

**Montgomery Township Environmental Commission  
REPORT ON ENVIRONMENTAL SURVEY FINDINGS  
Residents' and Students' Environmental Survey  
June to August, 2005**

**BACKGROUND**

The Montgomery Township Environmental Commission (EC) conducted an environmental survey of township residents and Montgomery High School students from June to August 2005. This was the first such survey conducted by the EC. The survey was distributed via the newsletter to approximately 7,000 households and to several hundred Montgomery High School students through the Science Department. The survey was also available to residents on the township website through August.

The survey was distributed to high school students as part of a Girl Scout Gold Award project undertaken by Darielle Rocca, a Montgomery High School student. The Gold Award is the highest award available in girl scouting. Darielle worked closely with the EC during the past year on the survey project. Darielle helped to design the survey, distributed the survey to high school students, solicited gifts and chose the winners for the environmental tip contest, and helped tabulate the results of the survey. The winners of the environmental tip contest and their prizes were announced in the November 2005 Township Newsletter. Darielle will be presenting the findings of the student survey to the Township Committee in November 2005.

There were 402 responses to the survey from residents, and 289 students responded to the survey at school. This represents a response rate of approximately 6% for residents and 100 % for students.

The purpose of the survey is to assist the EC and other township officials in identifying environmental issues of concern to residents and students and assessing their general knowledge and practice of environmentally friendly behaviors. The results will be used to help the EC prioritize its projects for next year and provide education about environmental issues that are of utmost concern or least known to residents and students. The survey contained five parts relating to different environmental issues. A report on the results of the survey follows.

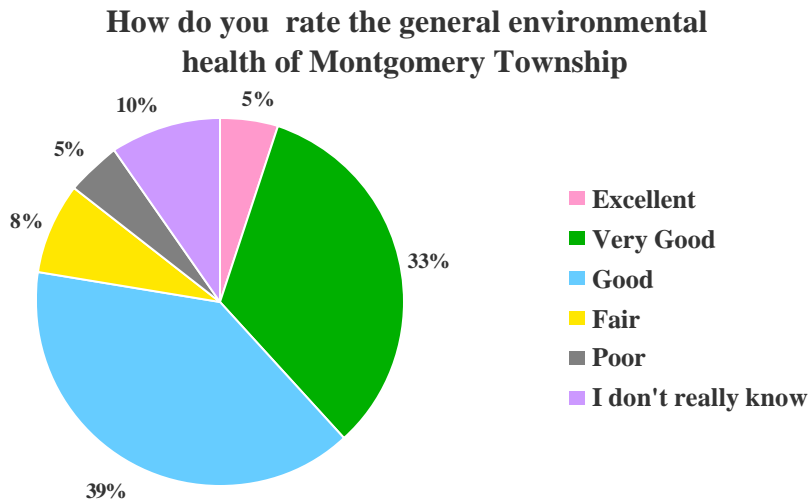
## **PART I: GENERAL ENVIRONMENTAL ISSUES**

The first section of the environmental survey asked about general environmental issues facing the township today. The great majority of residents and students rated Montgomery's general environmental health to be *good* or *very good*. Roughly the same percentage of residents as students ranked the township's environmental health as excellent (5 and 6%, respectively), very good (33 and 38%), and good (39 and 39%).

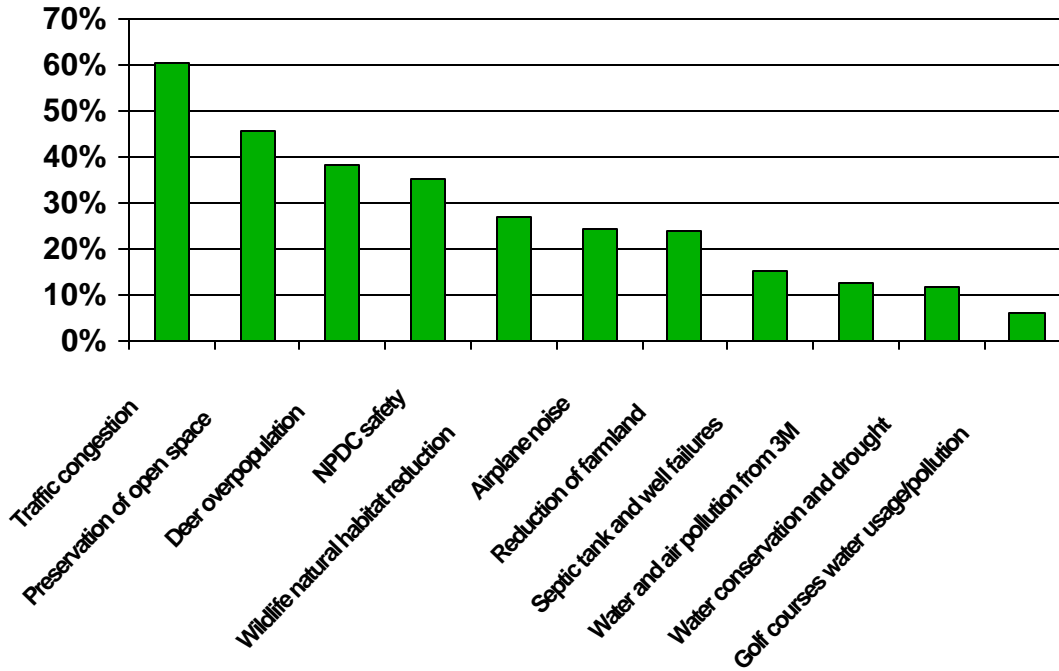
Strikingly, both the residents and students also ranked the same three issues as being of most concern to them. Those three top issues are *traffic congestion, preservation of open space and deer overpopulation*. Specifically, in response to question 3 where respondents were asked to check off three of the environmental issues they felt were of the most concern, residents ranked traffic congestion, preservation of open space and deer overpopulation in that order. Students chose the same three issues, but put them in the following order: deer overpopulation, traffic congestion and preservation of open space.

The other issues that were offered as choices in question 3 of the survey received the following rankings by residents: *NPDC safety, reduction of natural habitat for wildlife, airplane noise, reduction of farmland, septic tank and well failures, water and air pollution from 3M, water conservation and drought and finally, water usage and pollution from golf courses*. Students ranked these same issues as follows: reduction of natural habitat for wildlife, reduction of farmland, septic tank and well failures, airplane noise, NPDC safety, water and air pollution from 3M, water conservation and drought and water usage and pollution from golf courses. Many respondents chose to write in additional areas of concern, which are identified on the chart below.

### **Residents' responses:**

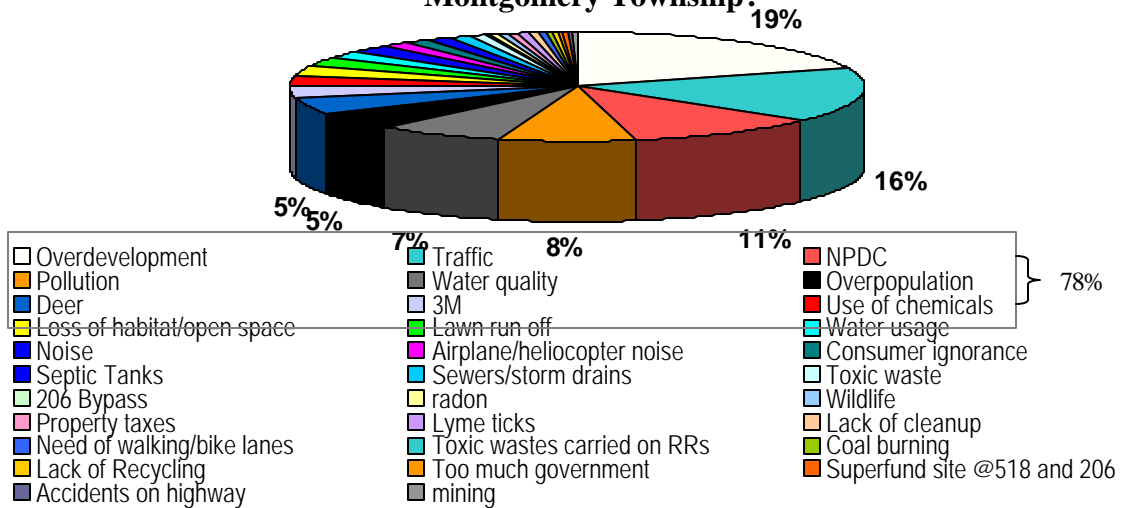


### Environmental issues of most concern to Montgomery Township residents

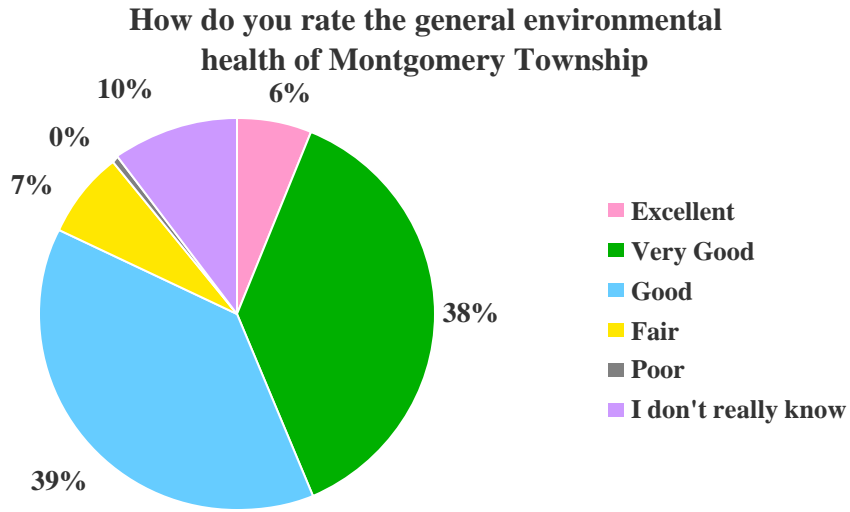


Percents add more than 100 due to multiple responses (Respondents selected top 3 issues).

