

PASCO Recycling 2020

Celebrating 50 years of Earth Day!



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Pasco Recycling CALENDAR OF EVENTS

SEPTEMBER 2020

Coastal Cleanup
September 19, 2020

NOVEMBER 2020

America Recycles Day
November 15, 2020

Upcycle Arts & Crafts Festival
November TBD, 2020

DECEMBER 2020

Christmas tree recycling
December 25, 2020 - January 7, 2021

MARCH 2021

Great American Cleanup
March 6, 2021

All dates subject to change.
Visit pascocountyfl.net and pasco.k12.fl.us
for updated information.



Earth Day

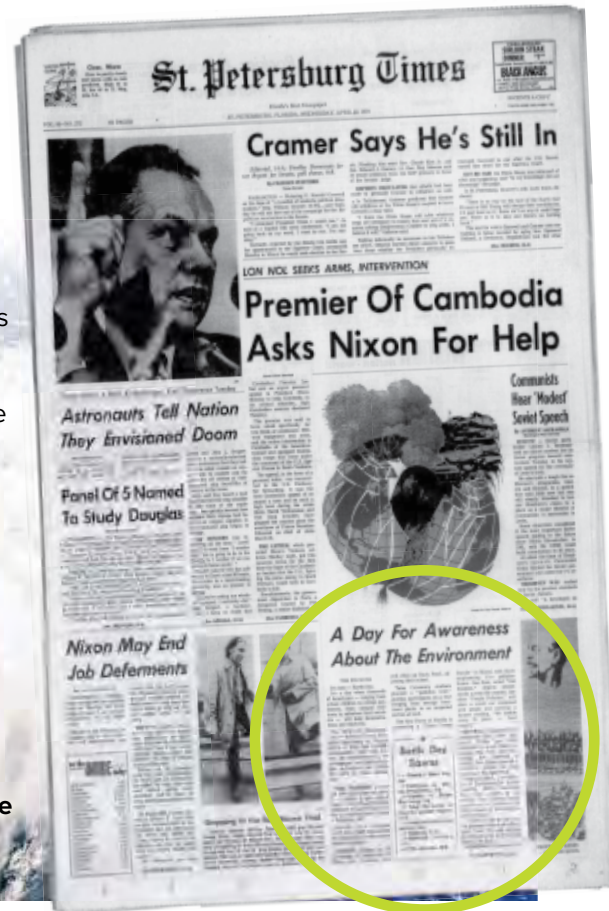
The first Earth Day took place on April 22, 1970, in reaction to the increasing pace of environmental disasters and a growing public awareness of the consequences of environmental damage. Earth Day is now a global event, with more than 1 billion people in 192 countries taking part annually.

The theme of Earth Day 2020 is climate action. Climate change represents the biggest challenge to the future of humanity and the life-support systems that make our world habitable.

As the global climate changes, coastal communities such as Tampa Bay face the prospect of rising seas, more frequent and intensive storm events, and changing precipitation patterns. The landscape damage from Hurricane Irma, which hit Florida in September 2017, was so extensive that it could be seen from space.



April 22, 1970, news article about the first Earth Day.
St. Petersburg Times



Celebrate Earth Day every day

There are lots of ways that you can celebrate Earth Day every day! Here are some easy ways to get you started conserving natural resources by reducing, reusing and recycling.

REDUCE

- Turn off the water while you brush your teeth, shave or lather your hands with soap
- Turn off the lights when you leave a room
- Replace light bulbs with energy-efficient LED bulbs
- Choose to get bills electronically, rather than receiving paper copies in the mail
- Power down electronics at night and when not in use
- Install a water-saving shower head
- Run dishwashers and washing machines for full loads only

REUSE

- Buy rechargeable, rather than disposable, batteries
- Use a refillable coffee cup and reusable water bottle instead of single-use containers
- Bring reusable bags to the grocery store
- Use washable cloth towels in the kitchen and to clean instead of single-use paper towels
- Donate or sell used clothing, furniture, toys or appliances instead of throwing them out
- Try shopping at second-hand stores

RECYCLE

- Choose products with less packaging or that are packaged in recyclable materials
- Purchase products that are made of recycled materials
- Recycle your aluminum and metal cans, plastic bottles, jars and small containers, mixed paper and newspaper, and cardboard curbside or at one of Pasco County's recycling drop-off centers



Pasco Upcycle Arts & Crafts Festival

November 2020

for event details visit keepascobebautiful.org

Upcycling, also known as creative reuse, is the transforming of unwanted waste into new materials or products.

The annual Pasco Upcycle Arts & Crafts Festival aims to reduce waste and change perceptions about recycling. It features a variety of upcycle vendors and artists selling items such as jewelry made from spoons, repurposed furniture and decor made from pallets.

Enjoy family fun, including:

- Live bands
- Farmer's market vendors
- Food trucks
- Craft beer offerings

For more information, call 727-834-3611, ext. 1072 or email info@keepascobebautiful.org.



GOING BEYOND the TEXT: How long does trash last?

In Pasco County, garbage is converted to electricity at Covanta Energy's Pasco County Waste-to-Energy (WTE) facility. However, in other places throughout the Florida, garbage is buried in landfills.

Write the following list of items on a piece of paper: aluminum soda can; banana; cigarette butt; cotton rag; glass bottle; leather boot; paper bag; plastic 6-pack rings; plastic jug; rubber sole of the leather boot; Styrofoam cup; tin soup or vegetable can; wool sock.

Working in small groups, discuss how long each of the items on the list might last when buried in a landfill. Put the list in order according to how long you think each item might last in a landfill, with one representing the item you think will degrade fastest and 13 representing the item you think will last the longest.

As a class, share your lists and discuss what you believe to be the correct sequence. Come to a consensus about the correct order of the items. Compare your list to the answers below. What does the data tell you about landfills? Do items continue to degrade and make room for new garbage? Or will those landfills eventually fill up? Do those trash life spans say anything to you about the importance of recycling? Why or why not?

In your groups, use a graph-making software program to create graphs that illustrate the life span of trash items discussed in the activity. Next, use the *Tampa Bay Times* to find images of the items. Use your graph and images to create posters to encourage recycling the items listed on the chart.

