



ELIZABETH RIVER
PROJECT

RIVER STAR BUSINESS

ECO TIPS

GREEN PRACTICES FOR BUSINESSES.

You are invited to join more than 148 [River Star Businesses](#) (2023) who are making environmental stewardship the standard on the Elizabeth River. These River Stars since 1997 have documented reducing pollution voluntarily by 373 million pounds in partnership with the non-profit Elizabeth River Project, which operates the program. The River Star Business program is offered FREE for any facility in the Elizabeth River watershed.

As a precursor or in tandem with the program, the tips in this guide can be used to conserve energy and water, reduce pollution and waste, and conserve wildlife habitats and our waterways. The guide is organized into categories, which are then sorted by increasing investment of time and funds. The icons to the right indicate the level of investment, from minor, to moderate, and to large. They are not assigned specific ranges as they will scale to the size of your organization. Be sure to review how these environmentally friendly tips can help your organization **reduce costs, save resources, and help the river.**

TIME INVESTMENT



MONETARY INVESTMENT



CONSERVE ENERGY



Turn off non-essential lights and utilize natural light whenever possible. (Lighting typically accounts for 30% to 50% of buildings electrical use.)



Buy energy-efficient LED bulbs for lights that are most used. (LED bulbs last 10x longer and use about 75% less energy than standard incandescent bulbs. On average, savings total about \$30 or more in electricity costs over each bulb's lifetime.)



Set thermostats to moderate temperatures - In warmer months, set up to 75 degrees when space is occupied and 80 degrees when not occupied. In cooler months, set down to 68 degrees or below. (For each degree adjusted, save up to 5% on your heating/cooling costs.)



Clean or replace air filters as recommended. Cleaning a dirty air conditioner filter can save 5% of the energy used.



Cut phantom electric loads by installing surge protectors for non-essential appliances, monitors, computers, etc. and turning them off when not in use. (Phantom loads account for 6% of our nation's electrical use.)



Install a programmable thermostat. (It will likely pay for itself within one year.)



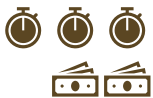
Install motion sensors for light fixtures in less occupied spaces, or where lights tend to be left on.



Replace incandescent exit signs with LED exit signs.



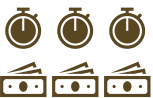
Replacing fluorescent lighting with LED can cut costs in half. Meanwhile, use “green tip” fluorescent tubes, which contain less mercury than counterparts. *Be sure to recycle spent fluorescent bulbs. Visit the EPA's site on [Recycling and Disposal of CFLs and Other Bulbs that Contain Mercury](#).*



Conduct an audit or review of the facility's energy and resource use. Establish policies about conserving energy and post prompts such as signage on light switches to “turn off lights.” (The process could be as informal as a walk-through or as comprehensive as a facilities audit via utility provider. The information gathered will be useful in setting energy efficiency goals and measuring results.)



Tune-up heating and cooling systems to improve efficiency. Insulate water heaters and set hot water temperatures to the lowest practical temperature. Maximize insulation and caulk/weather-strip leaky doors and windows.



Renewable Energy:

- ☛ Install a solar water heater to reduce use of gas hot water heater.
- ☛ Install a solar thermal heating system for space heating.
- ☛ Install solar panels and/or wind turbine for electricity generation.



Purchase Energy Star appliances, products, and lights. Last year, EPA's ENERGY STAR program for commercial and industrial spaces helped businesses and organizations avoid:

- ☛ \$14 billion in energy costs
- ☛ 230 billion kWh of electricity
- ☛ 170 million metric tons of greenhouse gas emissions

The ENERGY STAR website has helpful tools, such as a [Building Upgrade Manual](#) and these [Guidelines for Energy Management](#). The manual is a comprehensive guide to profitable energy efficiency upgrades with Energy Star products. The guidelines will facilitate self-assessments in energy usage performance.

CONSERVE WATER



Post “No Grease” signs above sinks, scrape plates into trash cans and dry wipe pots, pans, and plates prior to washing. Less water will be used for cleaning and there will be a reduction or elimination of fats, oils and grease entering the sewer system.

Promptly report sewer overflows: Chesapeake 757-382-1489, Norfolk 757-823-1000, Portsmouth 757-393-8691, Virginia Beach 757-385-1470, or Virginia Department of Environmental Quality 757-518-2000 or 1-800-468-8892. More information is available at hrfog.com/Home/Learn.



