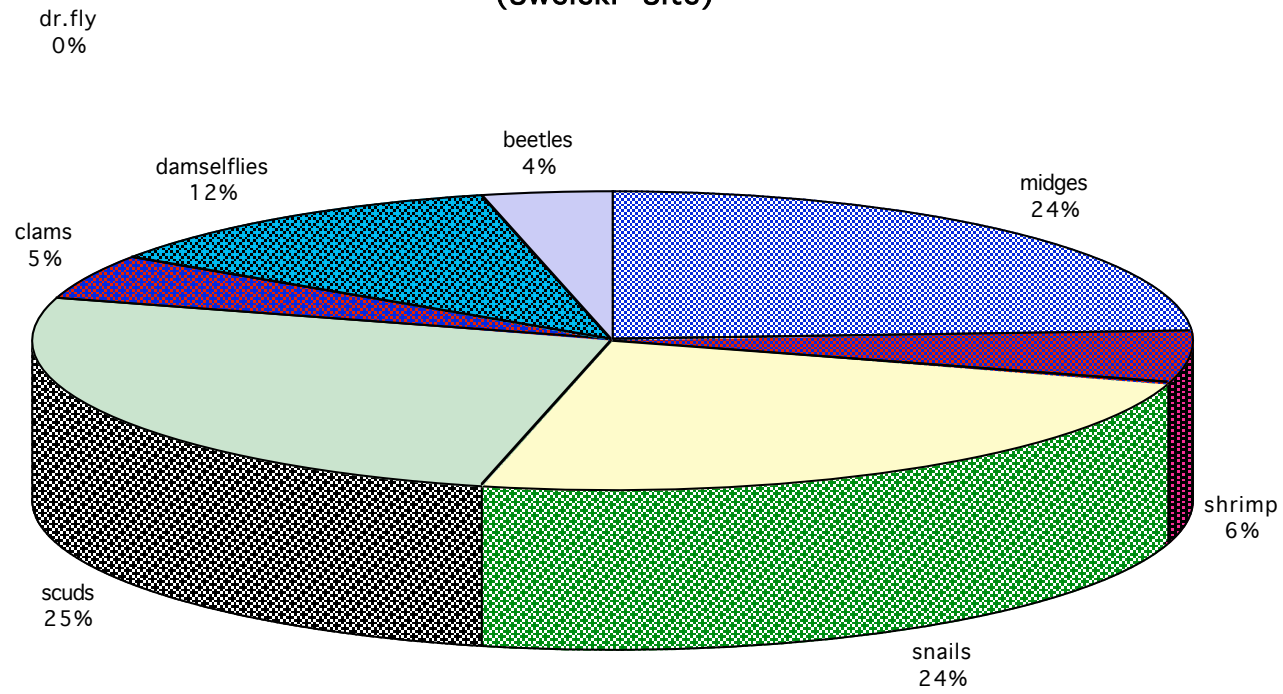
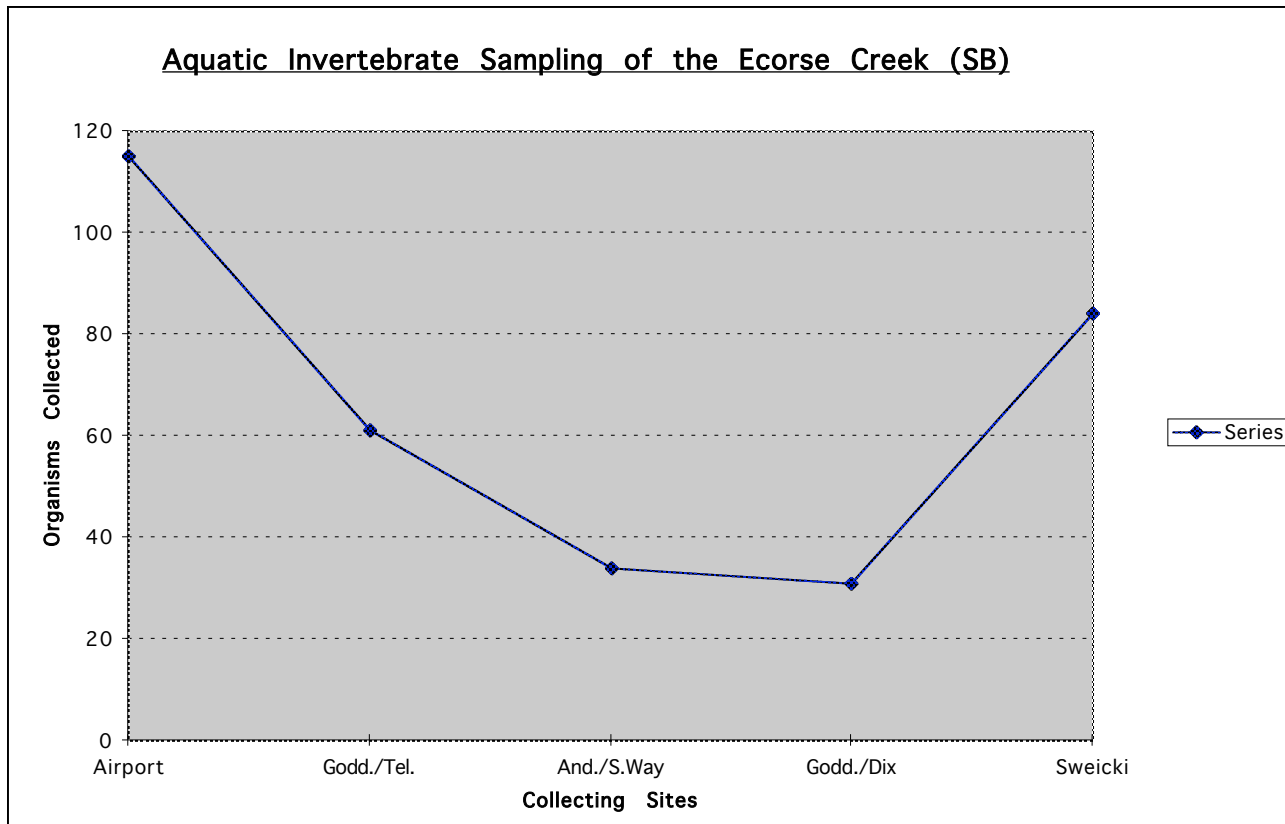


