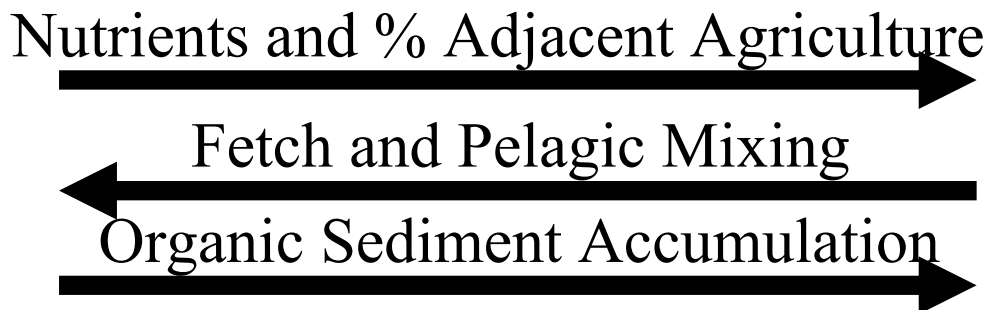


Figure 12. General trend in fish community Structure.