Only run dishwashers and/or washing machines when they are full. Food and drink service - The most efficient commercial dishwashers reuse water from one wash load to the next, using one or more holding tanks. (ENERGY STAR qualified commercial dishwashers can reduce both energy and water use by 25%.)



Food and drink service – Serve water to guests who request it rather than a standard service. (This also reduces the number of glasses that need to be washed.)



Inspect faucets, toilets, and other water fixtures for leaks. Schedule repairs as soon as possible. (A faucet dripping at a rate of 1 drop per second has the potential to waste 7 gallons of water per day, and over 2,500 gallons per year.)



Replace old faucets, shower heads, toilets, washing machines, and dishwashers with water saving features, such as motion-sensor, low-flow or retrofit if possible.



Food and drink service – Install water-efficient faucet aerators in prep sinks and change prerinse spray valve to a high-efficiency model.

For more information that is specific to your organization or business operations, the [EPA's "WaterSense at Work"](#) is a helpful guide on water-efficiency best management practices.

REDUCE AIR POLLUTION



Implement a “No-idle” car policy for staff and encourage community to follow suit. (Idling cars and trucks emit air pollutants that are responsible for a wide range of environmental and health problems, including global warming, smog, acid rain, and respiratory illnesses. An EPA study revealed that one hour of idling can burn a whole gallon of fuel and release almost 20 pounds of carbon into the atmosphere.)



In vehicles belonging to the organization, check the inflation on tires to increase fuel efficiency and change air filters according to the vehicle manual.



Use local vendors to minimize fuel usage, or partners who utilize fuel-efficient vehicles.



Choose alternative transportation to help the river. As you might expect, vehicles are a large contributor of carbon dioxide.

Encourage employees to:

- 🌿 Bike or walk to work
- 🌿 Take mass transit
- 🌿 Carpool

Supply employees with:

- 🌿 Bike racks
- 🌿 Opportunities to telecommute
- 🌿 Preferred parking for carpoolers and/or hybrid and electric vehicles



Replace fleet vehicles with more efficient models, or better yet, hybrid or electric vehicles.



Plant trees when employees travel beyond every-day commuting. Here are some guidelines:

- 🌿 1 tree every 2,000 miles by car
- 🌿 1 tree every 1,300 miles by plane
- 🌿 1 tree every 1,000 kilowatt-hours (one kWh = 1.124 pounds CO₂)



Purchase Renewable Energy Credits through a [Green Power Program](#). (Renewable energy reduces CO₂ emissions from petroleum-based energy.)

REDUCE POLLUTION & WASTE



Use natural, biodegradable, or less toxic cleaning products. (One of the main sources of chemical pollutants is everyday detergents. [Use EPA's Safer Choice to find products that perform and contain ingredients that are safer for human health and the environment.](#))



Reduce printing by sharing information digitally or by printing/copying on both sides of paper. (The average U.S. office worker goes through 10,000 sheets of copy paper per year.)



To reduce waste from excess packaging, buy in bulk and use refillable containers wherever possible.



Replace disposable cups, plates, and utensils with those that are reusable to reduce waste. For food and drink service or events that require single-use utensils, serve ware, and containers, use products that are plant-based and compostable.



If you are a restaurant or hosting events, donate left-over food to a local compost facility and/or a food bank or shelter. (Food waste causes methane in landfills that is 22x more potent than CO₂.)



Properly store chemicals to reduce the risk of an accidental spill. All waste, hazardous and non-hazardous, shall be properly disposed of to comply with all environmental rules and regulations and to prevent environmental contamination.

Guidelines for disposal and contact information can be found: [Southeastern Public Service Authority](#) and here <https://www.hrsd.com/non-residential-customer>.



Eliminate or reduce chemicals, fertilizers, and pesticides on grounds. (Nutrient and chemical pollution contribute to harmful algal blooms and other negative impacts on marine life.)



Arrange for product shipments to arrive in returnable crates, racks, and/or containers.

Contact vendors to determine if this option is available and discuss this and other packaging waste reduction strategies with your suppliers.



Donate fixtures, cabinetry, furniture, or office equipment instead of disposal after updating, redecorating, or renovating spaces.