Pie Chart for Individual Sampling Site

Ecorse Creek (SB) Aquatic Invertebrates: North Dr./Wyandotte (Sweicki Site)





The pie chart above reveals the biodiversity found at the sampling site on North Dr. in Wyandotte (at Swiecki's residence). Similar pie charts were composed for the other four test sites. The graph above shows the trend in total aquatic invertebrates recovered after 10 net scoop samples along the bottom of the creek at each site. The headwaters (west of metro airport) reveal a greater total number of organisms than all other sites sampled. A general downward trend was noted as sampling moved progressively eastward toward the Detroit River. This trend was expected, as more sources of runoff, CSOs and leachate from past dumping along the Creek increase when travelling from west to east along the Ecorse Creek (SB). However, the North Dr. site provided a bit of a deviance from the general trend in aquatic invertebrate numbers, as it had the second largest total number of invertebrates (though it was hypothesized that it would have the fewest number of invertebrates as it is closest to the Detroit River and supposedly receives the greatest flow of pollutants). During sampling however, it was noted that there was a large amount of detritus in the form of a thick mat of leaves. It is known that residents in the area blow leaves from their yards into this portion of the

Ecorse Creek, as well as throw grass clippings into it. Students surmised that perhaps this mat of detritus “masked” the sediment pollutants and/or provided a ready food source for leaf-shredding invertebrates (which would, in turn, provide food for the aquatic invertebrate predators, like dragonfly and damselfly nymphs).

As an alternate hypothesis, Mt. Carmel StreamTeam member, Amy Wansa, stated, “Maybe the excessive runoff from roads and parking lots at some of the other sites is causing problems for the bottom-dwelling organisms--like the Goddard and Telegraph site that has Ray Whitfield Ford’s parking lot crumbling into the creek and who don’t seem to care about it at all! I think that’s pretty sad and disgusting!”

