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**Key Dates for April – June, 2009**

**April 18:** World Heritage Day

**April 22:** Earth Day

**May 22:** International Day for Biological Diversity

**June 5:** World Environment Day

**June 17:** World Day to Combat Desertification and Drought

Source: UN

# *The Conservatory*

## ***Stop, Look, and Listen***

**-Tim O'Connor**

With Earth Day drawing near, it would seem appropriate to consider the origin of our planet and its significance for humanity. The universe is estimated to be 13.7 billion years old and the Earth was formed approximately 9.1 billion years later after it theoretically collided with the present-day moon.

It took almost 4.3 billion years after the birth of our planet for nature to create an environment on Earth fit for humanity. The probability of the universe possessing the unique set of physical and atmospheric conditions required to support life are infinitesimally small - so much so that atheistic scientists believe there must be an infinite number of other universes in order to explain the history of our own.<sup>1</sup> Another universe, however, has yet to be discovered.

Given the scope of time and likelihood of these life-supporting conditions existing, it is a regretful paradox how little time it has taken certain societies or communities to cause or allow their once thriving habitat to become unlivable. We can point to extreme examples such as ravaged areas of the tropical rain forest or local examples of endangered aquatic life for evidence. Historic examples such as Easter Island<sup>2</sup> and more modern ones such as the Love Canal and other EPA superfund sites reinforce this reality.<sup>3</sup> There are also more stealth examples such as the effects indoor air pollution and outdoor pollution have had on asthma and cancer rates.<sup>4</sup>

Environmentalism is a matter of self-preservation as much as it is a matter of respect and appreciation for the planet. As long as it has taken for viable conditions to exist on Earth, humanity has also been empowered to undo these conditions in a relatively short time frame. The planet will go on with or without us, but its life-supporting ability has proven to be vulnerable to our carelessness. *(Continued on next page)*



# FOREVER VERDANT

## Top 10 Most Polluted Cities in US (year-round airborne particulates)

1. Los Angeles-Long Beach-Riverside, CA
2. Visalia-Porterville, CA
3. Bakersfield, CA
4. Fresno-Madera, CA
5. Pittsburgh-New Castle, PA
6. Detroit-Warren-Flint, MI
7. Atlanta-Sandy Springs-Gainesville, GA
8. Cleveland-Akron-Elyria, OH
9. Hanford-Corcoran, CA
10. Birmingham-Hoover-Cullman, AL

Source: American Lung Association

*"The ultimate test of man's conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard." - Gaylord Nelson, former Gov. of WI and co-founder of Earth Day.*



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Realizing the vulnerability of the environment can come as a result of a heightened sensitivity, an informed perspective, or ultimately as a result of an ecological predicament in one's own surroundings. Unfortunately, despite obvious signs and evidence, the latter stimulus can emerge seemingly without warning. The result can be an irreparable toll to quality of life, health, safety, and prosperity.

I always appreciated the environment, but felt compelled to act only after certain events informed my perspective and heightened my environmental sensitivity. **Below, I will share some potential causes for my delayed awareness and some recommendations stemming from my efforts to become a better environmental steward.**



For five years, I commuted to New York City through littered roads, traffic congestion, and road construction, while experiencing the associated air, noise, and water pollution. Expenses from parking, train passes, and fuel seemed unavoidable. I frequently bought newspapers and coffee in Styrofoam cups. Although I properly discarded my refuse, the receptacles were often overloaded with amorphous mounds of newspapers and cups. The visual cues were obvious, but I saw no problem.

Many people tried to raise my environmental awareness in their own way – a long time friend, my daughter's pre-school, community acquaintances, and even the media. However, I heard no problem.

I did nothing to correct these problems because I was not visually or audibly attuned to them. As I reference on Forever Verdant's (FV's) website, the spark to my environmental awareness occurred while reading a book on Reducing, Reusing, and Recycling (R3) to my daughter's pre-school class. On that day, I considered simple and sustainable actions that could help the environment. These ideas grew more concrete during my immersion in a foreign culture that was facing its own environmental problems.

As with my own experience, most people I know have a number of things competing for their attention – family, career, quality of life goals, and daily needs like laundry, food, and a dwelling. We try to avoid or block out those things that add stress to this circumstance such as traffic, noise, and the elements. It is possible for us to experience sensory overload and become numb to new information or creeping problems.

It is no wonder that we have difficulty absorbing and responding to new information – even meaningful information about the environment. We often deny, diffuse, or delay the onset of this information for the above reasons and because we are skeptical.