Adapted from: Education World, "How Long Does Trash Last? (A Cooperative Learning Activity)"

Florida Standards: Science: SC.35.CS-CP.1.4; SC.35.N.1.1; SC.35.N.1.2; SC.35.N.1.3; SC.35.N.3.2; SC.35.P.10.2; SC.612.CS-CP.1.4 SC.612.N.1.1; SC.612.N.1.2; SC.612.N.1.3; SC.612.N.3.2; SC.612.P.10.2;
Language Arts: LAFS.35.L.1.1; LAFS.35.L.1.2; LAFS.35.L.2.3; LAFS.35.L.3.4; LAFS.35.L.3.6; LAFS.35.RF.3.3; LAFS.35.RF.4.4; LAFS.35.RI.1.1; LAFS.35.RI.1.3; LAFS.35.RI.3.7; LAFS.35.RI.3.8; LAFS.35.RI.3.10; LAFS.35.SL.1.1; LAFS.35.SL.1.3; LAFS.35.SL.2.4; LAFS.35.W.1.1; LAFS.35.W.1.2; LAFS.35.W.2.4; LAFS.35.W.2.5; LAFS.612.L.1.1; LAFS.612.L.1.2; LAFS.612.L.2.3; LAFS.612.L.3.4; LAFS.612.L.3.6; LAFS.612.RF.3.3; LAFS.612.RF.4.4; LAFS.612.RI.1.1; LAFS.612.RI.1.3; LAFS.612.RI.3.7; LAFS.612.RI.3.8; LAFS.612.RI.3.10; LAFS.612.SL.1.1; LAFS.612.SL.1.3; LAFS.612.SL.2.4; LAFS.612.W.1.1; LAFS.612.W.1.2; LAFS.612.W.2.4; LAFS.612.W.2.5



1. banana (3 to 4 weeks); 2. paper bag (1 month); 3. cotton rag (4 months); 4. wool sock (1 year); 5. cigarette butt (2 to 5 years); 6. leather boot (40 to 50 years); 7. rubber sole (50 to 80 years); 8. tin can (80 to 100 years); 9. aluminum can (200 to 500 years); 10. plastic 6-pack rings (450 years); 11. plastic jug (1 million years); 12. Styrofoam cup (forever); 13. glass bottle (forever)

Recycling pickup now once per week

Residential curbside recycling pickup in unincorporated Pasco County is now once per week. Previously, haulers were only required to provide this service twice per month. The new, once-per-week schedule will increase recycling tonnage and make participation even easier.

Residents should contact their trash hauler to find out their new pickup schedule. Residents can use their own container marked with a recycling sticker or call their hauler to order a recycling cart.



What can I recycle curbside in Pasco County?



Aluminum cans and metal food cans



Plastic bottles, jars and small containers coded 1, 2, 3, 4, 5 and 7



Mixed paper and newspaper



Corrugated cardboard and thin cardboard

What NOT to recycle in Pasco County

-  • **NO PLASTIC BAGS**
-  • **NO GLASS**
-  • **NO STYROFOAM**
-  • **NO MILK OR JUICE CARTONS**
-  • **NO "TANGLERS" (HOSES, WIRES, TARPS)**
-  • **NOTHING BIGGER THAN A CAT LITTER CONTAINER**
-  • **NOTHING WET OR DIRTY**

Why no glass?

Glass breaks during the recycling process, contaminating other materials and reducing their recyclability and their value. Glass is also the most expensive material to recycle, and there is currently very little market for it.

Residents should place glass in the trash, where it will be sent to Pasco's Waste-to-Energy Facility, burned to produce electricity, and likely used in future sustainable Public Works projects. **Do the right thing and throw glass away.**

Trash and recycling collection in Pasco County

In Pasco County, curbside trash and recycling collection services are provided by independent haulers. Residents need to sign up with one of these companies to receive service.

Curbside recycling service is included with curbside trash service in Pasco County. Your trash hauler is obligated to provide you at least once-per-week recycling service. Contact your trash hauler for a sticker to put on your recycling container and for your recycling pickup schedule.

ALL HAUL WASTE
727-847-2420
allhaulwaste.com

WASTE CONNECTIONS
352-583-4204
or 727-847-9100

COUNTY SANITATION
888-522-5794
countysanitationservice.com

WASTECONNECTIONS.COM
Waste Management of Pasco
813-621-3053
or 800-255-7172 • wm.com

J.D. PARKER & SONS
727-845-1024
jdparkerandsons.com

REPUBLIC SERVICES
727-868-2566
republicservices.com

WASTE AID SYSTEMS
813-996-1457
or 727-842-9309
wasteaidsystems.com



Your trash makes electricity



Trash is picked up by trash haulers.

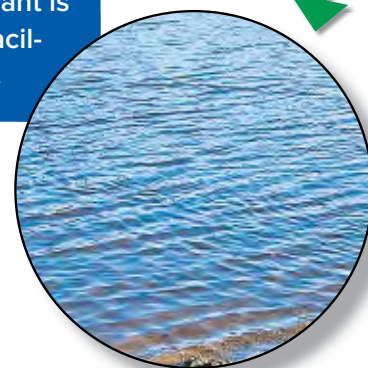


Garbage is converted to electricity at Covanta Energy's Pasco County Waste-to-Energy (WTE) facility. A total of 1,050 tons of garbage per day is processed in Pasco County to produce energy.

Incineration produces energy. This energy is sold to Duke Energy and provides enough power for 23,000 homes per year.



Reclaimed (reused) water from the wastewater treatment plant is used in the WTE facility's cooling tower.

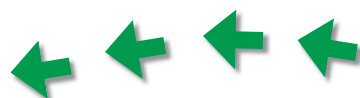
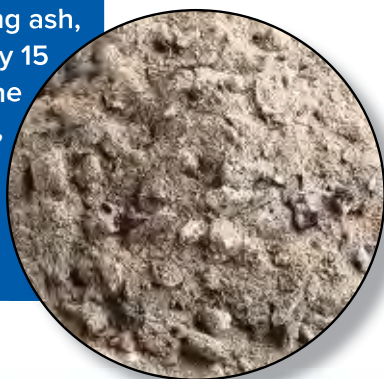


Metal is removed from ash by a magnet. Aluminum also is removed from ash.

Metal is sent to the scrap metal dealer for recycling. Aluminum is sent to market.



Remaining ash, reduced to only 15 percent of the original volume, is landfilled or used in roadbeds.



Pasco County recycling drop-off centers

ANCLOTE GULF PARK
2305 Baillies Bluff Road
Holiday, Fla. 34691
Wednesday – Saturday,
8 a.m. – 5 p.m.