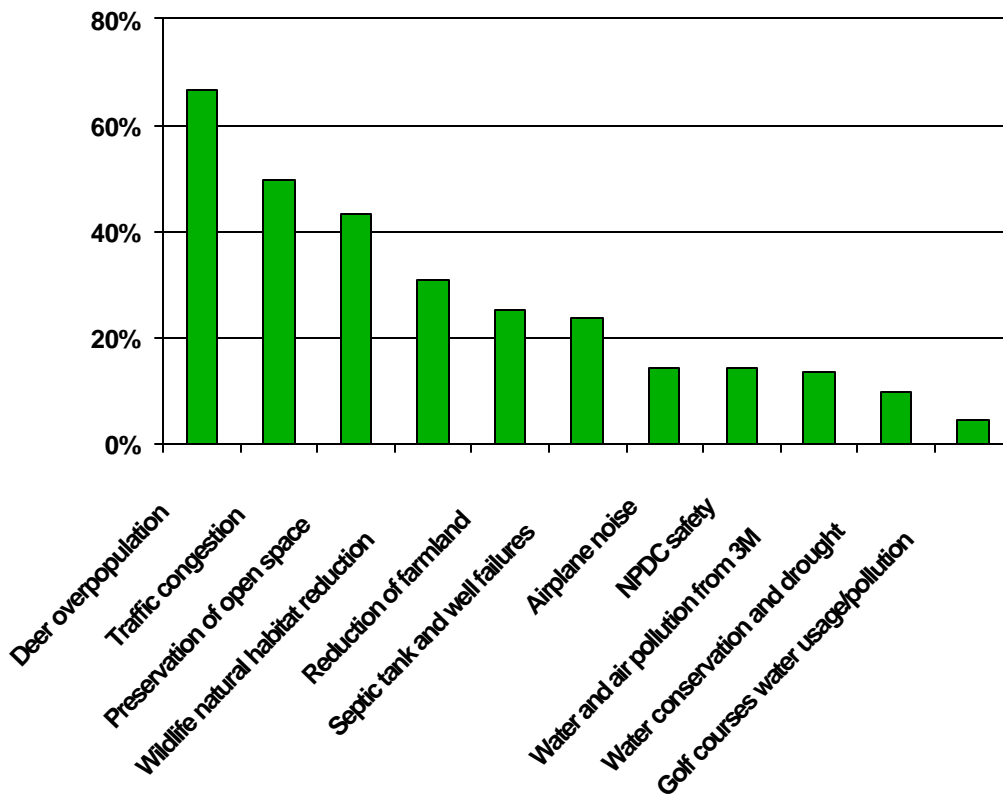
### What do you think is the greatest environmental hazard facing Montgomery Township?



**Students' Responses:**



**Environmental issues of most concern to Montgomery Township students**



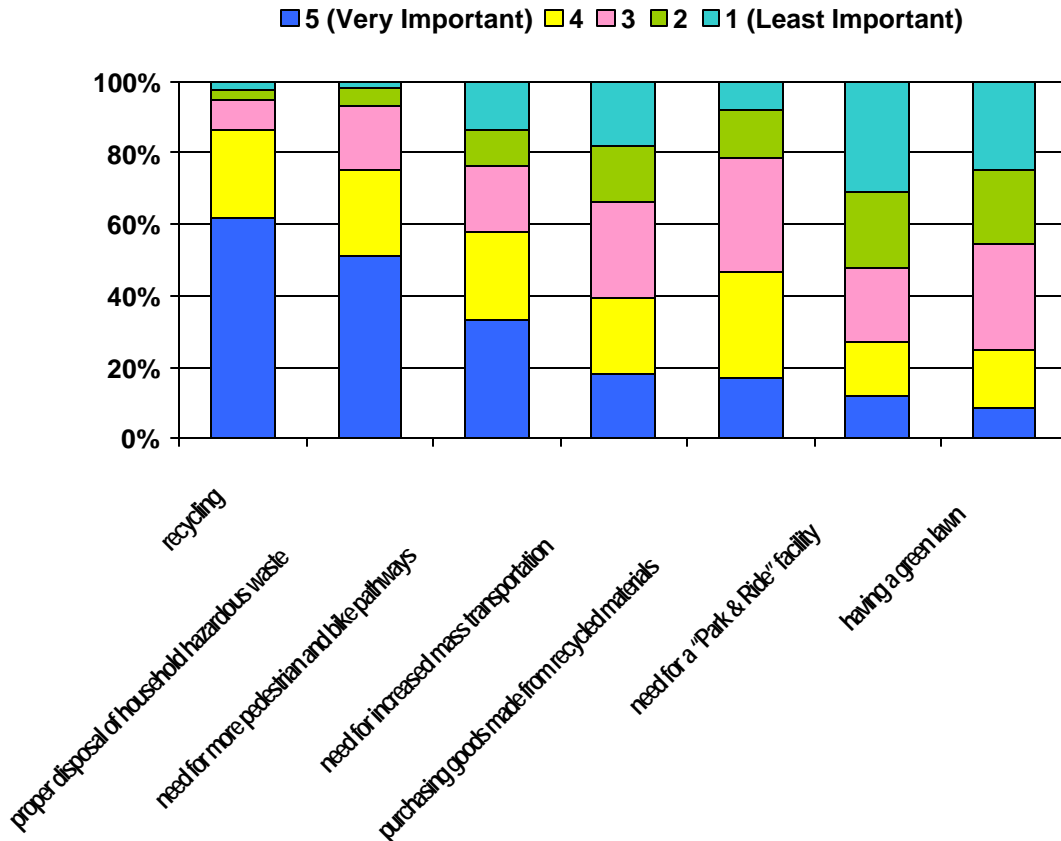
*Percents add more than 100 due to multiple responses (Respondents selected top 3)*

In question 4, respondents were asked to score the environmental issues listed from 1 to 5, 1 being least important and 5 being most important. Of all of the issues listed, “recycling” was deemed the most important to almost 60% of the resident respondents. The other issues were ranked in descending order of importance as follows: *proper disposal of household hazardous waste; the need for more pedestrian and bike pathways; purchasing goods made from recycled materials; the need for increased mass transportation; the need for a “Park & Ride” facility; and, finally, having a green lawn.*

Students also ranked “recycling” as being the most important issue for them, but to only 46% of student respondents as compared to almost 60% of residents. Students ranked proper disposal of household hazardous waste and purchasing products made from recycled materials as the next most important issues. The need for mass transportation and a “Park and Ride” facility were ranked as least important to students. Finally, students ranked the need for more pedestrian and bike friendly pathways and having a green lawn as being moderately important to them.