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Given these challenges, let us rephrase the opening points as questions. How do we increase our environmental sensitivity? How do we become environmentally well informed? How do we become aware of local environmental problems? Finally, what do we do?

If you must be convinced, I suggest reading Collapse, by Jared Diamond , and The Consumer's Guide to Effective Environmental Choices, by Michael Brower and Warren Leon, PhDs . These books complement each other by providing insight on broad issues over history with practical issues of the present. For a quicker read, the EPA offers online educational materials that are largely objective and academically sound.<sup>5</sup> Of course, the FV website provides reduced, relevant, and practical environmental information to support you in this way.

To become more aware of your immediate environment, consider the amount of traffic in your town and the areas where people needlessly consume and carelessly discard their trash. Look at your waterways and their susceptibility to run-off pollution from fertilizer, insecticides, road salt, and litter. Consider whether you are reflexive or measured in your heating, air conditioning, and appliance usage. Think for a moment about your water consumption and whether you allow the water to run while brushing your teeth or shaving. Imagine that amount of water if it did not drain quickly out of your sight. Consider also how much packaging is associated with the items you purchase. National Geographic has vivid representations of these basic impacts on their website and on TV in their series, the Human Footprint.<sup>6</sup>

Next, try to assess your personal impact and opportunity. Many organizations, such as the EPA and Conservation International, allow you to measure your emissions or carbon footprint. You will likely find that your transportation and home energy usage comprises the largest part of your impact. Having considered this and other related information, you may wonder how to build a sustainable plan that allows you to change within your current life constraints.

FV created an index to help you quantify, assess, and respond to your current environmental impact. We measure your impact in four ways and help you achieve your customized environmental goals: (1) conservation and sustainability; (2) health and safety; (3) financial impact; and (4) eco-livability. We define eco-livability as the capability of a green behavior, product, or service to integrate seamlessly into one's current lifestyle.

The first two factors, especially conservation and sustainability, will likely take longer to generate an observable impact. For example, we will not sense more oxygen and less smog on the first day we ride our bikes instead of driving. We will not actually see the reduction in carbon that would have been emitted into the atmosphere or sequestered into trees and coral. It may take several years for your lower fuel pump costs to offset the relatively higher sticker price of a hybrid vehicle. The latter two factors, namely, financial impact and eco-livability, offer a more immediate payback for our time and effort. It is envisioned that these will sustain our commitment to the first two factors.

After achieving the awareness and impetus to change, we must plan. I have been building the company and client plan while implementing my personal environmental plan. I have recorded discrete environmentally sustainable changes every week since my decision to transition from environmental awareness to action to include my recent purchase of a hybrid vehicle.

After billions of years of natural development, the ability of our planet to continue to sustain life as we know it lies significantly within our control. I hope that you will benefit from FV's research in building your plan and that we can collectively benefit from our combined impact, which will be manifested in an environment that is Forever Verdant. – FV

*Endnotes found on last page.*

## An Example for Kids

-Heidi Hafner

Earth Day is the perfect time to reflect on ways to better the environment and to pass earth-friendly practices onto younger generations. Parents of school-aged children have many opportunities to help the planet while setting a good example for their children. Most educators and child development experts agree that the best way to instill good habits in youngsters is for parents and other adults to model positive behavior. One way to do this is to include your son or daughter in any household activity that offers an opportunity for reducing, reusing, or recycling. After observing their parents, children as young as four or five can help sort items for recycling (as long as the items do not have sharp edges, of course). They can also follow their parents around the house looking for sources of wasted energy, such as turned-on lights and televisions in unoccupied rooms. After parents have modeled the behavior, grade-schoolers can help pack their own lunches by putting their snacks, juices, and sandwiches in reusable containers. Parents can explain why these options are more environmentally sound than using disposable brown bags, plastic wrap, and cardboard juice boxes. Using paper clips to assemble homework pages is also helpful because, unlike staples, paper clips are reusable. Hopefully, by the time the children reach their teens, they will have established earth-friendly habits that will stay with them for life.

-FV



Word Scramble – Developed by Faith, 3<sup>rd</sup> Grade

- |               |     |
|---------------|-----|
| 1. Hrtsa      | 1.  |
| 2. ircyelngc  | 2.  |
| 3. uiregsn    | 3.  |
| 4. egren      | 4.  |
| 5. cdreuing   | 5.  |
| 6. umdp       | 6.  |
| 7. ewoalrpsor | 7.  |
| 8. stlpan     | 8.  |
| 9. erath      | 9.  |
| 10. greeny    | 10. |

*Parents:* Once your child has completed the word scramble, the completed words could help you in forming your explanation for what it means to be “green” and simple things that you can do as a family to support R3 efforts in your home and community. Please e-mail us at [questions@foreververdant.com](mailto:questions@foreververdant.com) if you need help with your explanation 😊.