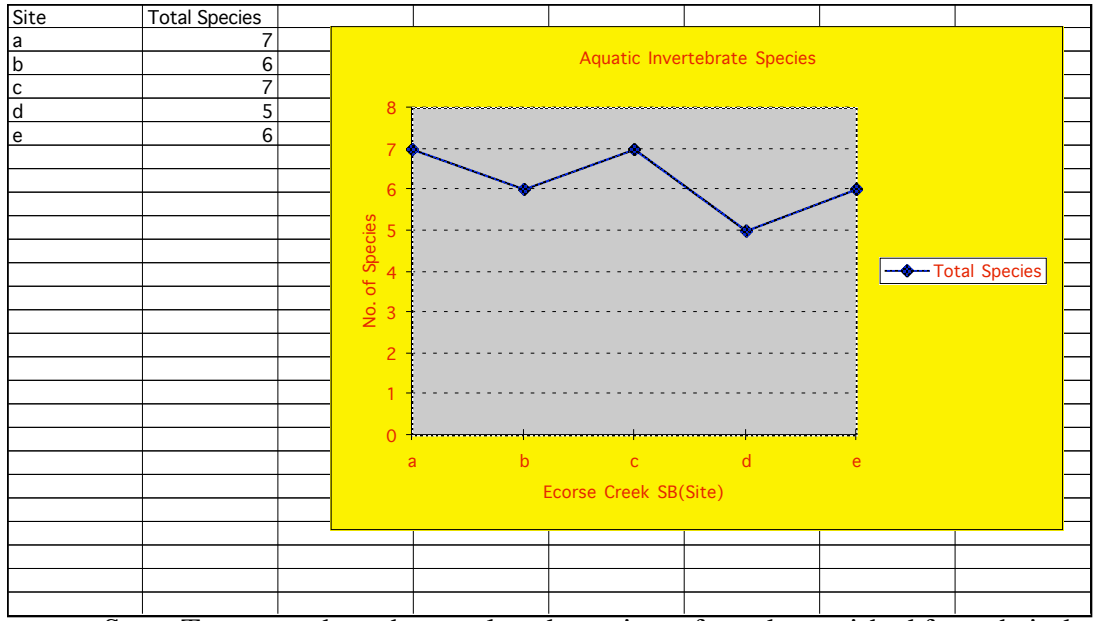
At the Allen Park site (near the streets of Andrews & Southway), student Enrique Cerda dredged up some chemically-tainted sediments with a couple of initial scoops as evidenced by a “rainbow oil sheen” in the water and an oily-looking residue on the net and sediment which repelled water. In addition, the disturbed sediments gave off a distinct “toxic chemical” odor when StreamTeam coordinator, Mr. Bruce Szczechowski, wafted some of the air above the sediments toward his discerning nose. “The fumes were definitely of the synthetic anthropogenic variety--quite strong in their distinct chemical odor; though, I must add, not nearly as potent as the toxic chemical fumes emanating from the sediments dredged out of Monguagon Creek last year, which Elf Atochem and other companies despoiled over decades!” Site leaders, Louis Kanan and Mike Russo, incredulously added, “Who would dump such toxic stuff into the water--it’s nasty?! No wonder there’s not as many organisms here as we found at some of the other sites!”

Near Dix & Goddard, where the fewest numbers of invertebrates were found, more oil-laced sediments were dredged up; and, additionally, runoff from Dix Road was pouring into the waterway through storm sewer connections. Stated Advanced Environmental Biology student, Shawna Shaw, about the general appearance of the site, “The litter along the Creek is pretty gross and needs to be cleaned up again. It’s really a shame, because the StreamTeam cleans up the Ecorse Creek every year, but still people continue to litter it. Maybe the garbage companies, too, are not being careful when they empty the dumpsters along the creek and are spilling trash into it by accident. I wish people would be more careful about trash disposal!”