SENIOR SERVICES CENTER
6801 Wisteria Loop
Land O'Lakes, Fla. 34638
Monday – Friday
8 a.m. – 3:30 p.m. (can vary)
813-929-1200

EAST PASCO TRANSFER STATION
9626 Handcart Road
Dade City, Fla. 33525
Monday – Saturday,
7 a.m. – 4:30 p.m.
352-521-0500
(also accepts used cooking oils and scrap metal)

WEST PASCO RECYCLING CENTER
14606 Hays Road
Spring Hill, Fla. 34610
Monday – Saturday
7 a.m. – 4:30 p.m.
727-861-3053
(also accepts used cooking oils and scrap metal)

EMBASSY HILLS WASTEWATER TREATMENT PLANT
9560 Crabtree Lane
New Port Richey, Fla. 34654
Wednesday – Saturday
8 a.m. – 5 p.m.
(also accepts used cooking oils)



When in doubt, throw it out!

When nonrecyclable or dirty materials are placed in your curbside recycling container, they can contaminate the entire load, meaning that none of the items in that load end up being recycled. If you're not sure if an item is recyclable or not, always discard it in the trash.



GOING BEYOND the TEXT:

There are two ways to reduce the amount of trash that winds up in the waste stream: reducing and recycling. Both methods are used to eliminate trash. What is the difference between these two methods? Is one method more effective than the other? Should they be used in tandem? Use the current issues and

archived issues of the digital edition of the *Tampa Bay Times* and the Internet to research the pros and cons of recycling vs. reducing. In Pasco County, trash is converted into electricity. Should residents still recycle and reduce use of waste? Come up with at least three points or arguments defending each side of the debate. As a class or family, discuss what you have discovered during your research. What have you learned?

Florida Standards: Science: SC.35.N.1.1; SC.35.N.1.2; SC.35.N.1.3; SC.35.N.3.2; SC.35.P.10.2; SC.35.CS-CP.1.4; SC.612.N.1.1; SC.612.N.1.2; SC.612.N.1.3; SC.612.N.3.2; SC.612.P.10.2; SC.612.CS-CP.1.4
Language Arts: LAFS.35.L.1.1; LAFS.35.L.1.2; LAFS.35.L.2.3; LAFS.35.L.3.4; LAFS.35.L.3.6; LAFS.35.RF.3.3; LAFS.35.RF.4.4; LAFS.35.RI.1.1; LAFS.35.RI.1.3; LAFS.35.RI.3.7; LAFS.35.RI.3.8; LAFS.35.RI.3.10; LAFS.35.SL.1.1; LAFS.35.SL.1.3; LAFS.35.SL.2.4; LAFS.35.W.1.1; LAFS.35.W.1.2; LAFS.35.W.2.4; LAFS.35.W.2.5; LAFS.612.L.1.1; LAFS.612.L.1.2; LAFS.612.L.2.3; LAFS.612.L.3.4; LAFS.612.L.3.6; LAFS.612.RF.3.3; LAFS.612.RF.4.4; LAFS.612.RI.1.1; LAFS.612.RI.1.3; LAFS.612.RI.3.7; LAFS.612.RI.3.8; LAFS.612.RI.3.10; LAFS.612.SL.1.1; LAFS.612.SL.1.3; LAFS.612.SL.2.4; LAFS.612.W.1.1; LAFS.612.W.1.2; LAFS.612.W.2.4; LAFS.612.W.2.5

Household Hazardous Waste

Household Hazardous Waste, or HHW, refers to products that are toxic, flammable, corrosive or reactive.

Common examples of HHW include paints and stains, pesticides and herbicides, fertilizer, cleaning products, automotive fluids such as gasoline and oil, and pool and spa chemicals.

These products can harm human health, wildlife and the environment if they are disposed of improperly. HHW should never be poured down household or storm drains, poured on the ground, buried or put in the trash.

Pasco County residents can drop off HHW at the county's two Household Hazardous Waste Collection Centers.

For more information about Pasco County's HHW programs, call Pasco County Utilities at 813-929-2755, ext. 6890 or visit pascocountyfl.net/183/Household-Hazardous-Waste.

Household Hazardous Waste Collection Centers

RESOURCE RECOVERY CLASS III LANDFILL

14606 Hays Road, Spring Hill, Fla. 34610
Monday – Saturday, 7 a.m. – 4:30 p.m.

EAST PASCO TRANSFER STATION

9626 Handcart Road, Dade City, Fla. 33525
Monday – Saturday, 7 a.m. – 4:30 p.m.



Household Hazardous Waste Reuse Program

As Pasco County continues to grow, so does the county's HHW collection program.

The dangers of improper HHW disposal might not be immediately obvious, but improper disposal of these chemicals can pollute the environment, cause physical injury to sanitation workers, and contaminate septic tanks or wastewater treatment systems.

Proper HHW diversion and disposal is critical. The Pasco County Household Hazardous Waste Center became the first adopter in Florida of Smarter Sorting technology to reuse HHW previously bound for disposal. Smarter Sorting reduces the cost for disposal and allows for better material management. Through a partnership with the local Habitat for Humanity, products in usable condition are reused within our community instead of being disposed of.

For more information about the Household Hazardous Waste Reuse Program, call Pasco County Solid Waste, Environmental Compliance at 813-929-2755, ext. 2045.

Electronics recycling locations

EAST PASCO TRANSFER STATION
9626 Handcart Road, Dade City, Fla. 33525
Monday – Saturday, 7 a.m. – 4:30 p.m.
352-521-0500

WEST PASCO RECYCLING CENTER
14606 Hays Road, Spring Hill, Fla. 34610
Monday – Saturday, 7 a.m. – 4:30 p.m.
727-861-3053

HHW should never be poured down household or storm drains, poured on the ground, buried or put in the trash.



Pasco County electronic equipment recycling program

Electronic equipment can contain more than 1,000 materials, many of which are hazardous to human health and the environment, such as chlorinated solvents, brominated flame retardants, PVC and heavy metals. These hazardous materials must not be disposed of in your household trash.

So, what should you do with your end-of-life electronics?

Pasco County residents can drop off their unwanted electronic equipment for recycling at the East Pasco Transfer Station or the West Pasco Recycling Center.

Electronic equipment accepted for recycling includes cellphones, computers, TVs, computer monitors, printers and fax machines. There is a \$5 per item charge for TVs, computer monitors and CPUs. TVs larger than 36 inches are \$10 per item.