*Answers on last page*



**Name that bird:** Parents see if you can research with your child and find the name of this bird that is indigenous to Hawaii.

*Answers on last page*

## Green Energy Purchasing Options

-Erin Shea

The benefits of installing a renewable energy system at your home or business to provide your electricity needs include energy independence as well as the knowledge that your energy is generated cleanly. However, not everyone's circumstances or environ allow for on-site setup of a renewable energy system. Other options exist for those that would still like to support and utilize renewable energy but cannot install their own system. Below are several different ways to purchase green power.

- **Green Pricing** is an optional service provided by some power companies where consumers can opt to pay a different rate for electricity produced by renewable sources (such as wind, solar, geothermal, biomass, and hydropower). Utilities in most states offer green pricing. Currently, the green pricing rate with most companies is slightly higher than the standard rate of electricity. Visit <http://apps3.eere.energy.gov/greenpower/markets/pricing.shtml?page=4> to see how many utilities in your state offer green pricing programs, and click on the "complete text-version" link below the map to see a listing of those utilities. Contact your provider to find out details of the program and current rates.
- **Clean power generators.** Some states allow competition among electricity generators so consumers can choose their provider. In these competitive markets, clean power generators (who generate using solely renewable sources) sell to consumers who are willing to pay slightly more for green energy. To see if your state allows for competition in the electricity market, see <http://apps3.eere.energy.gov/greenpower/markets/marketing.shtml?page=4>; click on the "complete text-version" link below the map to find a listing of clean power generators available in your area.
- **Renewable Energy Certificates** (or "Green Tags") are available for purchase by all consumers wanting to offset emissions associated with the power they use without having to switch electricity suppliers, a good option if there are no local green pricing options or competing clean power generators. These RECs represent the "clean" part of green energy: renewable energy generators can sell their electricity to power providers at a competitive market price if they separate and sell the environmental attributes associated with the generation of clean power. The sale of these RECs offsets the additional costs of producing renewable energy to encourage growth in the renewable energy market and counterbalances consumers' impact on the environment.

Using renewable energy for your home or business energy needs will reduce pollution and bolster our national energy security. The following link maps all options your state offers for purchasing renewable energy, including utility green pricing programs, clean power generators in competitive electricity markets, and REC retailers:

[http://apps3.eere.energy.gov/greenpower/buying/buying\\_power.shtml](http://apps3.eere.energy.gov/greenpower/buying/buying_power.shtml).

-FV



## How will you celebrate Earth Day April 22, 2009?

*Be among the first to establish a secure environmental plan for you or your household that accounts for individual financial, health, and convenience goals and limitations. Send an e-mail to*

*[info@foreververdant.com](mailto:info@foreververdant.com) to be part of the group that tests the Client Environmental Planning Questionnaire and process. Please respond by April 15th.*



## Commute This

-Edward Tadross

I'll never forget my first internship, if only for the commute. It was a forty-minute ride on the streetcar from Tulane University in uptown New Orleans to the offices of Offbeat Magazine in the French Quarter. For \$1.00 each way (now \$1.25) I enjoyed the clattering of the old streetcar, a soft breeze through the open windows, gorgeous mansions and oaks of St. Charles Avenue, and the laid-back conversation of friendly Southerners.

A year later I found myself in Oceanside, California, regularly enduring the one and a half hour drive on a six-lane congested freeway up to Orange County. At times I would take the train, which required transfer to the bus, and roughly two hours for a one-way commute - but at least I could read a book. All in all I burned a lot of gas, spent a lot of money, and lost almost four hours of my day (which equates to over one month every year). I reached the breaking point and relocated to San Diego for a 10 minute commute along Harbor Drive, complete with bay views and sailboats, to my office downtown.

The majority of us, maybe with the exception of the President, commute to work. Whether you drive, take a bus, train, bicycle or walk, it's a major function of your everyday life. Your daily commute takes time from your day, money from your wallet, and can be a constant source of stress in your life. Not to mention it is most likely the largest portion of your carbon footprint.

