

[Test] WET's Dragonfly Gazette on Virtual Water

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# Dragonfly Gazette

GEORGIA PROJECT WET Environmental Protection Division

## Winter 2018

HELLO from your Georgia Project WET Coordinators -- Jo Adang and Monica Kilpatrick!

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## Diving into VIRTUAL WATER



### Let's look deeply into the water we use everyday.

Most people are only slightly aware of how much water they use throughout the day. In a 2014 [Indiana University survey](#) more than one thousand Americans were asked to estimate the amount of water it takes to flush the toilet, wash clothes, and other kinds of normal household uses. On average, participants **underestimated their use by a full factor of two**. How accurate would you be? With Project WET activities such as *Water Audit* and *My Water Footprint* we can explore our personal water consumption in everyday life and be pretty certain how much we use.

Is this you?

The USGS estimates the average daily use of water in the U.S. is between 80-100 gallons per person.

**But that's NOT the only way we use water. . .**

Flushing, drinking, and washing are only part of our water-use story. In developed countries, every bite of food, every mile we drive, every light switch we flip relies on water before it reaches us. We call this **Virtual Water.**



Virtual water is the total water used in production of a good or service - any goods or services — **agricultural, industrial or otherwise** — that consume freshwater during their production. This video can explain more:

<https://www.youtube.com/watch?v=ca3fBBiz-3U>

**Virtual Water**

Here's what it takes to produce 1 gallon of milk:

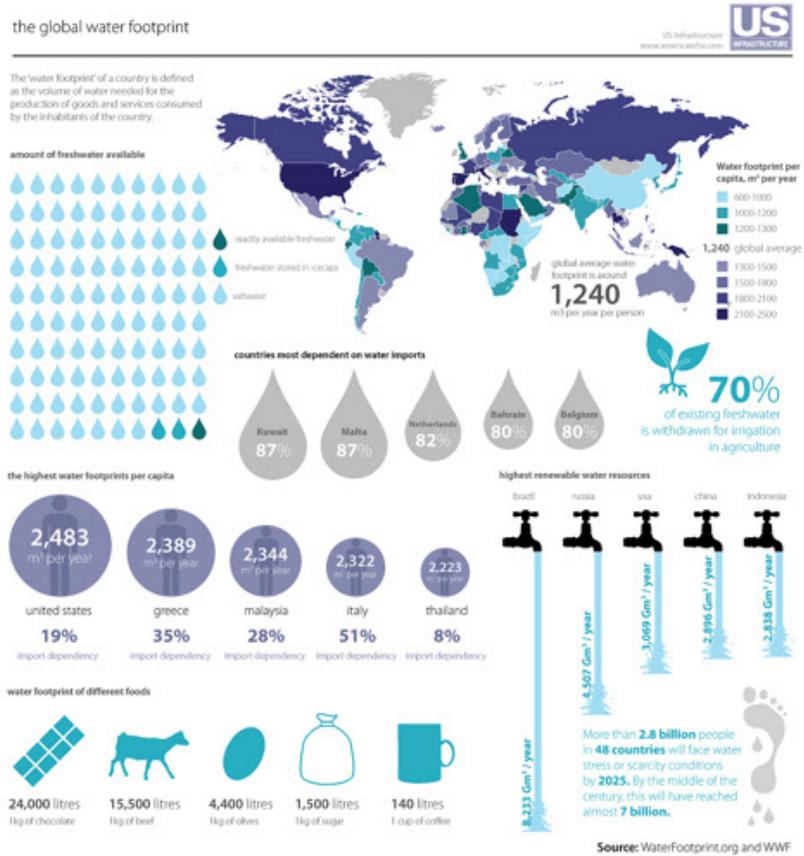
<b>Source</b>	<b>Volume of Virtual Water</b>
<b>Directly used in production</b>	
Rainfall on pasture	106 gallons
Irrigation of pasture	79 gallons
Stock drinking water	3 gallons
<b>Indirectly used in production</b>	
Rainfall and irrigation water used in production of feed grain	53 gallons
<b>Total</b>	<b>241 gallons of Virtual Water needed to produce 1 gallon of milk</b>

Here is how much *Virtual Water* is used to make your cell phone!

**Your Water Footprint**

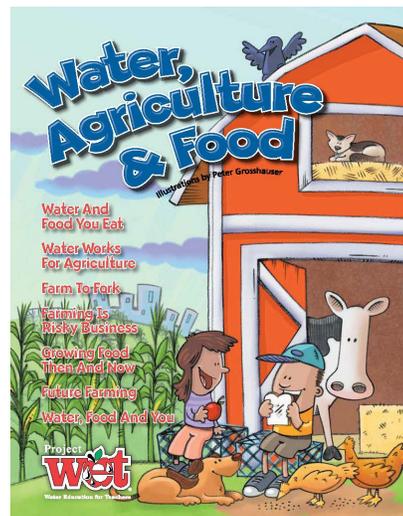
All of that *virtual water* use + your actual daily use is your Water Footprint.

The average American has a "water footprint" of 2,220 gallons per day!