For more information, visit pascocountyfl.net and click on the Residents tab, then on Household Hazardous Waste, or call Pasco County Solid Waste, Environmental Compliance at 813-929-2755, ext. 2045.





Seeing the light

If you have had to change a light bulb recently, you know there are many options on the shelf. Do you know the difference and how to properly dispose of the old bulb?

Incandescent and halogen light bulbs

Incandescent light bulbs are what we typically think of when we picture a light bulb. They are glass bulbs that contain a thin metal filament, vacuum sealed or filled with inert gas.

Halogen light bulbs were created as a more efficient version of an incandescent bulb. Halogen bulbs conserve 10-20 percent of energy compared to that of traditional incandescent bulbs.

Unfortunately, almost all the energy used to power an incandescent or halogen light is transferred into heat, making these options the least efficient and ultimately the most costly.

Incandescent and halogen bulbs do not contain hazardous materials and can be disposed of in your household trash.

Fluorescent light bulbs

Compact fluorescent lamps (CFLs) and fluorescent tube-style light bulbs can be 75 percent more efficient compared to the more traditional options.

However, fluorescent bulbs contain mercury in order to achieve efficiency. While these lamps help consumers and businesses cut their lighting usage and reduce energy costs, it is important that any product containing mercury be properly disposed of to protect public health and the environment. Mercury is hazardous and can contaminate the air, surface water and groundwater. Spent lamps must stay intact, as the mercury is only released if the devices are damaged or broken.

Never put fluorescent tubes or CFLs in your household trash or curbside recycling. Bring mercury containing lamps to a recycling center to be disposed of safely. Pasco County accepts spent mercury lamps at its two Household Hazardous Waste Collection Centers.

Some retailers also may offer their residential customers fluorescent bulb recycling. Check with your local store.



LED light bulbs

LED bulbs are the most efficient bulbs on the market, using up to 85 percent less energy than an incandescent bulb. The cost of LED bulbs has come down dramatically over the last few years.

LED light bulbs last longer than other types of bulbs. They are energy efficient, reducing consumers' electric cost. In addition, LEDs emit almost no heat and are extremely durable thanks to their solid-state construction, so there's no broken glass to deal with, either.

LED bulbs do not contain hazardous materials and can be disposed of in your household trash.



GOING BEYOND the TEXT:
Life cycle of a cellphone

Review the Environmental Protection Agency's "Life cycle of a cellphone" poster at nieonline.com/tbtimes/downloads/Cellphonelifecycle.pdf. What are some of the end-of-life options for cellphones? On a piece of paper, list the options and discuss the pros and cons of each. Use the *Tampa Bay Times* and the Internet to research which of these options is available through Pasco County Schools and Pasco County. Write an article informing Pasco County citizens how they can recycle their cellphones. Be sure to include the 6 W's (Who, What, When, Where, Why and HoW). Use the articles in the *Tampa Bay Times* as models.

Florida Standards: Science: SC.35.CS-CP.1.4; SC.35.N.1.1; SC.35.N.1.2; SC.35.N.1.3; SC.35.N.3.2; SC.35.P.10.2; SC.612.N.1.1; SC.612.N.1.2; SC.612.N.1.3; SC.612.N.3.2; SC.612.P.10.2; SC.612.CS-CP.1.4 **Language Arts:** LAFS.35.L.1.1; LAFS.35.L.1.2; LAFS.35.L.2.3; LAFS.35.L.3.4; LAFS.35.L.3.6; LAFS.35.RF.3.3; LAFS.35.RF.4.4; LAFS.35.RI.1.1; LAFS.35.RI.1.3; LAFS.35.RI.3.7; LAFS.35.RI.3.8; LAFS.35.RI.3.10; LAFS.35.SL.1.1; LAFS.35.SL.1.3; LAFS.35.SL.2.4; LAFS.35.W.1.1; LAFS.35.W.1.2; LAFS.35.W.2.4; LAFS.35.W.2.5; LAFS.612.L.1.1; LAFS.612.L.1.2; LAFS.612.L.2.3; LAFS.612.L.3.4; LAFS.612.L.3.6; LAFS.612.RF.3.3; LAFS.612.RF.4.4; LAFS.612.RI.1.1; LAFS.612.RI.1.3; LAFS.612.RI.3.7; LAFS.612.RI.3.8; LAFS.612.RI.3.10; LAFS.612.SL.1.1; LAFS.612.SL.1.3; LAFS.612.SL.2.4; LAFS.612.W.1.1; LAFS.612.W.1.2; LAFS.612.W.2.4; LAFS.612.W.2.5

Pasco Art of Recycling Contest



The annual Pasco Art of Recycling contest, a collaborative project of Pasco County Schools, Pasco County Recycling and Keep Pasco Beautiful, is an art competition promoting art and recycling through the use of recycled materials.

In 2019-2020, Pasco County elementary schools submitted artwork competing for five cash awards for their art department. At least 70 percent of the materials used were required to be recycled, discarded or used.

The students' art was displayed at the 5th annual Pasco Upcycle & Art Festival on Nov. 16, 2019, and at Pasco County Schools' district offices from Nov. 18, 2019, to Jan. 17, 2020.



1.

2019-2020 Art of Recycling winners

- 1. First Place – \$1,000**
Trinity Oaks Elementary
Coral Reef
- 2. Second Place – \$750**
Countryside Montessori
Sweet Honey Bee Dreams
- 3. Third Place – \$500**
James M. Marlowe Elementary
Seek to Sea More
- 4. Honorable Mention – \$250**
Trinity Elementary
The Enchanted Bakery
- 5. Honorable Mention – \$250**
Cotee River Elementary
Anglerfish



4.



2.



3.



5.

GOING BEYOND the TEXT: Found poetry

As a class, use the *Tampa Bay Times* to find words related to the environment and recycling from headlines and advertisements. Clip the words out and put them all together in a box or large manila envelope. Break into pairs and have each pair take approximately 10 words. Use the words as the foundation of a blank verse poem. Let the word strips suggest a topic. Glue or tape your poem to a blank piece of paper and share it with your class.