Food and drink service - Use a first-in first-out inventory policy for raw materials to prevent them from spoiling. Rotate perishable stock at every delivery to minimize waste. (Strict inventory control is the most effective and cost-efficient way to prevent food waste.)



Food and drink service – Install and properly maintain a grease control device. Store cooking oil in a leak-proof container and position away from storm drain openings. Fats, Oils and Grease harden after cooling, which can cause sewer pipes to clog and overflow.

To learn more, visit askhrgreen.org/gtk-gtd/restaurants-grease-control/.



Food and drink service - Serve draft beer and fountain soft drinks instead of cans and bottles (reduces costs and waste).



Install outdoor ashtrays or cigarette stub receptacles to reduce litter. (Cigarette stubs are generally the #1 littered item and contribute to microplastic pollution.)

While supplies last, [askHRgreen.org](http://askhrgreen.org) is offering FREE cigarette waste receptacles through a regional grant program. The grant program is part of the #NoButtsAboutIt cigarette litter prevention initiative taking place across Hampton Roads. [Apply here.](#)



Implement a Recycling Program:

- ♻️ Recycle paper, aluminum, glass, plastic, and cardboard. (Visit your municipality's waste management website or a commercial recycling provider website, such as [Waste Management](#), [TFC Recycling](#), [RDS Recycling](#), or [Bay Disposal & Recycling](#), for further recycling guidelines.)
- ♻️ Recycle toner and ink cartridges and replace with refurbished products.
- ♻️ Purchase recycled content paper or paper certified FSC (Forestry Stewardship Council).
- ♻️ Food and drink service - Collect and send used yellow grease to a certified hauler for recycling into biofuels. (Companies will often provide storage barrels and free pick-up service.)



Use recycled and/or reclaimed materials when decorating, renovating, or building spaces.



Install water fountains for reusable water bottles.

The EPA has a [comprehensive guide](#) in helping commercial spaces manage and reduce waste.

“ONLY RAIN DOWN THE STORM DRAIN”



Eliminate pouring or rinsing wash water (any water used to clean or wash materials/equipment) down a storm drain or gutter.



Food and drink service - Clean equipment such as floor mats, exhaust filters, garbage cans, carts, or tray racks in a designated indoor area such as a janitor/utility/mop sink or floor area with a drain connected to the sanitary sewer (in accordance with HRSD permits and wastewater discharge requirements).

Store cooking oil in a leak-proof container and position away from storm drain openings. Clean up spills immediately. For more information, visit: <http://www.hrfog.com/Home/Learn>



Reduce harmful bacteria by not feeding geese, which also helps them migrate. (Resident Canada geese populations have increased dramatically in Hampton Roads and their fecal matter contains harmful bacteria that can wash into the river.)



Harvest rainwater in rain barrels or cisterns to water plants or other non-potable needs. (Rainwater is healthier for plants since it is not chlorinated like water from public utilities.)



Create opportunities to capture and treat stormwater. (Install a rain garden, which is a landscaped area with special soils to naturally absorb and filter rainwater.)



Reduce impervious surface through shared parking areas, porous pavement or pavers, or even a vegetated green roof.

It is important to keep everything out of the storm drain except rain. The #1 source of new pollution in the Elizabeth River is runoff from rain. Urban storm drains typically send the river a “toxic soup” of oil and pollutants from roads and roofs, while excess nutrients are carried from landscaped grounds – not just fertilizers, but leaves, grass clippings and dog waste.

MITIGATE & ADAPT TO FLOODING RISK



Get involved with local planning and policy. Your business or organization can become a center of community engagement if you decide to spread knowledge about preparedness.



Elevate or move critical items, like equipment, vehicles, and records to higher areas/floors.



Safeguard pollutants on higher floors as well to prevent release during flooding.



Plan for different scenarios and establish emergency preparedness. Compile and share knowledge of where and how to shut off critical facility utilities, such as electric power, gas, water, hydraulics, compressed air, sewer systems, etc. Visit AdaptVA.com for tools to assess risk, resources, case studies, forecasts, and more.



Install flood barriers or cofferdams to protect entrances and other important areas.



Manage stormwater through pervious paving systems, preserving native vegetation, and other stormwater infiltration systems. Ensure routine inspection/cleaning out of facilities associated drainage systems such as, but not limited to culverts, gutters, down spouts, and associated piping.