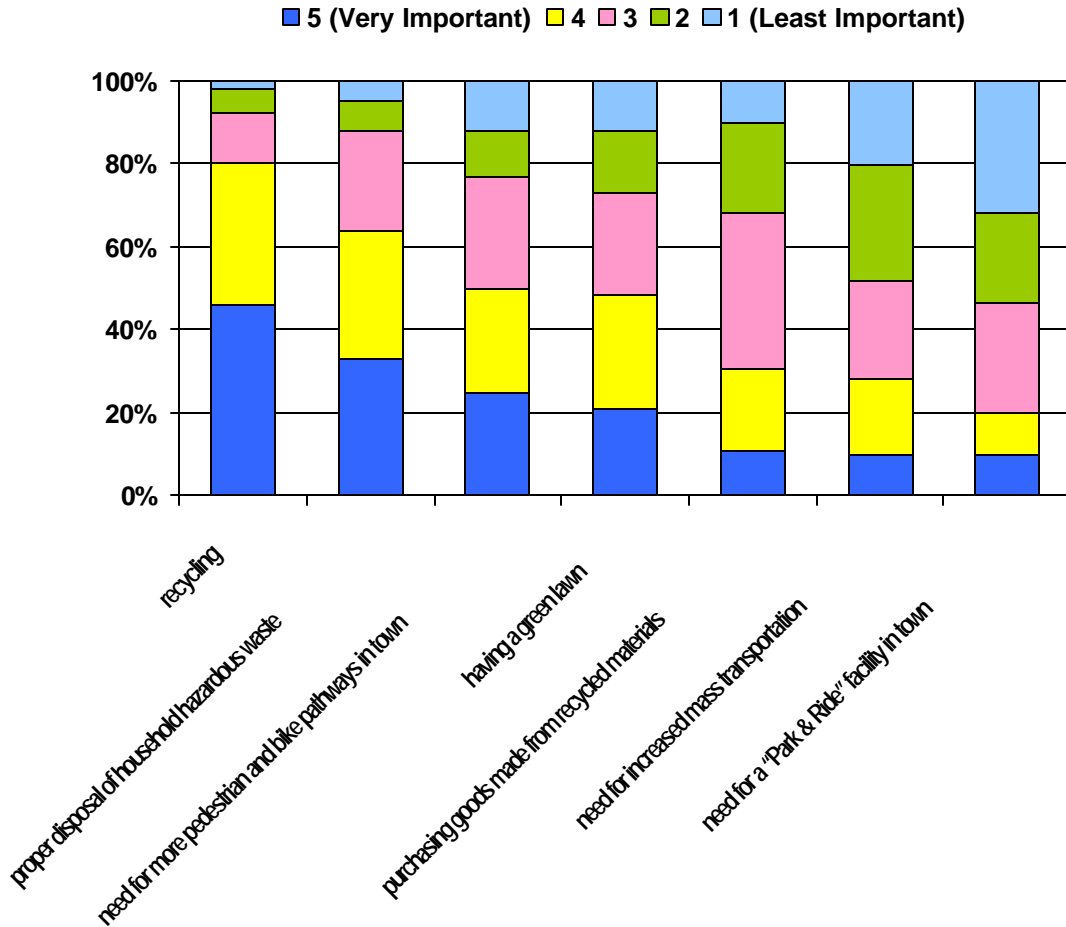
**Residents’ Responses:**

**How important are these Environmental Issues to Montgomery township residents?**



**Students' Responses:**

**How important are these Environmental Issues to Montgomery township students?**



Question 5 of the survey asked respondents to indicate whether or not they were aware of certain green products or behaviors and, if aware of them, whether they have used the product or practiced the behavior in the past year. Over 50% of the residents said they were aware of all of the green products or behaviors identified in the survey. This high awareness indicates that Montgomery Township residents are well informed about what green products are available and what behaviors promote environmental protection. Students were slightly less aware of the green products or behaviors identified in the survey.

However, despite the high awareness of these green products and behaviors, the actual usage of them by both residents and students was decidedly lower. While the awareness and usage levels were very close with respect to certain items (using *Energy Star appliances and lighting products, low-flow shower heads and toilets, recyclable batteries, recyclable metal hangers and recyclable plastic shopping bags*), the disparity between awareness and usage was extremely great for other issues.

The issue with the greatest difference between awareness and usage rates was *solar power*. *Composting* came in second with a high awareness (over 75%) but low actual usage (just over 25%). For these products and practices, in particular, a very high percentage of respondents were aware of them, but only a small percentage of respondents actually used them.

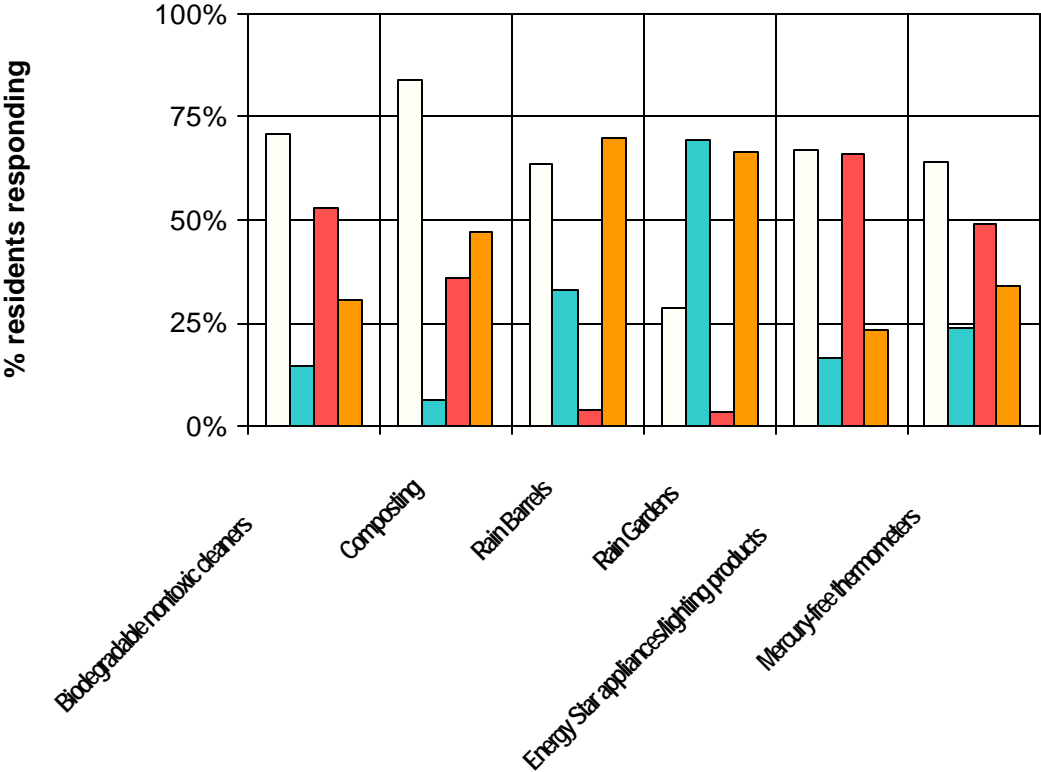
Respondents indicated the least awareness *and* least use of *rain barrels* and *rain gardens*. Clearly this is an area where the EC can provide public education to improve both awareness and usage of these valuable environmental protection tools.

Respondents had high awareness but lower non-usage than usage of *composting, non-bleached paper products, recyclable cell phones, recyclable computers, recyclable foam packaging pellets, recyclable TVs or other electronics and remanufactured toner cartridges*. The remaining issues showed some disparity between awareness and usage, but the difference was not as great. These included: *biodegradable nontoxic cleaners; compact fluorescent light bulbs; mercury-free thermometers; rechargeable batteries; and recyclable printer cartridges*.

**Residents' Responses:**

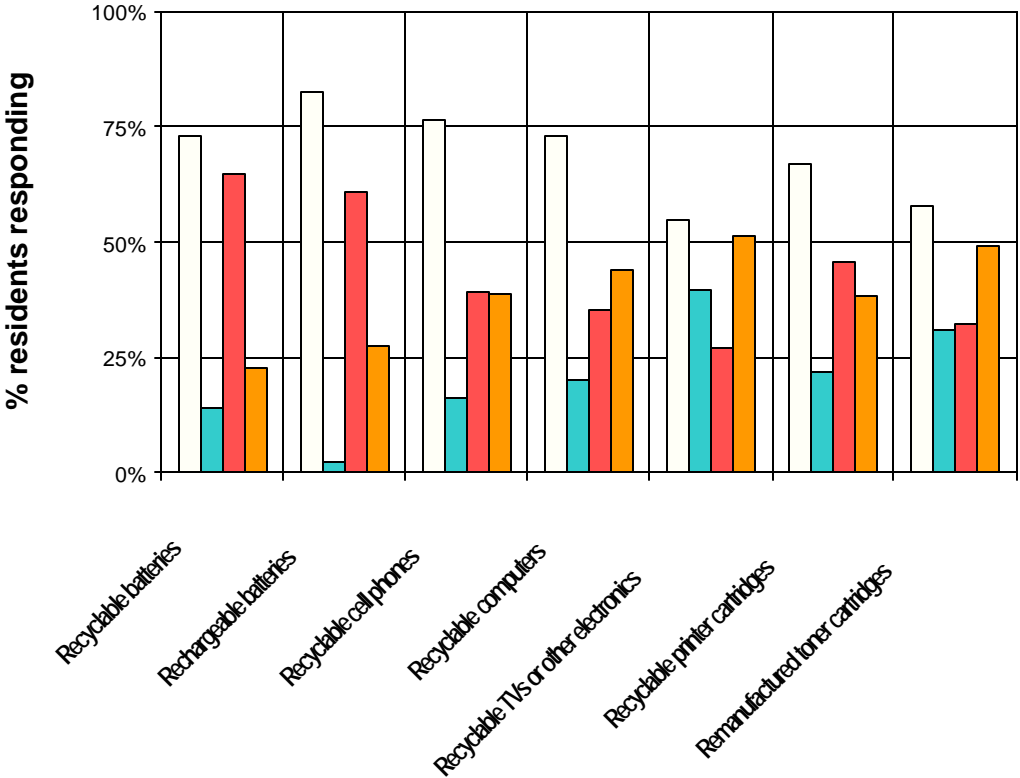
**Green Products/Behaviors: Residents**

- Yes, I am aware of this
- No, I am not aware of this
- Yes, I currently use/do/have done so in the past year
- No, I currently do not use/have not done so in the past year