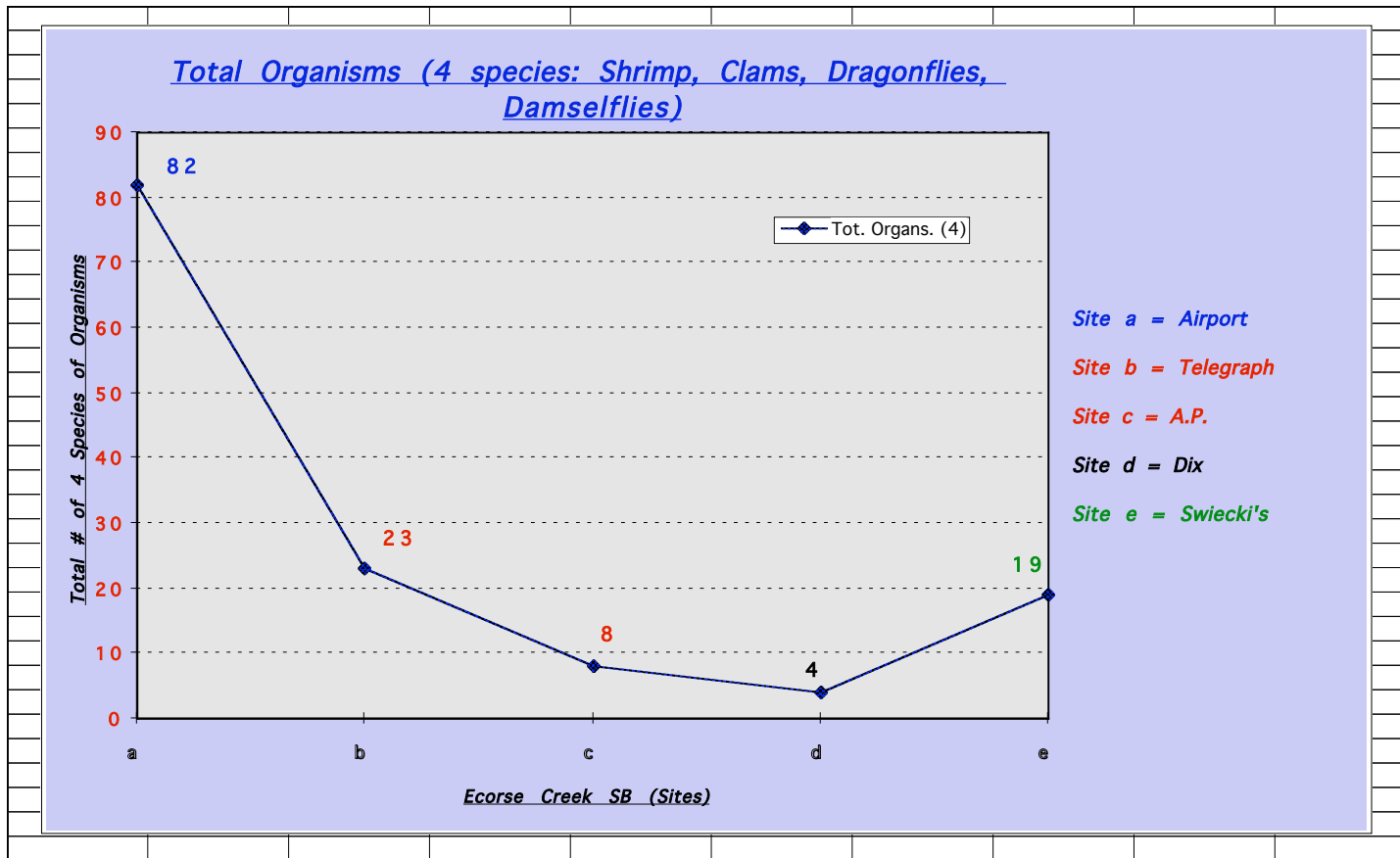
In summary of the invertebrate sampling, Theresa Martin stated, “It was neat to see that the most organisms were found at the site west of the airport, where there is little construction and a lot of greenspace bordering the Ecorse Creek. It just supports the idea that in order to have clean waterways that are healthy for aquatic life and safe for human usage, then we need to respect natural areas and protect them, and not continue to pave over these precious areas. We really do need places like this that aren’t so polluted! I wish more politicians would care about saving them, too, instead of giving in to greedy people who want to make a fast buck!”

The testing tends to support Fall ‘96 aquatic invertebrate sampling, as the most pollution-intolerant species

--caddisfly nymphs--along with crane fly larvae, were only found at the site west of the airport. However, ‘97 sampling did reveal most of the damselfly naiads at the Telegraph & Goddard site and the North Dr. site in Wyandotte. As the Telegraph & Goddard site was the second western-most site where sampling was taken, this observation was not very surprising; however, as noted previously, the finding of larger numbers of damselfly nymphs at North Dr. was a bit of a surprise. But, as also noted previously, copious amounts of organic litter on the Creek bottom may have played a role in this unexpected finding. The graph showing biodiversity of Ecorse Creek (SB) sites is shown below:

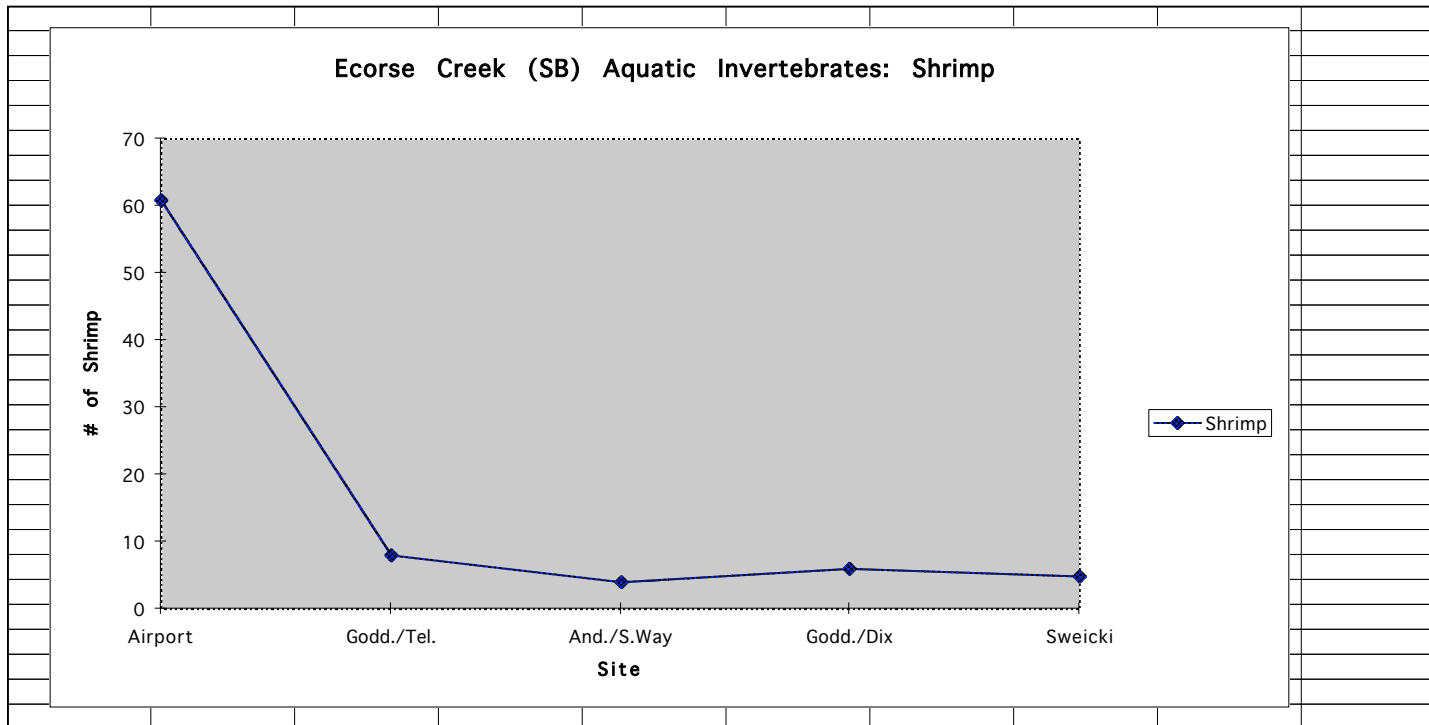


StreamTeam members then analyzed a variety of trends garnered from their data and pollutant sediment data from the joint 1996 StreamTeam/Michigan Department of Environmental Quality Ecorse Creek heavy metals/synthetic organics study, in order to hypothesize potential novel ways to examine aquatic invertebrate populations and their link to pollutant levels in the Creek. One approach was to select 3 or 4 “indicator” species (rather than “all invertebrates”) which, when added together and compared for each site, would quickly and accurately provide a good indication of the pollutant status of the Ecorse Creek sediments relative to each site. Below is one such possible combination and comparison of total numbers of 4 selected species (which closely mirrors the original data trend of total organisms counted for each site):