The number above comes from a new [water footprint calculator](#). This calculator probes broader and deeper than others in the past, using national data and behavioral studies to average the number of gallons per day associated with your energy and fuel consumption, shopping habits, recycling habits, meal choices, and even pet food purchases, on top of normal household uses.

### New KIDS Booklet



The Project WET Foundation is developing a new KIDS Discovery Booklet on Water, Agriculture, & Food which ties in nicely with a Virtual Water discussion. Get your copy soon at [store.projectwet.org](http://store.projectwet.org).

**Learn More about Virtual Water:**  
Agricultural use of water in Georgia

<https://gaswcc.georgia.gov/ag-water-use-data-0>

<https://gaswcc.georgia.gov/ag-water-quality-initiative-index>

<http://agr.georgia.gov/manufactured-foods.aspx>

#### Virtual Water use in China

<https://www.earthmagazine.org/article/virtual-water-tracking-unseen-water-goods-and-resources>

#### VW Info Graphics and Posters

<http://virtualwater.eu/>

<http://thewaterweeat.com/>

#### Waterwise UK Challenge

<https://21stcenturychallenges.org/what-is-virtual-water/>

#### What would happen if the US became Vegan?

<http://www.sciencemag.org/news/2017/11/what-would-happen-if-all-americans-went-vegan>

#### Can Eating Right can be good for the Environment?

<http://www.latimes.com/science/sciencenow/la-sci-sn-dietary-guidelines-environment-20171204-story.html>



**Challenge your students to investigate these ideas about Virtual Water and their own Water Footprint.**

1. It has been suggested that consumers can dramatically reduce their indirect water consumption by doing the following. What effect would these activities actually have on an individual's use of water and on our water resources in general?

- waste less food;
- select comparable products that use less water;
- substitute types of food that use more water for types that use less;
- become a vegetarian.

2. Does larger virtual water use equal environmental harm? Could our own conservation efforts have an effect on indirect water use?

3. Measuring Virtual Water estimates also present some questions:

- Are all sources of water, whether in the form of rainfall or provided through an irrigation system, of equal value?
- Would water use that might be reduced from a high water use activity be available for use in a less water intensive activity? For example, would the water used in beef production necessarily be available to produce veggie burgers instead? Would it be practical and/or economical? What are the problems with this trade-off?
- Do Virtual Water estimates provide any indication of whether water resources are being used sustainably? What guidance do policy makers need to ensure that environmental objectives are being met in the production of goods and services?

### **Project WET activities you might use to study this:**

**A Drop in the Bucket** – By estimating and calculating the percentage of available fresh water on Earth, students understand that this resource must be used and managed carefully.

**My Water Footprint** – Students learn about water footprints and construct a "Water Meter" to keep track of their personal water use.

**Water Audit** -- Students discuss water sources and water conservation concepts, conduct a home and school water audit, and compare and contrast results with and without the implementation of water conservation practices.

**Virtual Water** -- Students create a "water web" to illustrate their dependence on water and the interdependence among water users, producers and people worldwide.

**8-4-1, One for All** - Representing eight different water users, students must safely carry one water container "downstream".

**The Long Haul** -- Students recognize how hauling water can make them more aware of the need to conserve.

**Money Down the Drain** -- Through observation and simple calculations, students learn that a dripping faucet wastes a valuable resource.



Visit [DiscoverWater.org](http://DiscoverWater.org) to create virtual water awareness posters and engage students in ACTION EDUCATION!



The 2018 River of Words Contest is almost here! Georgia's ROW postmark deadline is **February 1**, so hurry to send in your ART and POETRY entries. See complete rules and entry forms at [Projectwet.ga.org](http://Projectwet.ga.org).



We are now taking nominations for our GA Project WET Awards:

1. 2018 Georgia Project WET School/Organization of the Year
2. 2018 Georgia Project WET Educator of the Year

These very special people will be honored at the EEA Conference in March.

Nominate someone you believe in by **February 15**:

[Nomination \(pdf form\)](#)



### World Wetlands Day with a PW Discount

On **February 2nd**, educators all over the world will teach students about wetlands. With Project WET's teacher-approved activity booklets, students in

**10%  
OFF** YOUR TOTAL  
PURCHASE  
OVER \$10

Use coupon code WETLAND at checkout

grades 3-6 will have fun learning about the environmental and cultural impact wetlands have on our communities. And to celebrate World

Wetlands Day, [ProjectWET.org](http://ProjectWET.org) is giving you an exclusive 10% discount on any purchase over \$10!



### Save the dates and join us!

The Environmental Education Alliance of GA's Annual Conference, **March 2-4, 2018** at Unicoi State Park. Learn more and [Register here.](#)



**Project WET Facilitators--** please plan to attend the Facilitators' Council meeting at the EEA Conference, **March 3**, Unicoi State Park during lunch. Bring your questions, ideas, and concerns. See you there! (*remember, this counts as your participation credit to maintain Facilitator status!*)



### EPA Teacher and Student Awards

Applications are now being accepted for the next round of EPA's student and teacher awards. **Applications are due March 1, 2018.**

**FOR YOUTH:** [President's Environmental Youth Award](#) (PEYA)  
(<http://go.usa.gov/3u7XB>):

The PEYA program recognizes outstanding environmental projects by K-12 youth to promote environmental awareness.