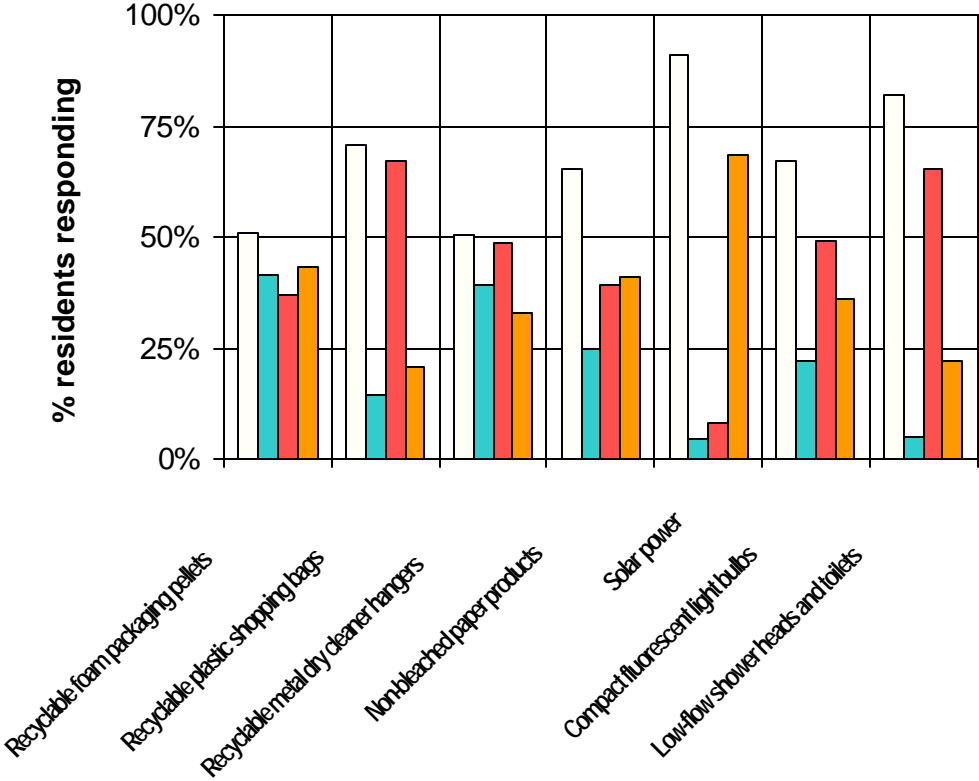
**Green Products & Behaviors: Residents**

- Yes, I am aware of this
- No, I am not aware of this
- Yes, I currently use/do/have done so in the past year
- No, I currently do not use/have not done so in the past year



**Green Products & Behaviors: Residents**

- Yes, I am aware of this
- No, I am not aware of this
- Yes, I currently use/do/have done so in the past year
- No, I currently do not use/have not done so in the past year

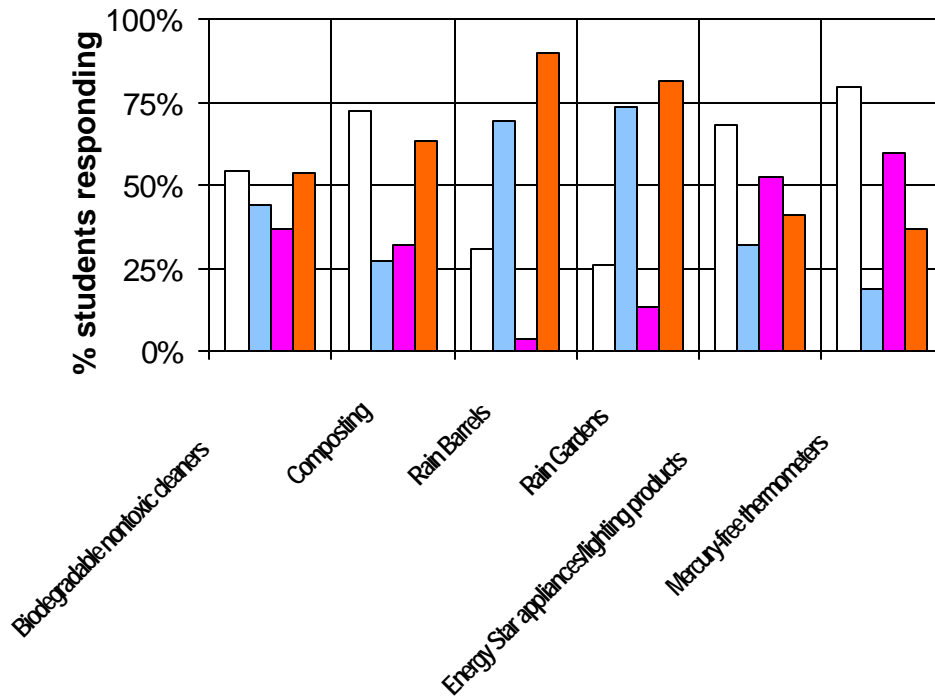


Students exhibited the greatest awareness of rechargeable batteries, solar power, recyclable plastic shopping bags, and recyclable batteries in that order. They too had the least awareness and least use of rain barrels and rain gardens. Solar power was also the practice with the greatest disparity between awareness and usage.

**Students' Responses:**

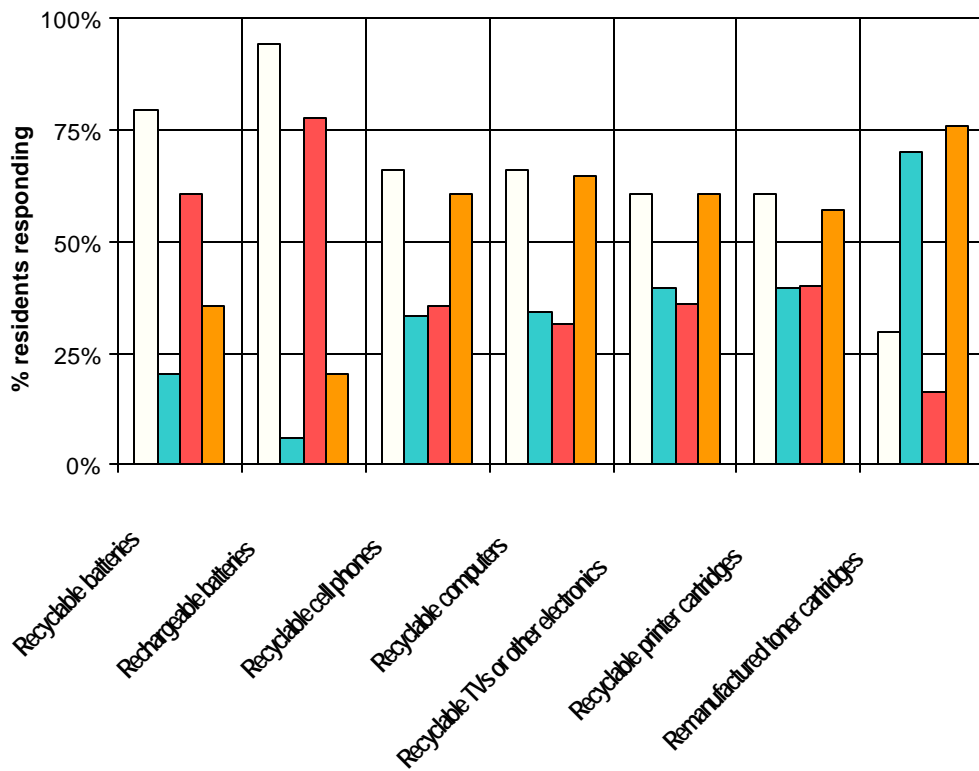
**Green Products/Behaviors: Students**

- Yes, I am aware of this
- No, I am not aware of this
- Yes, I currently use/do/have done so in the past year
- No, I currently do not use/have not done so in the past year