Revisit your insurance policy and ensure flooding and extreme weather event coverage. Have an understanding of whether or not facilities under your supervision are located in a flood plain, history of flooding in such areas, and elevation of facilities in relation to streams and rivers.



Take stock of your infrastructure and repair/retrofit as necessary. As cities adapt regulations, be sure to keep track of amended/updated building codes. (Sea level rise could damage infrastructure in the future.)



Modify land use wherever possible to preserve coastal wetlands or construct living shorelines. (Coastal wetlands act as buffers to storm surges. Protecting and understanding the ability of existing wetlands to provide protection for coastal infrastructure in the future is important.)

VIMS (VA Institute for Marine Science) is predicting that sea level will rise at Norfolk by 0.49 meters (1.61 feet) between 1992 and 2050, with a 95% chance that mean sea level in 2050 will be between 0.29 and 0.67 meters (0.95 to 2.20 feet) above 1992 mean sea level. Localities should plan for sea level rise using 1.5 feet of relative sea level rise above current mean higher high water (MHHW) for near-term planning, 3 feet of relative sea level rise above current MHHW for medium-term planning, and 4.5 feet of relative sea level rise above current MHHW for long-term planning.

COMMUNITY & EMPLOYEE ENGAGEMENT



Encourage employees and constituents to participate in volunteer opportunities like cleanups and restoration projects. ([ERP Volunteer opportunities can be viewed here.](#))



Encourage Employees to become a [River Star Home](#) (for homes located within the Elizabeth River Watershed) or a [Bay Star Home](#) (for homes located regionally).



Designate “Green Champions” or create a “Green Team” committee to lead your organization on environmental/sustainability initiatives. (Empowering employees and constituents has shown to further sustainability efforts.)



Set environmental goals for the organization and announce on website and/or employee communications (bulletins, newsletters).



Track sustainability goals, mark milestones, and celebrate achievements.

It is also possible to mentor and engage another organization by recruiting a fellow facility into the River Star Businesses program, partnering with a River Star School, attending a River Star site visit, providing expertise to another River Star, and/or partnering with another River Star Business on an environmental project. (Let us know if you are interested in becoming a mentor!)

ENHANCE WILDLIFE HABITATS



Establish a “no-mow” zone to allow native plants and grasses to grow. A fence or tidy border can help delineate. Signage can help educate on habitat value.



Plant a variety of native plants and trees:

- ▀ Provide food in the form of nuts, berries, seeds, nectar, or pollen at different times of the year.
- ▀ Require less maintenance because they are adapted to local environmental conditions and do not need pesticides as they are less susceptible to disease from insects.
- ▀ Save money from needing less fertilizer and water.



Convert portion of lawn into hedgerow, brier patch, and/or meadow:

- ▀ Dense vegetation provides cover and nesting sites for wildlife.

☛ Meadows with native, warm-season grasses thrive during hot, dry summer months, unlike fescue that would require excessive watering.



If your shoreline is eroding, construct a living shoreline to:

- ☛ Reduce erosion and land loss.
- ☛ Attract butterflies and songbirds with beautiful, salt-tolerant native flowers and shrubs.
- ☛ Discourage geese from entering the property.
- ☛ Reduce polluted runoff from the property.



If you have access to a dock and salty water, oyster garden to help the river (three batches count for habitat credit as a River Star Business).

- ☛ Occurs annually in partnership with the Chesapeake Bay Foundation.
- ☛ The tended oysters are placed on sanctuary reefs.
- ☛ Oyster reefs help improve water quality. (A single 3” oyster can filter up to 50 gallons of water in a single summer day.)
- ☛ Oyster reefs provide shelter and food to numerous coastal species and help buffer coasts from erosion caused by waves.
- ☛ Oyster reefs help ensure the safety and quality of Virginia’s shellfish industry.

For general information, review the [Virginia Department of Conservation and Recreation native plant website](#). For a comprehensive approach, refer to Elizabeth River Project’s [Wildlife Habitat Guide for Restoration and Landscaping in the Elizabeth River Watershed](#). The guide not only lists native trees and shrubs for Hampton Roads, but even shows you how to construct an osprey platform! For more information on getting started as a new oyster gardener, [refer to the Chesapeake Foundation’s Oyster Gardening Program here](#).