**FOR EDUCATORS:** [Presidential Innovation Award for Environmental Educators](#) (PIAEE): (<http://go.usa.gov/3u7XQ>)

The PIAEE program recognizes outstanding K-12 teachers who employ innovative approaches to environmental education and use the environment as a context for learning for their students, **and who will be awarded up to \$2,500** to be used to further their professional development in environmental education.



### Wildlife Viewing Grants: Projects Sought

WANTED: Projects that can use a hand helping Georgians enjoy and better understand animals, plants and habitats emphasized in [Georgia's State Wildlife Action Plan](#) that promote wildlife viewing.

The application deadline is **Feb. 1, 2018**.

Details are available at [www.georgiawildlife.com/WildlifeViewingGrants](http://www.georgiawildlife.com/WildlifeViewingGrants).



### **First Lego League Challenge Lesson Plan from Project WET**

Download this FREE lesson plan designed to increase understanding of the Human Water Cycle and help students better address this year's FIRST® LEGO® League Challenge on Hydro-Dynamics. Assembled in response to educator inquiries, the lesson plan is available at no cost in the Project WET on-line store: <http://store.projectwet.org/lego-challenge-lesson-plan-the-human-water-cycle.html>



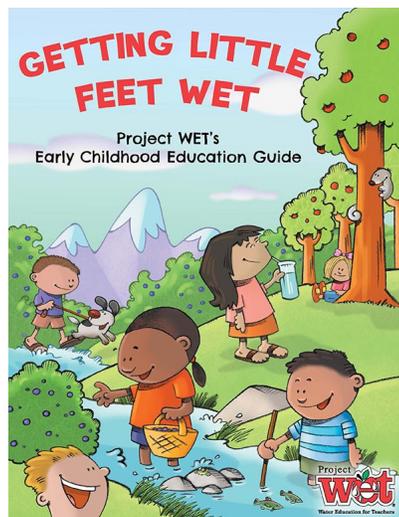
### **28th Annual Give Wildlife a Chance Poster Contest**

Open to K-5<sup>th</sup> graders, students are challenged to create artwork based on the annual theme ("Nature at Night.") and according to the contest rules. The deadline is **April 13, 2018**.

[www.georgiawildlife.com/PosterContest](http://www.georgiawildlife.com/PosterContest)



### **Getting Little Feet WET!**



Our newest publication for our youngest learners debuted last March 22, World Water Day! **Getting Little Feet WET** features 11 fun activities for ages 3-6, correlated to national standards and reflects all of Project WET's water principles. Visit the [Project WET store](#) to purchase your digital or printed copy. Many of the activities are linked to "Water We Singing About", a volume of kid-friendly songs about water written by

the NJ WET coordinator, Keven Kopp. [Purchase the CD here](#).



**Our website is full of resources for you!**

Be sure to visit us here often to find the latest information and stuff. Check out **Educator Resources** and the **Tool Box** for starters.

[ProjectWET.Georgia.gov](http://ProjectWET.Georgia.gov)



### **Searchable database for Standards**

**UPDATED!** With the standards database, all of the correlations are easy to access for WET 2.0 activities covering Georgia and National subject area standards. [Try it out!](#)



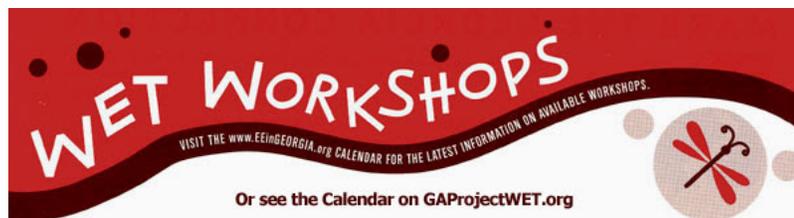
### **Shop at Kroger, Earn Money for EEA**

Our professional organization Environmental Education Alliance (EEA) is a member of the Kroger Community Rewards Program. You can now support EEA just by shopping at Kroger and using your Kroger Plus Card. They can earn up to \$8000 per quarter! [Learn how to register your card for EEA.](#)



### **Use AmazonSmile to Donate to EEA**

Did you know that you can use AmazonSmile to donate to EEA while you shop? Amazon donates 0.5% of the price of your eligible AmazonSmile purchases to EEA. [Select EEA as your charitable organization.](#) Search for “Environmental Educational Alliance Inc.”

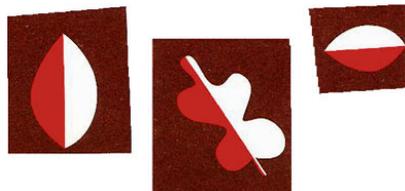


### **Triple Facilitator Workshop!**

Join us for the WET, WILD, PLT Facilitator training, **March 23-24, 2018** in Forsyth, GA (off S I-75, just 45 minutes south of Atlanta). [INFORMATION and REGISTRATION FORM.](#)

Find more workshops near you on [EE in Georgia!](#)





Your Georgia Project WET Coordinators:

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[Monica Kilpatrick](#)

Project WET

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