Florida Standards: Language Arts: LAFS.35.L.1.1; LAFS.35.L.1.2; LAFS.35.L.2.3; LAFS.35.L.3.4; LAFS.35.L.3.6; LAFS.35.RF.3.3; LAFS.35.RF.4.4; LAFS.35.RI.1.1; LAFS.35.RI.1.3; LAFS.35.RI.3.7; LAFS.35.RI.3.8; LAFS.35.RI.3.10; LAFS.35.SL.1.1; LAFS.35.SL.1.3; LAFS.35.SL.2.4; LAFS.35.W.1.1; LAFS.35.W.1.2; LAFS.35.W.2.4; LAFS.35.W.2.5; LAFS.612.L.1.1; LAFS.612.L.1.2; LAFS.612.L.2.3; LAFS.612.L.3.4; LAFS.612.L.3.6; LAFS.612.RF.3.3; LAFS.612.RF.4.4; LAFS.612.RI.1.1; LAFS.612.RI.1.3; LAFS.612.RI.3.7; LAFS.612.RI.3.8; LAFS.612.RI.3.10; LAFS.612.SL.1.1; LAFS.612.SL.1.3; LAFS.612.SL.2.4; LAFS.612.W.1.1; LAFS.612.W.1.2; LAFS.612.W.2.4; LAFS.612.W.2.5

2019-2020 ART OF RECYCLING SPONSORS

County Recycling • Covanta • Regency Technologies
Republic Services • Sierra Family Foundation • Waste Aid
Systems • Waste Connections • Waste Management

Pasco County Schools annual recycling report

Reducing, reusing and recycling cuts the amount of energy used to produce new items, and the amount of pollution generated as a result. It also conserves valuable natural resources that would otherwise be used to produce new items from raw materials. Remember, if we all do a little it will mean a lot!

For more information about the school district's recycling programs, visit pasco.k12.fl.us/recycle or contact Pasco County Schools recycling coordinator Chris Williamson at 727-794-2380.

In school year 2018-2019, Pasco County Schools recycled:

- 3.24** tons of aluminum cans
- 35,089** fluorescent light bulbs
- 16.61** tons of plastic bottles
- 161,381** 4,800 pounds of electronics

Battery recycling



According to the Environmental Protection Agency (EPA), Americans throw away more than 3 billion batteries each year. That's about 180,000 tons of batteries. More than 86,000 tons of these are single-use alkaline batteries.

Placed end to end, these dead alkaline batteries alone would circle the world at least six times.

Household battery recycling continues to be one of Pasco County Utilities' most successful programs. In 2019, Pasco County residents recycled 36.55 tons of batteries, including 32,292 pounds of lead-acid batteries and 40,812 pounds of household batteries.

Removing batteries from the solid waste stream is critical to protect human health and the environment. Batteries contain heavy metals and chemicals that can be released when landfilled or incinerated.


Battery recycling containers are located throughout the county at schools, libraries, county facilities and participating communities.

For more information about the Household Hazardous Waste Reuse Program, call Pasco County Solid Waste, Environmental Compliance at 813-929-2755, ext. 2045.

How batteries are recycled

Have you ever wondered how your dead batteries are recycled? It's time for some science!

Alkaline



Alkaline batteries (AAA, AA, C, D, 9V, etc.) are recycled in a specialized "room temperature" mechanical separation process where the battery components are separated into three end products. These items are a zinc-and-manganese concentrate, steel, and paper, plastic and brass fractions. All of these products are put back into the marketplace for reuse in new products. These batteries are 100 percent recycled.

The lead parts are cleaned and heated in a smelting furnace. The molten lead is then poured into ingot molds. After a few minutes, the impurities float to the top of the still-molten lead in the ingot molds. These impurities are scraped away and the ingots are left to cool. When the ingots are cool, they're removed from the molds and sent to battery manufacturers, where they're remelted and used in the production of new batteries.

Old sulfuric battery acid can be handled in two ways: 1. The acid is neutralized with an industrial compound similar to household baking soda, which turns the acid into water. The water is then treated, cleaned and tested in a wastewater treatment plant to be sure it meets clean water standards. 2. The acid is processed and converted to sodium sulfate, an odorless white powder that's used in laundry detergent, glass and textile manufacturing.

Lead-acid batteries are closed-loop recycled, meaning each part the old batteries is recycled into a new battery. An estimated 98 percent of all lead-acid batteries are recycled.


carbonate, which is used to make lithium ingot metal and foil for batteries. It also provides lithium metal for resale and for the manufacture of sulfur dioxide batteries.

Lithium-ion



Prior to the recycling process, plastics are separated from the metal components. The metals are then recycled using a high temperature metal reclamation process during which all of the high-temperature metals contained within the battery (i.e., nickel, iron, manganese and chromium) report to the molten-metal bath within the furnace, amalgamate, then solidify during the casting operation. The low-melt metals (i.e., zinc) separate during the melting. The metals and plastic are then returned to be reused in new products. These batteries are 100 percent recycled.

Lead acid



The battery is broken apart in a hammer mill, a machine that hammers the battery into pieces. The broken battery pieces are then placed into a vat, where the lead and heavy materials fall to the bottom and the plastic floats. At

this point, the plastic pieces are scooped away and the liquids are drawn off, leaving the lead and heavy metals. Each of the materials goes into a different recycling stream.

The polypropylene plastic pieces are washed, blown dry and sent to a plastic recycler, where the pieces are melted together into an almost liquid state. The molten plastic is put through an extruder that produces small plastic pellets of a uniform size. The pellets are put back into manufacturing battery cases and the process begins again.

Lithium batteries



The contents of the batteries are exposed using a shredder or a high-speed hammer, depending on battery size. The contents are then submerged in a

caustic solution. This caustic solution neutralizes the electrolytes, and ferrous and non ferrous metals are recovered. The clean scrap metal is then sold to metal recyclers. The solution is then filtered. The carbon is recovered and pressed into moist sheets of carbon cake. Some of the carbon is recycled with cobalt. The lithium in the solution (lithium hydroxide) is converted to lithium carbonate, a fine, white powder. What results is technical-grade lithium

Mercury



The batteries and heavy metals are recovered through a controlled-temperature process. It's

important to note that the percentage of mercuric oxide batteries is decreasing since the passage of the Mercury-Containing Rechargeable Battery Management Act (Battery Act) of 1996. This act prohibits, or otherwise conditions, the sale of certain types of mercury-containing batteries (i.e., alkaline manganese, zinc carbon, button cell mercuric-oxide and other mercuric-oxide batteries) in the United States.

Nickel-Cadmium



Prior to the recycling process, plastics are separated from the metal components.