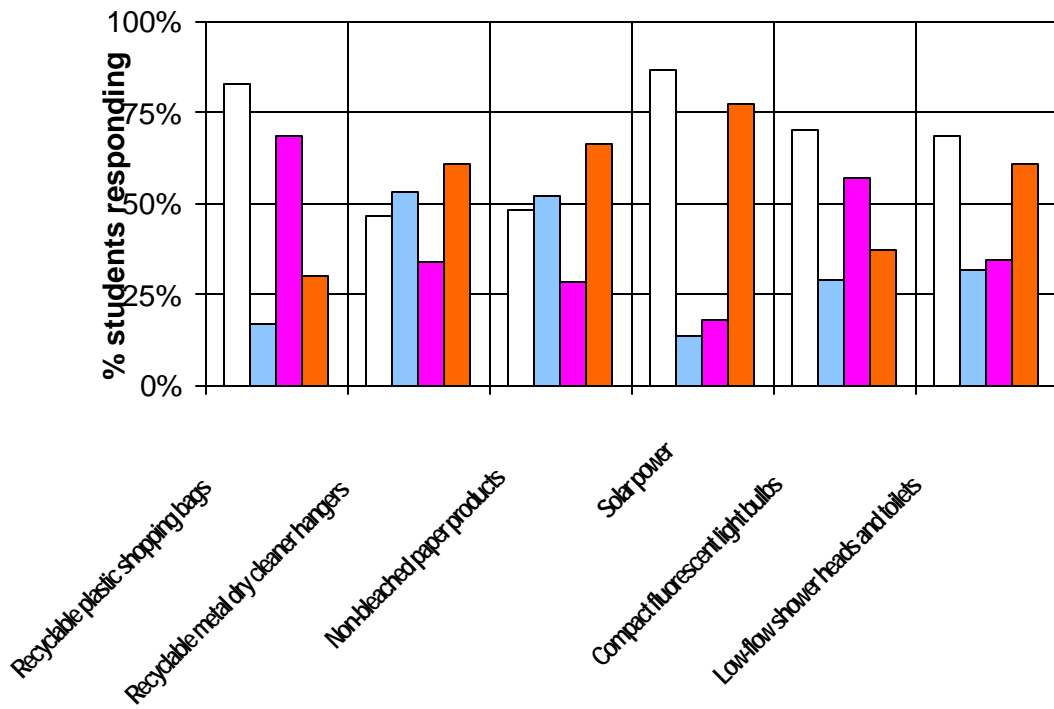
### Green Products & Behaviors: Students

- Yes, I am aware of this
- No, I am not aware of this
- Yes, I currently use/do/have done so in the past year
- No, I currently do not use/have not done so in the past year



### Green Products & Behaviors: Students

- Yes, I am aware of this
- No, I am not aware of this
- Yes, I currently use/do/have done so in the past year
- No, I currently do not use/have not done so in the past year

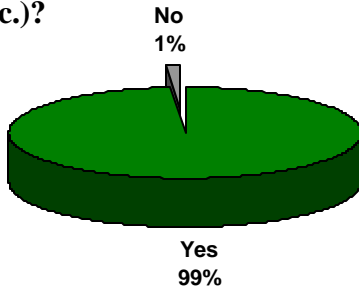


## **PART II: BUYING HABITS AND GREEN PURCHASING**

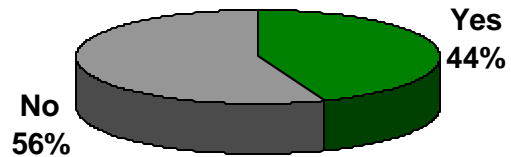
Part II of the survey asked respondents to state whether or not they practiced certain green buying habits. In response to question 1, the overwhelming majority of respondents indicated that *they regularly recycled household solid waste (glass, paper, aluminum, plastic, etc.)*. A hefty 44 % of respondents indicated that they *specifically purchased products because they were made from recycled materials*. In comparison, almost 90% of students said they regularly recycled household solid waste, but only 13% said they purchased products specifically because they were made of recycled material. These are practices that the EC would like to promote and will focus efforts on in the future to increase.

### **Residents' Responses:**

**Do you regularly recycle household solid waste (glass, paper, aluminum, plastic, etc.)?**

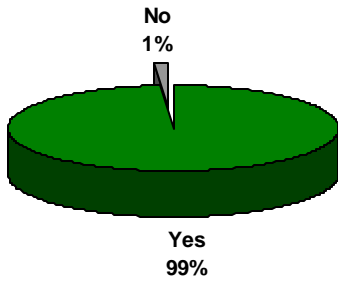


**Do you specifically purchase products because they are made from recycled materials?**

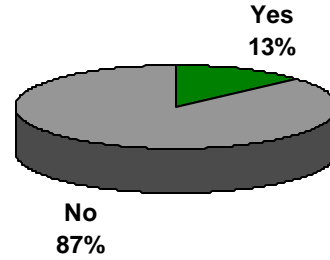


**Students' Responses:**

**Do you regularly recycle household solid waste (glass, paper, aluminum, plastic, etc.)?**



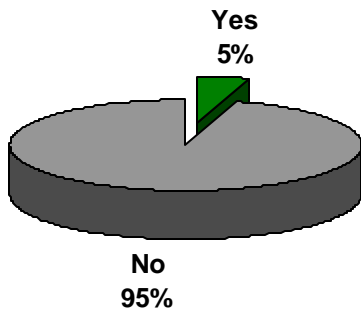
**Do you specifically purchase products because they are made from recycled materials?**



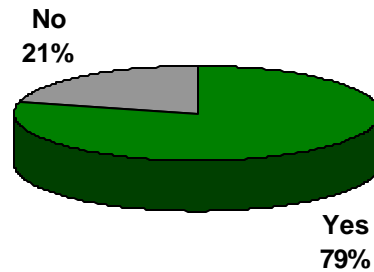
In question 3, we learned that while only 4% of respondents owned *hybrid (electric/gas powered) cars*, a very high 79% said they would consider buying a hybrid car in the future. For students, 6% owned hybrid cars, and 71% said they would consider buying one. Almost 80 % of the respondents to the survey indicated that *they would support a policy for the township to purchase environmentally friendly products even if they may cost up to 10% more than other products*. This result is encouraging to the EC to continue to promote this sort of purchasing by the township as it appears to be well supported by the public. Interestingly, students only favored such a policy by one percentage point over those who did not support such a policy.

**Residents' Responses:**

**Do you own a hybrid (electric/gas-powered) car?**

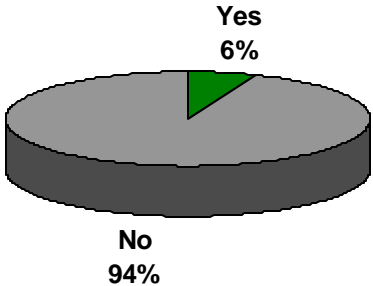


**Would you consider buying hybrid (electric/gas-powered) car?**

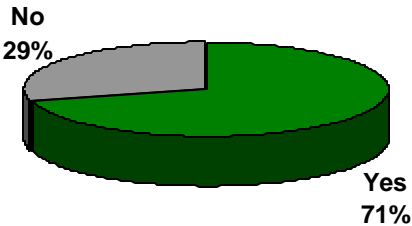


**Students' Responses:**

**Do you own a hybrid  
(electric/gas-powered) car?**

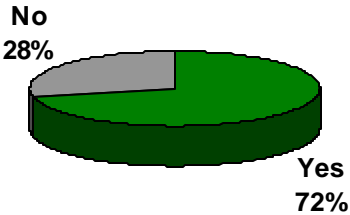


**Would you consider buying  
hybrid (electric/gas-powered)  
car?**



**Would you support a policy for the township to purchase environmentally friendly products if they may cost up to 10 % more?**

**Residents' Response:**



**Students' Response**



### **PART III: LAWN CARE AND LANDSCAPING**

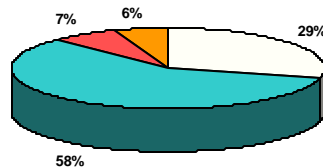
Almost 60% of the survey respondents own lots of 1 to 2 acres. Almost 30% own lots of less than an acre. The remaining respondents owned lots of 3 to 4 acres (7%) and 5 acres or more (6%).

Of residents, 24%, or roughly 1 in 4 households, have a *sprinkler or irrigation system* on the property. Of the households that do have such systems, about 98% of them have a *timer* on their system and 95% of those with timers actually use them. However, only 51% of irrigation system owners have *rain monitors* on their systems. Of those without rain monitors, 52% said they might consider installing one.

Students reported an even higher number of sprinkler systems, with approximately 46% saying they have a sprinkler or irrigation system on their property. While fewer than 40% of those households have timers on their systems, 95% of them actually use the timers. Only 14% of households with sprinkler systems have rain monitors, and only 19% of those without rain monitors would consider installing one. The discrepancy between residents' and students' responses regarding the use of timers and rain monitors raises the need for further inquiry as well as education as to their benefits. The EC will promote the use of such devices as effective water conservation measures that are easy and affordable for homeowners.