According to the *U.S. Department of Transportation, Bureau of Transportation Statistics*, the average American commutes 29 miles a day. In a mid-size car (i.e. Toyota Camry) that gets an average 24 miles per gallon (assuming EPA standard calculations of 45% highway and 55% city driving), this equates to approximately 200 gallons of gas a year (assuming a 5-day work week and 50-week work year). At \$2.00/gallon, that's \$400/year just for the commute (add to that car insurance and maintenance). According to the EPA, one gallon of gas, when burned, emits 20 pounds of the global warming gas CO<sub>2</sub>. So the average American commuter emits 4,000 pounds of CO<sub>2</sub> a year - this is roughly 4 barrels of oil, and it would take 46 tree seedlings to grow for 10 years in order to cycle those 4,000 pounds of CO<sub>2</sub> back out of the atmosphere (U.S. EPA).

I know many of us are stuck where we live with little or no option to change the dynamics of our commute. But even little things can help. Buy a more fuel-efficient vehicle, or learn to ride a motorcycle. If you carpool with one other person, that cuts your costs and carbon footprint in half. If possible, look into telecommuting, even just for one day a week. Maybe you could bike to work, even just once a week - think of the benefit to your body. Investigate public transportation in your area. Did you know that if you use public transport, many companies allow you to deduct the cost of that transportation from your pre-tax income?

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### Top 10 Worst Cities for Commuters

1. Atlanta, GA
2. Detroit, MI
3. Miami, FL
4. Orlando, FL
5. Dallas, TX
6. Tampa, FL
7. Washington, DC
8. Houston, TX
9. Los Angeles, CA
10. San Francisco, CA

Source: Forbes.com



### Top 10 Best Cities for Commuters

1. Buffalo, NY
2. Salt Lake City, UT
3. Milwaukee, WI
4. Oklahoma City, OK
5. Pittsburgh, PA
6. Cleveland, OH
7. Hartford, CT
8. Kansas City, MO
9. Cincinnati, OH
10. Richmond, VA

Source: Forbes.com

### *Commute This (continued)*

Finally, if at all possible, look into relocating closer to your job, or to a city with decent public transportation and a more concentrated city center.

Several years ago I relocated to Manhattan. My commute became a 20-minute walk across town. I eventually bought a bicycle and cut that time in half, albeit with the added risks of NYC taxicabs and sudden downpours. Regardless, the carbon footprint of my commute immediately went down to zero. On top of that, I found myself with a good amount of extra time on my hands. I was finally relaxed in the mornings, able to enjoy my coffee, the morning news, and still make it to work on time. I began to spend a half hour after work just unwinding and playing guitar in Madison Square Park. I saved the costs of owning and operating a car, and I didn't even need to purchase an \$80 Metro card every month.

Take it from me, and take a serious look at the impact of your daily commute. The benefit of doing so would be of great help to the planet, as well as to your wallet, general health and well-being.

-FV



Sources cited for "Stop, Look, and Listen":

<sup>1</sup> Lloyd, C. (2008). *What on Earth Happened?* New York: Bloomsbury.

<sup>2</sup> Diamond, J. (2005). *Collapse: How societies choose to fail or succeed.* New York: Penguin.

<sup>3</sup> <http://www.epa.gov/history/topics/lovecanal/01.htm>

<sup>4</sup> <http://www.epa.gov/iaq/>

<sup>5</sup> <http://www.epa.gov/epahome/learn.htm>

<sup>6</sup> <http://channel.nationalgeographic.com/episode/human-footprint-3224/Overview>

#### Word Scramble – Answers

- |     |            |               |
|-----|------------|---------------|
| 1.  | hrtsa      | (trash)       |
| 2.  | ircyelngc  | (recycling)   |
| 3.  | uiregsn    | (reusing)     |
| 4.  | egren      | (green)       |
| 5.  | cdreuing   | (reducing)    |
| 6.  | umdp       | (dump)        |
| 7.  | ewoalrpsor | (solar power) |
| 8.  | stlpan     | (plants)      |
| 9.  | erath      | (earth)       |
| 10. | greeny     | (energy)      |

Name that bird: Nene, the sacred bird of the islanders pictured at Mauna Loa (Hawaii Big Island) where the locals leave gifts for the god of the volcano, Pele.



#### Top 10 Cleanest Cities in US (year-round airborne particulates)

1. Santa Fe-Espanola, NM
2. Honolulu, HI
3. Cheyenne, WY
4. Great Falls, MT
5. Farmington, NM
6. Anchorage, AK
7. Albuquerque, NM
8. Bismarck, ND
9. Kennewick-Richmond-Pasco, WA
10. Lubbock-Levelland, TX and Billings, MT

Source: American Lung Association

#### Forever Verdant

19 Great Oak Lane  
Redding, CT 06896  
P. 203.938.3351

[www.foreververdant.com](http://www.foreververdant.com)