The metals are then recycled using a high-temperature metal reclamation process during which all of the high-temperature metals contained within the battery feedstock (i.e., nickel, iron, manganese and chromium) report to the molten-metal bath within the furnace, amalgamate, then solidify during the casting operation. The low-melt metals (i.e., zinc and cadmium) separate during the melting. The metals and plastic are then returned to be reused in new products. These batteries are 100 percent recycled.

Nickel Metal Hydride



Prior to the recycling process, the plastics are removed from the cell portion. The cells go through a

drying process to remove moisture (potassium hydroxide [KOH] electrolyte and H₂O) from the cells. The drying process heats the cells in a time- and temperature-controlled manner.

Once these cells are dried, they become a valuable feedstock for the stainless steel and/or alloy manufacturing industries. The metals and plastic are then returned to be reused in new products. These batteries are 100 percent recycled.

Zinc-Air and Zinc-Carbon



Zinc-carbon (AAA, AA, C, D, 9V, etc.) and zinc-air batteries are recycled in the same way as alkaline batteries or by using a high-temperature metal

reclamation method to melt the metals. These metals are then reused in new products. These batteries are 100 percent recycled.



GOING BEYOND the TEXT: Choosing the most efficient battery

The way a product is used is the key to purchasing the most efficient battery. In most cases, you're better off using rechargeable batteries. However, there are cases where single-use batteries are the most efficient: in devices that constantly draw low amounts of power and in devices that are infrequently used.

Create a chart with the following five columns: product; power; usage; current battery type; and most efficient battery type.

Go room-by-room in your home and record each product that contains a battery. For each product, record whether the product is high- or low-powered; the frequency of usage (for example, a flashlight might be used only 1 hour/month; a remote control 2-4 hours/day; and a hearing aid 24 hours/day); and the type of battery currently in use.

Next, use the following guidelines to determine what the most efficient battery type is for each product. Record this in the last column on your chart. Are you using the most efficient batteries in your products? Using the editorials and science articles in the *Tampa Bay Times*, write a news article or editorial about what you have learned. Share what you have learned with your class.

- Used less than 1 hour/day = single-use
- Used more than 1 hour/day = rechargeable
- Low-power usage = single-use
- High-power usage = rechargeable

Adapted from: Rechargeable Battery Recycling Corps, "Battery Lesson Plan"

Florida Standards: Science: SC.35.N.1.1; SC.35.N.1.2; SC.35.N.1.3; SC.35.N.3.2; SC.612.N.1.1; SC.612.N.1.2; SC.612.N.1.3; SC.612.N.3.2

Language Arts: LAFS.35.L.1.1; LAFS.35.L.1.2; LAFS.35.L.2.3; LAFS.35.L.3.4; LAFS.35.L.3.6; LAFS.35.RF.3.3; LAFS.35.RF.4.4; LAFS.35.RI.1.1; LAFS.35.RI.1.3; LAFS.35.RI.3.7; LAFS.35.RI.3.8; LAFS.35.RI.3.10; LAFS.35.SL.1.1; LAFS.35.SL.1.3; LAFS.35.SL.2.4; LAFS.35.W.1.1; LAFS.35.W.1.2; LAFS.35.W.2.4; LAFS.35.W.2.5; LAFS.612.L.1.1; LAFS.612.L.1.2; LAFS.612.L.2.3; LAFS.612.L.3.4; LAFS.612.L.3.6; LAFS.612.RF.3.3; LAFS.612.RF.4.4; LAFS.612.RI.1.1; LAFS.612.RI.1.3; LAFS.612.RI.3.7; LAFS.612.RI.3.8; LAFS.612.RI.3.10; LAFS.612.SL.1.1; LAFS.612.SL.1.3; LAFS.612.SL.2.4; LAFS.612.W.1.1; LAFS.612.W.1.2; LAFS.612.W.2.4; LAFS.612.W.2.5

Proper disposal of medicines protects you and the earth

Medication that is not properly disposed of can end up in our groundwater, harming wildlife and the environment and posing a health risk to humans.

Unwanted, unused or expired prescription and over-the-counter medications should never be flushed down the toilet or poured down the sink.

In homes that use septic tanks, medications flushed down the toilet or poured down the sink can leach into the ground and seep into groundwater.

In homes connected to wastewater treatment plants, medications flushed down the toilet or poured down the sink can pass through the treatment system and enter rivers and lakes or flow downstream to contaminate community drinking water supplies.

Proper disposal of medications prevents poisoning of children and pets, deters misuse and keeps medicines from entering our water supply.

Sources: Pinellas County Utilities, United States Environmental Protection Agency



DON'T

- Give medications to another person
- Flush medications down the toilet
- Pour medications down the drain

DO

- Drop off unwanted, unused or expired medications at a Pasco County Sheriff's Office Take-Back location or participating collection center
- Participate in the National Prescription Drug Take-Back Day
- Follow the guidelines below if you must dispose of medications in the trash

Pasco County Sheriff's Office Take-Back locations

PASCO SHERIFF'S OFFICE WEST OPERATIONS CENTER

7432 Little Road
New Port Richey, Fla. 34654

PASCO SHERIFF'S OFFICE

36409 SR 52
Dade City, Fla. 33525

PASCO SHERIFF'S OFFICE

11530 Trinity Blvd.
Trinity, Fla. 34655

NEW PORT RICHEY POLICE DEPT. (24/7)

6739 Adams St.
New Port Richey, Fla. 34652

DADE CITY POLICE DEPT. (24/7)

38042 Pasco Ave.
Dade City, Fla. 33525

PASCO DETENTION FACILITY (LOBBY - 24/7)

20101 Central Blvd.
Land O'Lakes, Fla. 34637

Collection centers

Some retailers, such as Walgreens and CVS, offer drug take-back collection. You can either call your local store or check online for a location near you.

**National Prescription Drug Take-Back Day
April 25, 2020
takebackday.dea.gov**

Each year, the Drug Enforcement Administration (DEA) hosts a National Prescription Take-Back Day. This annual event provides participants with an opportunity to clean out their medicine cabinets and take unwanted, unused or expired medications to a temporary collection site for safe disposal. In 2019, 36,193 pounds of medications was collected at Florida Drug Take-Back Day events, according to the DEA.

Put medications in the trash the right way

If none of the disposal options above are available to you, follow these steps to safely dispose of unwanted, unused or expired medications.

- Place all medicine in a dark container, such as a coffee can or empty laundry bottle.
- Add water or soda to pills to start dissolving them. If the drug is a liquid, add dirt or cat litter to help discourage misuse or unintentional use of the medication if it's found and opened.