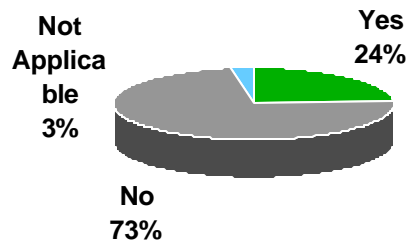
#### **Residents' responses:**

**What is the size of your lot?**



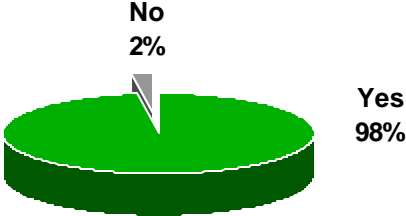
□ less than 1 acre    □ 1-2 acres  
■ 3-4 acres        ■ 5 acres or more

**Do you have a sprinkler or irrigation system on your property?**

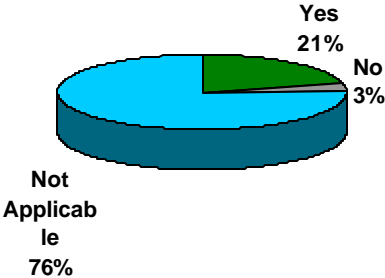


**Residents' responses:**

**Do you have a timer installed on your sprinkler or irrigation system?**



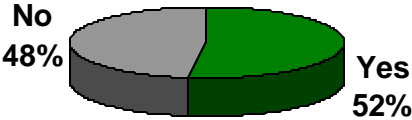
**If you have a timer on your sprinkler system, do you use it?**



**Do you use a rain monitor?**

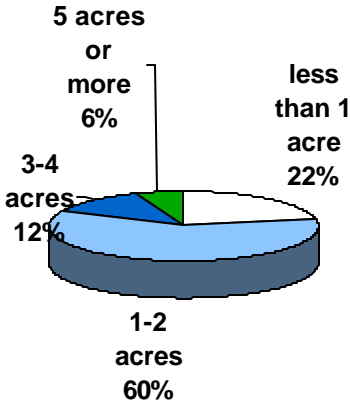


**If not, might you install one?**

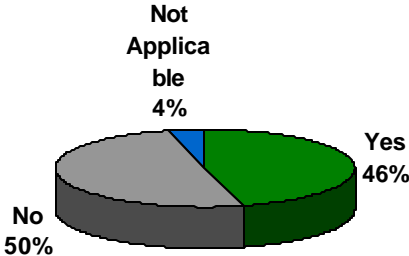


**Students' responses:**

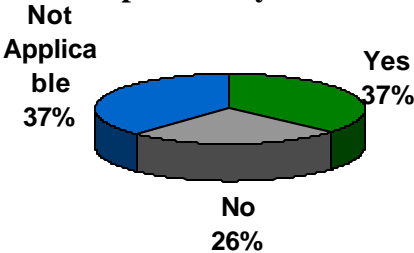
**What is the size of your lot?**



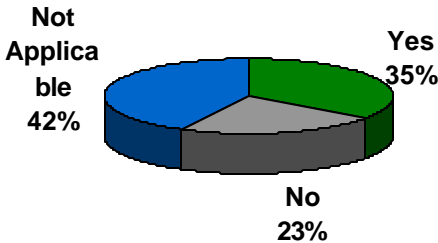
**Do you have a sprinkler or irrigation system on your property?**



**Do you have a timer on your sprinkler system?**

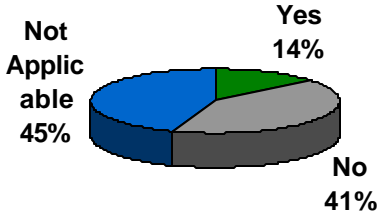


**If you have a timer on your sprinkler system, do you use it?**

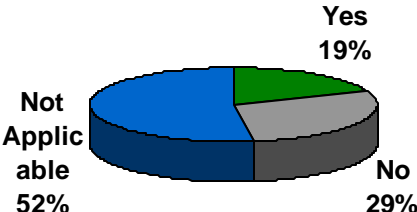


**Students' responses:**

**Do you have a rain monitor on your sprinkler system?**



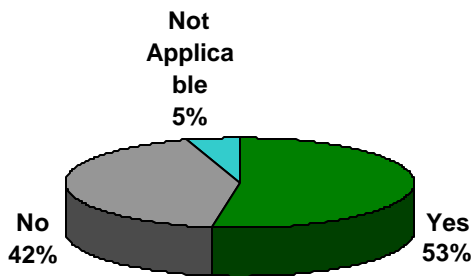
**If not, might you install one?**



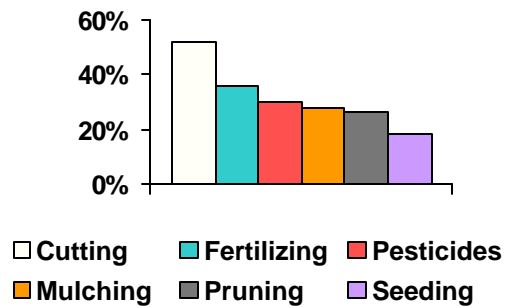
Just over 50% of the residents and 60% of students use a *lawn service* for cutting or maintaining their lawns. Approximately 43% of the residents and 36% of students do not use such a service. Of those that do use a lawn care service, almost all of the respondents use them for *cutting services*, about two-thirds of them use the service for *fertilizing*, and just over half use the service for *application of pesticides*. Less than half of residents use the services for *mulching, pruning or seeding* their lawns, and less than half of students use the services for pruning or seeding their lawns. About 67% of students receive mulching services from their lawn care providers.

**Residents' responses:**

**Do you use a lawn service for cutting or maintaining your lawn?**

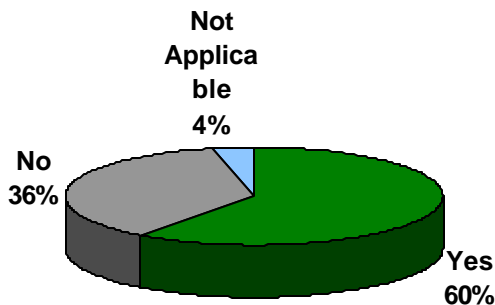


**Services Used**

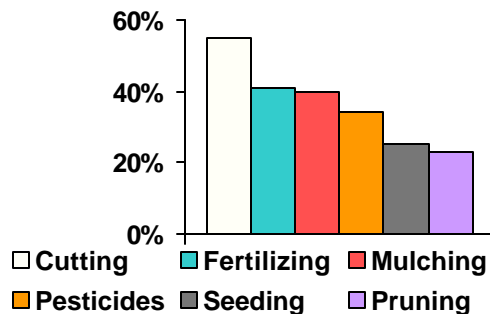


**Students' responses:**

**Do you use a lawn service for cutting or maintaining your lawn?**



**Services Used**



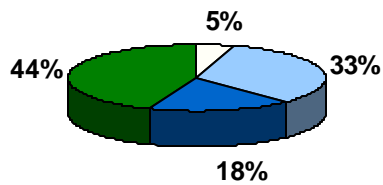
When asked how often *pesticides* are used, 44% of the respondents said never or hardly ever. Thirty-three percent used them about once a season and 18% used them about once a year. Only 5% said they used pesticides about once every month.

*Fertilizer* use was greater among respondents. Only 23% said they never or hardly ever used fertilizer, while 44% used fertilizers about once per season. Twenty-three percent never or hardly ever used fertilizers, contrasted with 11% who used them once a month.

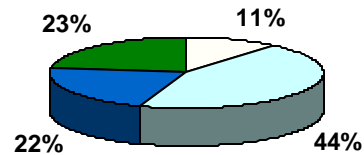
The results from the students' responses showed almost the same. This indicates that Montgomery High School students are well aware of their families' use of pesticides and fertilizers.

**Residents' Responses:**

**When you use Pesticide(s),  
HOW OFTEN?**



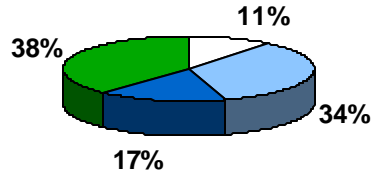
**When you use Fertilizer(s),  
HOW OFTEN?**



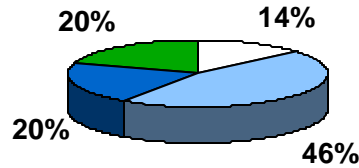
- about once every month
- about once per season
- about once per year
- never/hardly ever/NA

**Students' Responses:**

**When you use Pesticide(s),  
HOW OFTEN?**



**When you use Fertilizer(s),  
HOW OFTEN?**



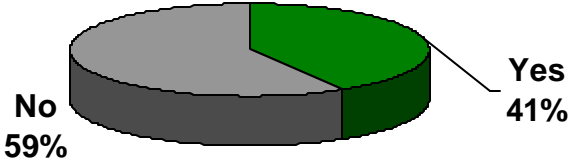
- about once every month
- about once per season
- about once per year
- never/hardly ever/NA

Question 9 of this section asked “are you aware of what species of plants and shrubs are considered “*invasive*” (*non-native species that invade an ecological system*) to our local area?” Almost 60% of respondents answered “no” to this question and about 40% answered “yes.” Fewer students were aware of what species are considered invasive. Seventy percent said they were unaware of what was considered invasive and the other 30% were aware.