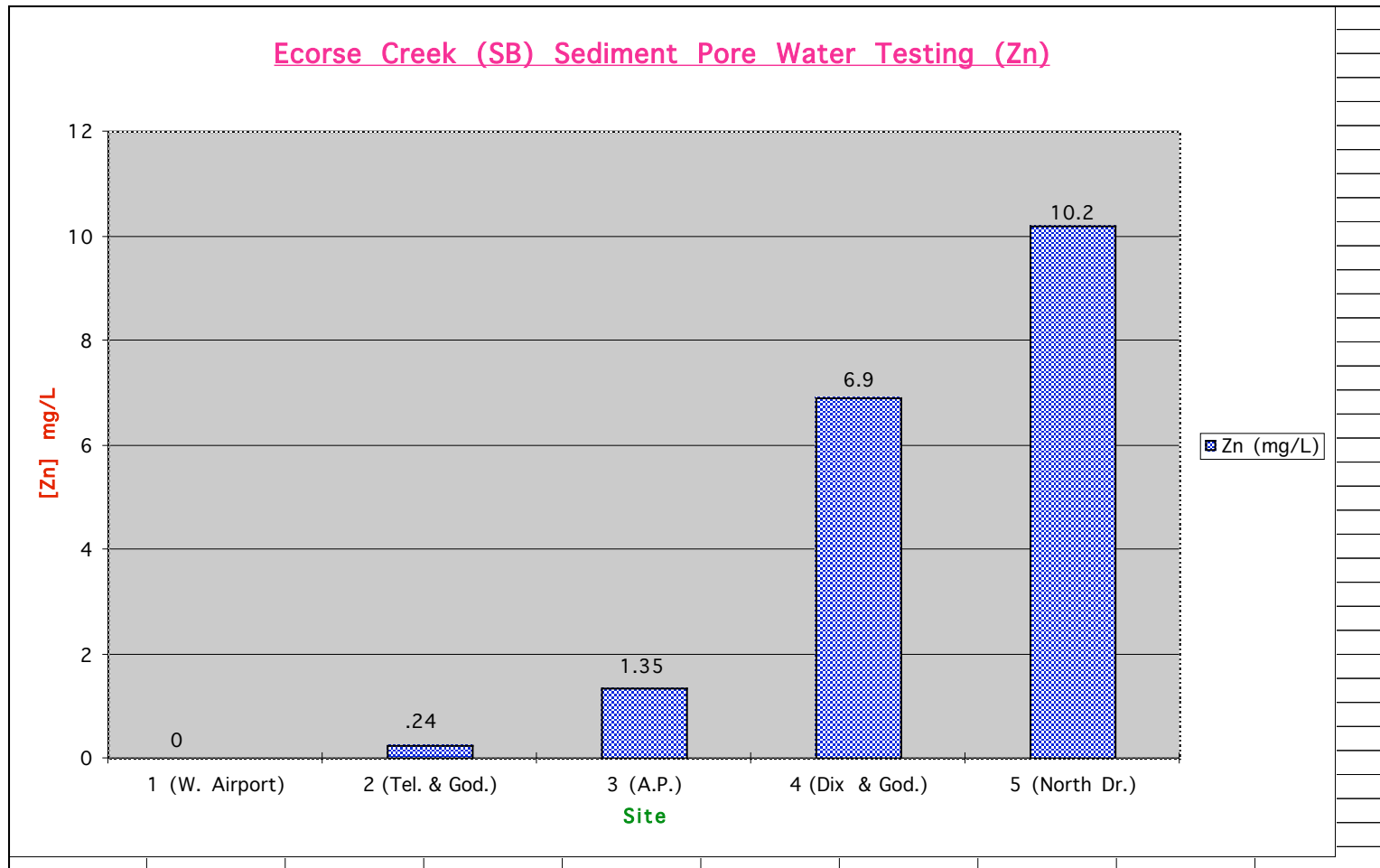
Another trend noted by Alisha Sawicki looks at the number of freshwater shrimp at each site. The data and graph below summarize this finding:

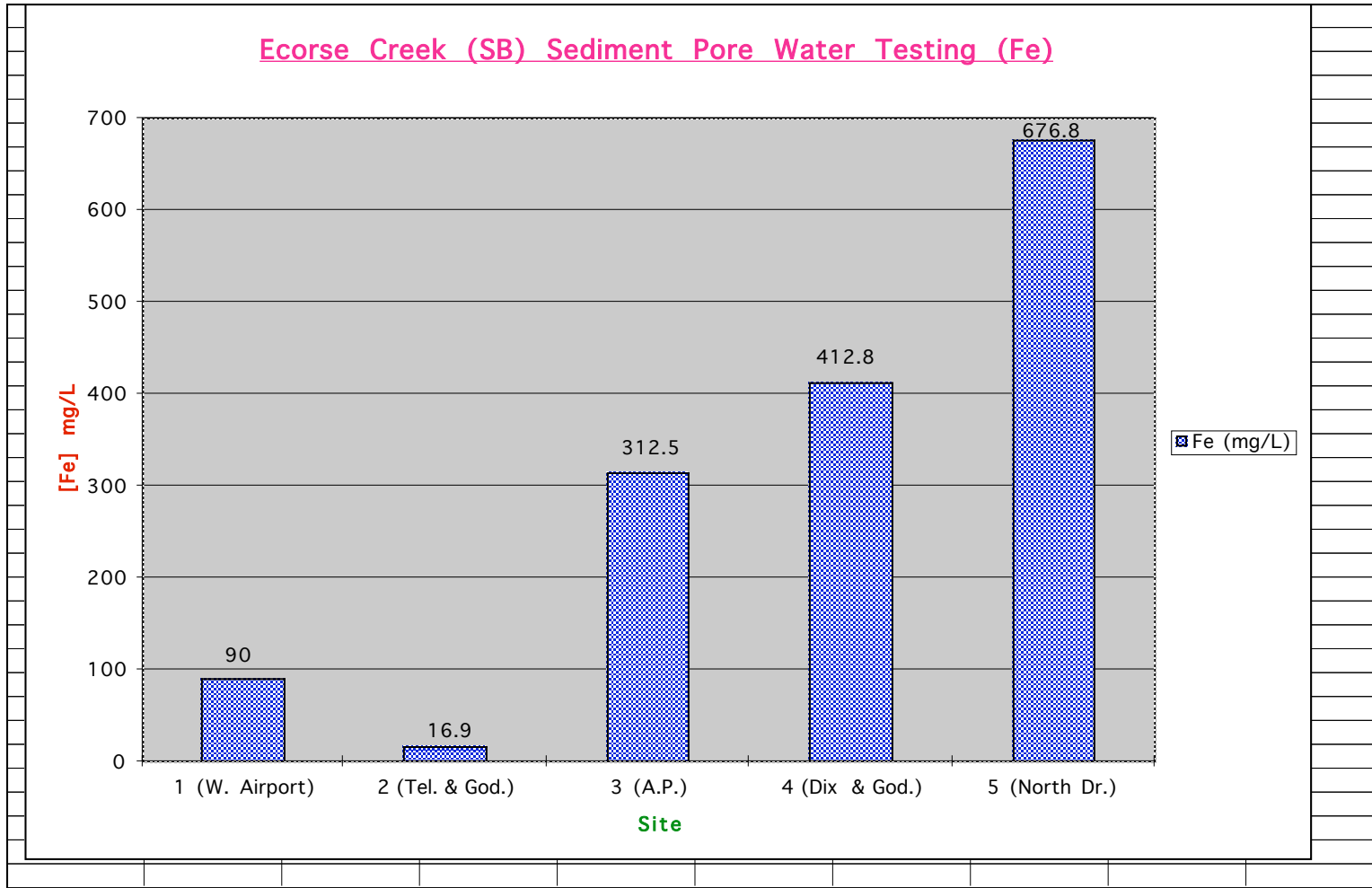
Site	Shrimp
Airport	61
Godd./Tel.	8
And./S.Way	4
Godd./Dix	6
Sweicki	5



The Ecorse Creek Fall '97 heavy metals testing lends support to the earlier '96 StreamTeam/MDEQ sediment study, which revealed increasing concentrations of toxic heavy metals as one sampled from west to east along the Ecorse Creek corridor (i.e. from the headwaters toward the Detroit River). This data tends to "fit" quite well with the above aquatic invertebrate test results, which show decreasing

numbers of invertebrates as one samples from west to east along the Ecorse Creek (SB). In other words, as heavy metal concentrations increase, numbers of aquatic invertebrates decrease. Below, two of the heavy metal trends are seen:





*Donations to the DCSE-sponsored StreamTeam can be sent to the attention of **Bruce Szczechowski** at:

Our Lady of Mt. Carmel H.S.

**2609 Tenth St.
Wyandotte, MI. 48192**