- Secure the lid tightly and seal it with duct tape.
- Tape that container closed.
- Place the sealed container with the mixture in the trash. Never put medications in the trash without disguising them.



Household used sharps recycling program

The household used sharps recycling program provides Pasco County citizens with a means to safely dispose of their “sharps” (needles, syringes, tubes and lancets) for no charge to prevent them from entering the sanitary sewer or solid waste stream. Proper disposal keeps our sanitation workers safe and keeps sharps out of the environment.

Participants can visit one of six sponsoring facilities to obtain a red sharps container that can be exchanged for a new container once it is full. If you do not have a red sharps container, using a two-liter soda bottle is acceptable. Please remember to replace the cap on the bottle when it is full.

For more information, call Pasco County Solid Waste, Environmental Compliance at 813-929-2755, ext. 2045.



Sharps recycling locations

ADVENT HEALTH DADE CITY

Inquire at Information Desk
13100 Ft. King Road
Dade City, Fla. 33525
8 a.m. – 8 p.m., M-F

ADVENT HEALTH ZEPHYRHILLS

Outpatient Desk
7050 Gall Blvd.
Zephyrhills, Fla. 33541
6 a.m. – 5 p.m., M-F

MORTON PLANT NORTH BAY

Medical Arts Building /
Outreach Laboratory, Ste. 100A
6600 Madison St.
New Port Richey, Fla. 34652
7:30 a.m. – 3:30 p.m., M-F

REGIONAL MEDICAL CENTER BAYONET POINT

Emergency Room
14100 Fivay Road
Hudson, Fla. 34667

SUNCOAST EYE CENTER

Surgery Center
(back of building)
14003 Lakeshore Blvd.
Hudson, Fla. 34667
8 a.m. – 4 p.m., M-F

TRINITY MEDICAL CENTER

Emergency Room
9330 SR 54
Trinity, Fla. 34654

Sharps are not accepted at any Pasco County Health Department locations.

Hospital information desks and/or concierge desks located at main entrances can provide details of the Hospitals Sharps Program.



GOING BEYOND the TEXT:

Watch the News Video “FDA Finds ‘Forever Chemicals’ In US Food Supply” at nieonline.com/tbtimes/videooftheweek.cfm?id=464. Then look through the *Tampa Bay Times* for articles focusing on the issues presented in the video.

Are you concerned about chemicals in your food? What about the water you drink? What chemicals other than PFAS are showing up in your food and water? Do you think the government is doing enough to keep our food safe? Are America’s food and water safer than they were 50 years ago or 100 years ago? Have any chemicals helped make food or water safer? Have any chemicals made our food and water more dangerous? In small groups, brainstorm steps that you can take to reduce environmental contamination. Share your conclusions with your class.

Florida Standards: Science: SC.35.N.1.1; SC.35.N.1.2; SC.35.N.1.3; SC.35.N.3.2; SC.612.N.1.1; SC.612.N.1.2; SC.612.N.1.3; SC.612.N.3.2 **Language Arts:** LAFS.35.L.1.1; LAFS.35.L.1.2; LAFS.35.L.2.3; LAFS.35.L.3.4; LAFS.35.L.3.6; LAFS.35.RF.3.3; LAFS.35.RF.4.4; LAFS.35.RI.1.1; LAFS.35.RI.1.3; LAFS.35.RI.3.7; LAFS.35.RI.3.8; LAFS.35.RI.3.10; LAFS.35.SL.1.1; LAFS.35.SL.1.3; LAFS.35.SL.2.4; LAFS.35.W.1.1; LAFS.35.W.1.2; LAFS.35.W.2.4; LAFS.35.W.2.5; LAFS.612.L.1.1; LAFS.612.L.1.2; LAFS.612.L.2.3; LAFS.612.L.3.4; LAFS.612.L.3.6; LAFS.612.RF.3.3; LAFS.612.RF.4.4; LAFS.612.RI.1.1; LAFS.612.RI.1.3; LAFS.612.RI.3.7; LAFS.612.RI.3.8; LAFS.612.RI.3.10; LAFS.612.SL.1.1; LAFS.612.SL.1.3; LAFS.612.SL.2.4; LAFS.612.W.1.1; LAFS.612.W.1.2; LAFS.612.W.2.4; LAFS.612.W.2.5



PASCO COUNTY RESIDENTIAL cooking oil recycling program



TIPS

- Never pour grease down the sink.
- Before washing pots and dishes, scrape food waste into the trash.
- Minimize use of your garbage disposal. It's not a trash can. A lot of small pieces can clog pipes.
- Use sink strainers and clean them often.
- Pour cooled oils and fats into a jug or can and bring them to a cooking oil recycling location.

When oil and grease are poured down your drain, they stick to the inside of sewer pipes and build up. This can cause blockages that back up sewage into your home or cause a sewer overflow onto neighborhood streets. Overflows can be expensive and are a health hazard. Cooking oils and grease also can cause septic system drain-field problems.

Recycling used cooking oils and grease helps decrease sewer blockages and reduces the county's pump station and sewer maintenance costs, saving our tax dollars.



Pasco County's residential cooking oil recycling program began in 2007 with just two drop-off locations, and has since grown to 19 locations, including manned recycling locations, over-55 communities, a residential location with 24-hour access, schools with culinary programs and county parks with concession stands. In 2018, Pasco County collected nearly 3,000 gallons of used fats and oils that otherwise might have gone down the drain.

Pasco County participates in the Cooking Oil Recycling Effort (C.O.R.E.) program, a statewide initiative to educate citizens and municipalities on residential cooking oil collection and recycling.

Used oils are processed for use in many products, such as poultry feed, soap, biofuel and fertilizer. It is a commodity in demand. Newer uses include lubrication for construction pilings. It can be an environmentally friendly substitute for petroleum.

C.O.R.E drop-off sites

Liquids and semisolids are accepted. Residents are encouraged to recycle all used cooking oils and fats, including bacon grease. Every ounce recycled is one less down the drain!

EAST PASCO TRANSFER STATION
9626 Handcart Road
Dade City, Fla. 33525

WEST PASCO RECYCLING CENTER
14606 Hays Road
Spring Hill, Fla. 34610

EMBASSY WWTP RECYCLING CENTER
(open Wed. - Sat.)
9512 Crabtree Lane
Port Richey, Fla. 34668

PASCO COUNTY FACILITIES
7220 Osteen Road
New Port Richey, Fla. 34653

ZEPHYRHILLS MAINTENANCE YARD
39421 South Ave.
Zephyrhills, Fla. 33542

WESTPORT COMMUNITY
Sea Breeze Drive
Port Richey, Fla. 34668

For more information about cooking oil recycling, call Pasco County Solid Waste, Environmental Compliance at 813-929-2755, ext. 2046.