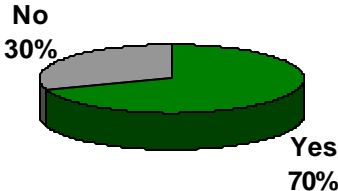
Of respondents who answered yes to question 9, almost 70% have selected native plants instead of invasives when planting new shrubs or trees. Just over 50% of these respondents have also removed invasive trees, shrubs or weeds from their property. For students who answered yes to question 9 regarding awareness of invasive species, only 31% said they used native plants instead of invasives when doing new plantings, although approximately half of these student respondents have removed invasive trees, shrubs or weeds from their property. This suggests that the students may not be involved in purchasing or selecting shrubs and trees for their households, but are more involved in the maintenance of the landscaping on their property.

**Residents' Responses:**

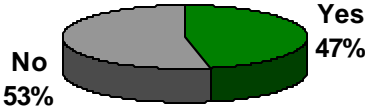
**Are you aware of what species of plants and shrubs are considered “invasive” (non-native species that invade an ecological system) to our local area?**



**If yes, when you plant new shrubs or trees do you select those that are native to our area instead of invasive?**

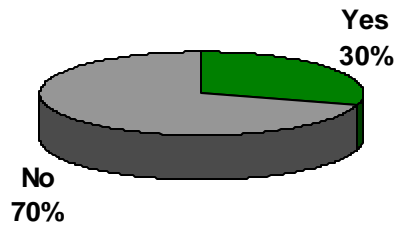


**Have you ever removed invasive trees, shrubs or weeds from your property?**

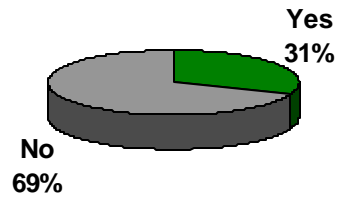


**Students' Responses:**

**Are you aware of what species of plants and shrubs are considered "invasive" (non-native species that invade an ecological system) to our local area?**



**If yes, when you plant new shrubs or trees do you select those that are native to our area instead of invasive?**



**Have you ever removed invasive trees, shrubs or weeds from your property?**

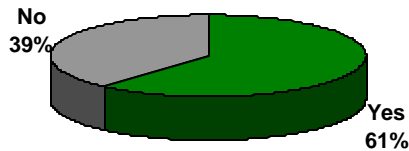


**PART IV: SEPTIC TANKS AND WELLS**

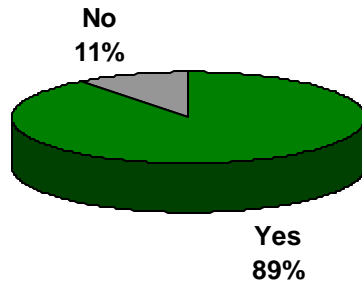
This section asked survey takers to answer several questions about their use and maintenance of septic tanks and wells. Sixty-one percent of residents and 68% of students responded that they have *septic tanks*. Of those residents and students, approximately 89% said they had their tank pumped out or cleaned at least once every three years. This practice is strongly recommended, and even required under certain circumstances under township ordinances, for maintaining a clean operating septic system. Septic tank failures can severely impair the quality of our local waterways.

**Residents' Responses:**

**Do you have a septic tank?**

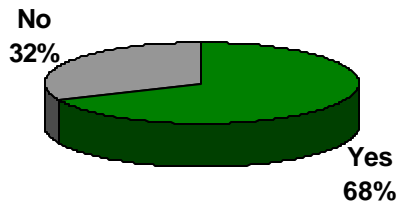


**Do you have your tank pumped out or cleaned at least once every three years?**

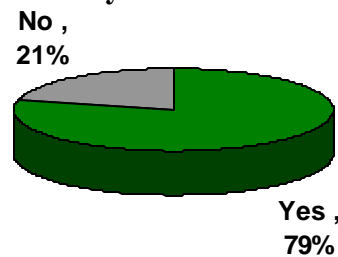


**Students' Responses:**

**Do you have a septic tank?**

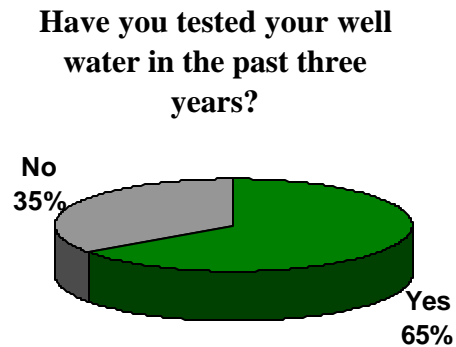
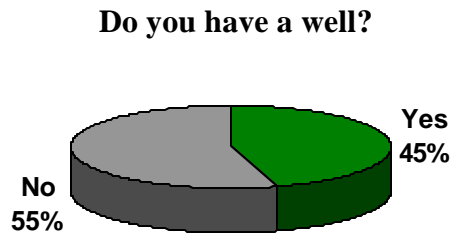


**Do you have your tank pumped out or cleaned at least once every three years?**

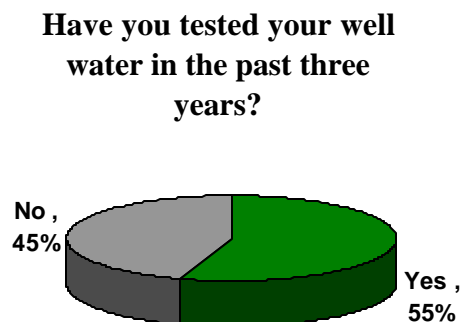


Just over 45% of residents and 36% of students said they had *wells*. Of those that have wells, about 65% of residents and students indicated that they have had their well water tested in the past three years. Although well water testing is not required, the Township Health Department does recommend periodic testing under certain circumstances to insure water quality and public safety.

**Residents' Responses:**



**Students' Responses:**



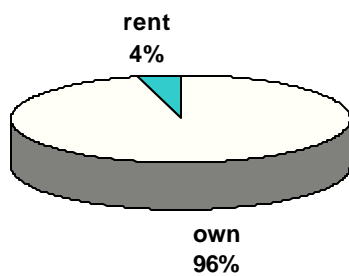
The Township Department of Health oversees septic tanks and wells as a matter of public health. The EC would like to work with the Health Department to increase the practice of regular septic tank pumping and cleaning. The EC will also work with the Health Department to disseminate helpful information about the quality of well water in our township and the region.

**PART V: BACKGROUND INFORMATION**

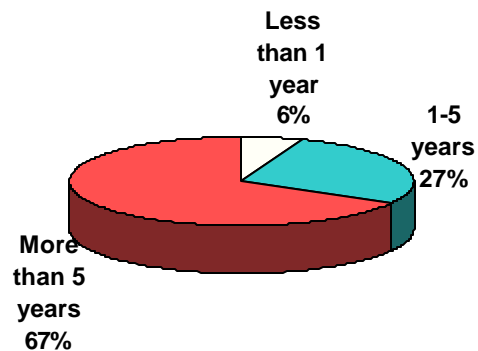
This section of the survey asked respondents to provide background information about themselves. Approximately 96% of the responding residents own their homes and the remaining 4% rent. For students, 93% reside in homes that are owned and 7% are in rentals. Almost 67% of the respondents have resided at their current address for more than 5 years and only 6% have lived in town for less than one year. Almost 28% have resided here for 1 to 5 years. The results were slightly different for students. Approximately 61% of students have resided at their current addresses for more than 5 years, and 6% have lived here for less than a year. About 33% have lived here for 1 to 5 years.

**Residents' Responses:**

**Do you own or rent?**

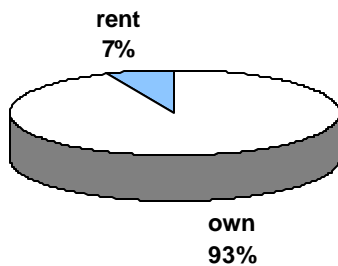


**How long have you lived at your current address?**

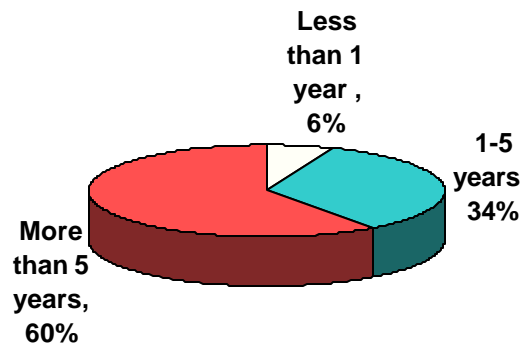


**Students' Responses:**

**Do you own or rent?**



**How long have you lived at your current address?**

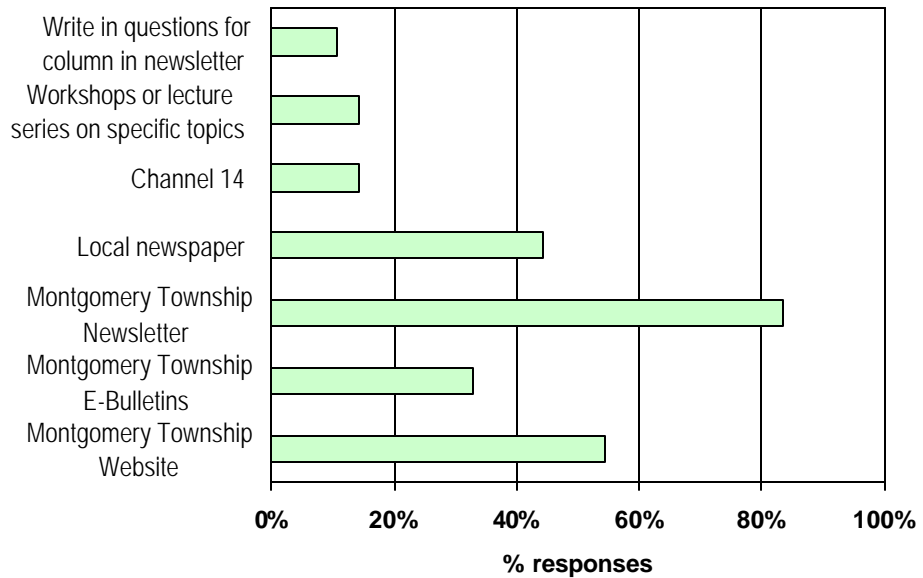


Question 4 of the background section asked respondents “if you wanted to learn more about environmental topics in Montgomery Township, how would you prefer to receive that information?” Respondents could check as many answers as were applicable. More than 80% of respondents chose the *Montgomery Township Newsletter* as their most preferred method of receiving news. Nearly 60% also selected the *Township website* and about 50% also chose *local newspapers*. *Township E-Bulletins* were preferred next, followed by *Channel 14, workshops or lecture series on specific topics and write in questions for column in newsletter*.

The high school students responded differently to this question. The Township website and local newspapers were tied as the most preferred method of receiving news. The students next chose the Montgomery Township Newsletter and then Channel 14. Their remaining choices in order were Township E-Bulletins, write in questions for a column in the newsletter, and finally workshops or lecture series on specific topics. In general, the Township Newsletter and website were ranked very highly as preferred methods for communicating with residents and students alike on environmental issues facing the Township.

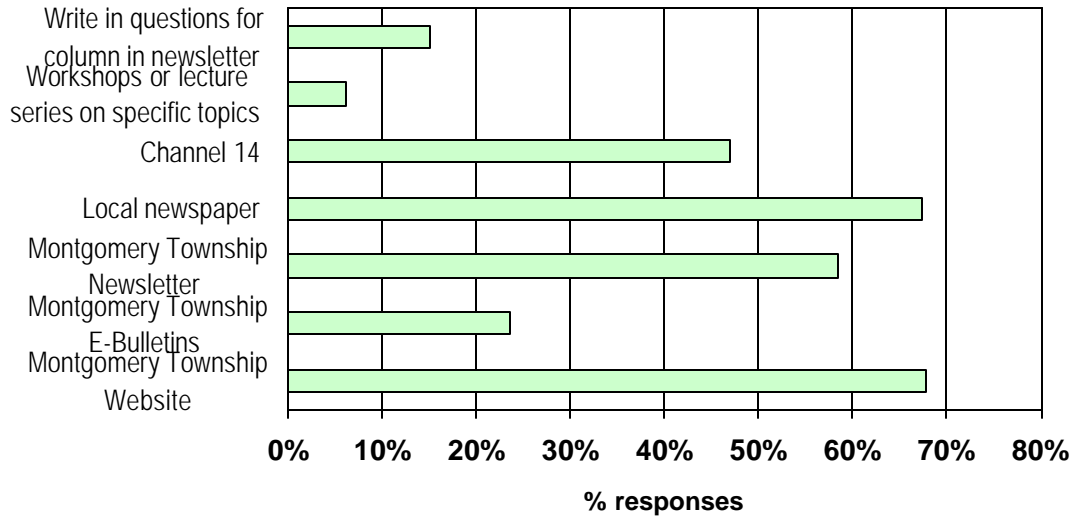
**Residents’ Responses**

**If you wanted to learn more about environmental topics in Montgomery Township, how would you prefer to receive that information? (Check as many answers as are applicable)**



**Students' Responses**

**If you wanted to learn more about environmental topics in Montgomery Township, how would you prefer to receive that information? (Check as many answers as are applicable)**



## **CONCLUSIONS AND NEXT STEPS TO BE TAKEN**

The great majority of residents and students rated Montgomery's general environmental health to be *good* or *very good*. Clearly, the top three environmental issues of concern for Montgomery are *traffic congestion, preservation of open space and deer overpopulation*. Both the residents and students ranked these same three issues as being of most concern to them.

This report and the survey data collected by the EC will be used by the EC to set its priorities and agenda for the coming year. The EC will create a Plan of Action for 2006, which will identify steps to be taken based on the results of the survey and the EC's ongoing agenda. Many issues will require coordinated efforts with other township departments and committees. Of course, some areas of notable concern to residents remain on the EC's agenda as ongoing projects. These include NPDC, 3M, recycling and water quality.

The survey results will also be shared with the Township Committee and other municipal departments and committees for their information and use. It is hoped that the township can benefit from this input from residents and students in many ways, including public education on issues of concern. Some areas of concern will be referred to other committees or municipal officials or departments so the most knowledgeable and informed personnel can address them. For example, the information the EC collected regarding septic and well maintenance practices will be shared with the Department of Health, which has jurisdiction over these areas. Other committees and organizations that are already working on these issues will benefit from the survey information. These would include the Traffic Advisory Committee, the Open Space Committee, the Shade Tree Committee, Montgomery Friends for Open Space, and the Wildlife Management Committee, among others.

The survey results have provided the EC with a long list of issues about which it could provide education to the public. For example, having learned that almost 1 in 4 households have irrigation or sprinkler systems on their property, the EC would like to educate those homeowners about the advantages of using timers and rain monitors on their systems. The EC would also like to provide information to township residents regarding the use of fertilizers and pesticides and the detrimental effect these products can have on water quality.

Given the finding of a high awareness of green products and behaviors, but a lower usage rate, the EC will consider ways to eliminate this disparity through public education and by promoting the expansion of the township's own practice of "green purchasing." Indeed, the EC has proposed that the township consider adopting an environmental policy that would increase environmentally friendly practices and behaviors for the township, as this is strongly supported by the public and many of these products and behaviors are already in place at the township. Montgomery residents, who have demonstrated a high level of interest in their natural environment and a desire to preserve and protect the natural resources found here, will have an exemplary model of sound and economically feasible environmental practices in its own local government.

Finally, the EC would like to continue and strengthen its ties to the student body, the school district's faculty and administration, and the Board of Education. This survey provides a good example of the work product that can result from the combined efforts of a township committee and students. There are many additional projects and environmental issues facing the township that would benefit from coordinated work and shared information between the EC and Montgomery schools.

As noted at the beginning of this report, there was a response rate to the survey of approximately 8% for residents and 100 % for students. Although the EC would like to have seen a higher response rate, it is pleased with the results of its first environmental survey and is already using this data to set priorities and plan for next years' activities. Moreover, even if the 8% response rate were used to assume that the residents who did respond are more environmentally conscious than those who chose not to respond at all, the survey results still indicate a definite need for public education on environmental issues facing the township. In addition, all of the students who were given the surveys responded to them, and their results are substantially similar to and thereby provide additional support for the responses of the residents.

\* \* \* \*

The EC welcomes your comments and suggestions. We can be reached through Tammy Garaffa, our EC Coordinator, at [Tgaraffa@twp.montgomery.nj.us](mailto:Tgaraffa@twp.montgomery.nj.us), or Gwen Farley, our EC Chairperson, at [gwenfarley@patmedia.net](mailto:gwenfarley@patmedia.net), or by mail at the Municipal Building.