Do your part to keep Florida waters clean – pick up after your pooch!

When it rains, water that is not infiltrated into the ground is referred to as “stormwater.” This excess water makes its way into gutters and storm drains, which lead to swales, ditches, canals and the ocean. Stormwater carries excessive amounts of nutrients from pet waste into these waterways, causing algae blooms, decreased oxygen in the water, and an uninhabitable environment for fish, waterfowl and other aquatic animals. Contaminated waters are also unsafe for swimming and can cause illness or even death in humans and pets.

What you can do:

- Always clean up after your pet using bags or scoopers
- Dispose in pet waste containers or in the trash
- Never put pet waste into storm drains or on the road
- When traveling with pets, remember to bring waste bags
- Ask your community about installing pet waste containers in your neighborhood

- Share the importance of picking up after pets with other pet owners

For more information, contact the Pasco County Department of Public Works at 727-834-3611.



Think before you flush



Never flush:

- Baby or cleaning wipes
- Paper towels or cloth rags
- Cloth or disposable diapers
- Feminine hygiene products
- Cotton balls, swabs or Q-tips
- Dental floss
- Family-planning products
- Coffee grounds
- Cat litter
- Contact lenses
- Prescription medication

For more information, call Pasco County Solid Waste, Environmental Compliance at 813-929-2755, ext. 2045.



GOING BEYOND the TEXT: How's my waterway?

Do you know the condition of waterways in your community? Visit the Environmental Protection Agency's How's My Waterway? website at watersgeo.epa.gov/mywaterway and enter your ZIP code or city and state to see the condition of waterways near you. Are nearby waterways polluted? What categories of pollution were found to be present? Choose one waterway and research each category of pollution and how people can reduce it using the “Plain English” button. Write a letter to the editor encouraging people in your community to take the EPA's recommended steps to reduce pollution. Use the letters to the editor in the *Tampa Bay Times* and online at tampabay.com/opinion/letters as examples.

Florida Standards: Science: SC.35.N.1.1; SC.35.N.1.2; SC.35.N.1.3; SC.35.N.3.2; SC.612.N.1.1; SC.612.N.1.2; SC.612.N.1.3; SC.612.N.3.2

Language Arts: LAFS.35.L.1.1; LAFS.35.L.1.2; LAFS.35.L.2.3; LAFS.35.L.3.4; LAFS.35.L.3.6; LAFS.35.RF.3.3; LAFS.35.RF.4.4; LAFS.35.RI.1.1; LAFS.35.RI.1.3; LAFS.35.RI.3.7; LAFS.35.RI.3.8; LAFS.35.RI.3.10; LAFS.35.SL.1.1; LAFS.35.SL.1.3; LAFS.35.SL.2.4; LAFS.35.W.1.1; LAFS.35.W.1.2; LAFS.35.W.2.4; LAFS.35.W.2.5; LAFS.612.L.1.1; LAFS.612.L.1.2; LAFS.612.L.2.3; LAFS.612.L.3.4; LAFS.612.L.3.6; LAFS.612.RF.3.3; LAFS.612.RF.4.4; LAFS.612.RI.1.1; LAFS.612.RI.1.3; LAFS.612.RI.3.7; LAFS.612.RI.3.8; LAFS.612.RI.3.10; LAFS.612.SL.1.1; LAFS.612.SL.1.3; LAFS.612.SL.2.4; LAFS.612.W.1.1; LAFS.612.W.1.2; LAFS.612.W.2.4; LAFS.612.W.2.5

The Pasco County Sanitary Sewer Collection System is a network of sewer lines, manholes and pumping stations. Many sewer line clogs are due to flushing wipes, trash and hygiene products down the toilet. Wipes are one of the main causes of problems in the wastewater collection system. Cleaning and baby wipes are not flushable; they do not disintegrate like toilet paper.

Sewer clogs not only have potential health risks, but also cost money for added maintenance and repairs to sewer lines and pump stations. Somebody has to pay, so protect your home and your wallet and be kind to our sewers. Help avoid backups by putting wipes, feminine hygiene products, family planning products, cotton swabs and cat litter in the trash and not down a drain.

Most clogs can be avoided. Think before you flush and protect your home and family from sewer backups. Your sink and toilet aren't garbage cans. Just because you can flush it doesn't mean you should.



About NIE

The Tampa Bay Times Newspaper in Education program (NIE) is a cooperative effort between schools and the Times Publishing Co. to encourage the use of newspapers in print and electronic form as educational resources — a “living textbook.” Our educational resources fall into the category of informational text, a type of nonfiction text. The primary purpose of informational text is to convey information about the natural or social world.

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In 2018-2019, NIE provided more than 1.4 million print copies and 10 million digital editions of the *Times* to area classrooms free of charge thanks to our generous subscribers and individual, corporate and foundation sponsors. NIE teaching materials cover a variety of subjects and are aligned to the Florida Standards.

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About Pasco County Recycling



Pasco County Recycling is committed to reducing the waste stream through recycling and reuse, encouraging environmental stewardship, and providing information and presentations to educate citizens about recycling and the benefits of waste reduction.

The Pasco County Recycling program offers educational presentations to groups such as civic associations, homeowners associations and youth groups on recycling. For more information or to schedule a presentation, contact the recycling office at 727-856-4539.



About Keep Pasco Beautiful



Keep Pasco Beautiful is a small, nonprofit environmental organization whose mission is to improve Pasco County by engaging the community in sustainable efforts to reduce litter, promote waste reduction and encourage beautification.

Keep Pasco Beautiful hosts two annual cleanups: the Great American Cleanup, on the first Saturday in March, and the Coastal Cleanup, on the third Saturday in September.

Each year, Keep Pasco Beautiful celebrates America Recycles Day by hosting the Pasco Upcycle Festival. Keep Pasco Beautiful also cosponsors Pasco’s award-winning Earth Day event on the fourth Saturday in April.

For more information about Keep Pasco Beautiful, waste reduction and the County’s Adopt-A-Road program, visit keepascobeautiful.org, email info@keepascobeautiful.org or call 727-834-3611, ext. 1072.

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