MARY JANE DOCKERAY SCHOLARSHIP 2014 WINNERS ANNOUNCED

Three Mary Jane Dockeray Scholarships were awarded for 2014. The scholarship awards are granted to graduating seniors from Kent, Ottawa, or Muskegon counties who plan to pursue a career in the sciences. The scholarships are offered in honor of Mary Jane Dockeray, founding curator of the Blandford Nature Center in Grand Rapids. Dr. Dockeray serves as chairperson of the selection committee and takes an active role in the award process.

GREAT LAKES CLIMATE CHANGE COURSE

The topic of climate change in the Great Lakes will be explored in this 1 credit or 30 SCECHs GVSU Education 600 course to be held Muskegon on June 26 and June 27.

GVSU HOSTS THE 15TH ANNUAL MICHIGAN HIGH SCHOOL MATH AND SCIENCE SYMPOSIUM

The 15th Annual Michigan High School Math and Science Symposium (MHSMSS) took place Wednesday, April 30th at the downtown campus of Grand Valley State University.

PROFESSIONAL LEARNING OPPORTUNITIES OFFERED BY THE RMSC

As you and your district make plans for professional learning for the 2014-2015 academic year, be sure that you are aware of the offerings available through the GVSU Regional Math and Science Center.

DISCOVER MILLENNIUM PARK PROGRAM FOR FAMILIES

The Kent/MSU Extension Master Naturalist program and Kent County Parks is sponsoring a free and fun discovery program for kids of all ages!

WEST MICHIGAN TEACHER RECOGNIZED AS MSTA SCIENCE TEACHER OF PROMISE

The Board of the Michigan Science Teachers Association (MSTA) has selected Kristy Butler as the 2014 Science Teacher of Promise.

DON’T MISS THE BIENNIAL CONFERENCE ON CHEMICAL EDUCATION THIS SUMMER!

The Biennial Conference on Chemical Education (BCCE), sponsored by the American Chemical Society, is coming to Grand Valley State University from August 3 – 7, 2014.

PARTICIPATE IN THE 65TH ANNUAL MCTM CONFERENCE!

Join other math educators on the campus of Hope College in Holland, Michigan this summer for the 65th Annual - MCTM (Michigan Council of Teachers of Mathematics) Conference, which is being held August 6 & 7, 2014.
SAVE THE DATE TO CELEBRATE WITH US! THE RMSC TURNS 25 YEARS OLD!
For almost 25 Years, the mission of the Regional Math and Science Center (RMSC) at GVSU has been to provide and coordinate leadership programs and services to achieve excellence for all in the teaching, learning, and application of mathematics and science. [full story]

PROFESSIONAL DEVELOPMENT OPPORTUNITY: NGSS ENGINEERING DESIGN
Kent ISD is offering professional development on STEM lessons designed to meet NGSS Engineering Standards and multiple CCSS, for teachers grades 8-12. [full story]

PREPARE FOR THE SECOND ANNUAL MATH-TEAM-MATICS COMPETITION!
This fun and friendly competition will feature creative and engaging problems to bring the mathematical practices to life. [full story]

FALL SCIENCE UPDATE □ SAVE THE DATE!
The 30th annual Fall Science Update Seminar hosted by the Regional Math and Science Center at Grand Valley State University (GVSU) will be held Wednesday, November 19, 2014. [full story]

SAVE THE DATE FOR MATH IN ACTION 2015!
Mark your Calendars! The annual Math in Action Conference will be held in Mackinac Hall on the GVSU Allendale Campus on Saturday, February 21, 2015. [full story]

WOMEN OF STEM □ JOIN FABFEMS!
The FabFems directory is a national database of women in science, technology, engineering and mathematics (STEM) professions who are inspiring role models for young women. [full story]

UNQUENCHABLE: AMERICAS WATER CRISIS AND WHAT TO DO ABOUT IT BY ROBERT GLENNON
Book Review by Dane Gorris, in coordination with Dr. Erik Nordman, Ph.D., Grand Valley State University [full story]

CALENDAR OF EVENTS
Calendar
Mary Jane Dockeray Scholarship 2014 Winners Announced

Three Mary Jane Dockeray Scholarships were awarded for 2014. The scholarship awards are granted to graduating seniors from Kent, Ottawa, or Muskegon counties who plan to pursue a career in the sciences. The scholarships are offered in honor of Mary Jane Dockeray, founding curator of the Blandford Nature Center in Grand Rapids. Dr. Dockeray serves as chairperson of the selection committee and takes an active role in the award process.

CORY HIGHWAY

Cory Highway is a senior at East Kentwood High School and is a true outdoorsman, enjoying hunting, fishing and camping. Throughout high school, Cory has been involved in student council and is the student representative on the School Board of Education. He also volunteers through the National Honor Society. Cory will be attending Grand Valley State University’s honors college in the fall to study wildlife biology. His teacher reports that, "Cory's initiative, organization, delegation and passion for his school and his community have been key components in his leadership ability. This leadership has enabled him to positively impact each endeavor he is involved in. He is amiable, intelligent, funny, and has the unique ability to connect with everyone around him."

GRACE ROBINSON

Grace Robinson is a senior at Northpointe Christian High School. She decided she wanted to be a geologist with the utmost conviction when she was in fifth grade. In high school, she attended a one-week summer course on Geology of the Upper Peninsula at Michigan Tech University. She has been a tutor and involved in the National Honor Society and Model United Nation programs. Grace plans to study Geology at GVSU in the Meijer Honors College. Grace's teachers report, "Grace has strong perseverance and problem solving skills, and a strong drive when working independently or in a group. Throughout Grace's development, she has demonstrated strong independence, resilience, and creativity."

HEATHER STUECKEN

Heather Stuecken is graduating from Coopersville High School and has been involved in many outdoor activities and has a love for almost anything that has an engine, tires and moves. She has been involved in an engineering class at her high school where they build and race electric cars at the national level, as part of the Electrathon team. Heather is the team captain and driver. At Grand Rapids Community College, she plans to study science and engineering to incorporate the use of technology through engineering to discover new ways to better the planet and the environment. Heather’s teacher is impressed with her maturity and states, "Heather has demonstrated the ability to lead, and has shown a high level of problem solving skills. Heather is also very creative and has great initiative. She works extremely hard, is extremely dependable and performs well at everything she tries."

Congratulations to this years Dockeray Scholarship winners. The $1500 scholarships may be applied toward tuition, fees, or other educational costs at a two or four-year college or university.
Great Lakes Climate Change Course

The topic of Climate Change in the Great Lakes will be explored in this 1 credit, or 30 SCECHs, GVSU Education 600 course. The workshop will be held in Muskegon on June 26 and June 27, 2014.

The science and policy relating to current climate change issues will be highlighted as well as Great Lakes specific curriculum for the classroom. Special attention will be given to developing units aligned with the Common Core and Next Generation Science Standards.

This course is part of GVSUs Hot Topics for Educators Series. Contact Janet Vail at vailj@gvsu.edu for details.
GVSU Hosts the 15th Annual Michigan High School Math and Science Symposium

The 15th Annual Michigan High School Math and Science Symposium (MHSMSS) took place Wednesday, April 30th at the downtown campus of Grand Valley State University. MHSMSS showcases high school students from around the state and their research. Research topics presented by the students included dance therapy for individuals with Parkinson's disease, solar flares, the benefits of roof-top gardens, and bird calls. High school students could present their research during a poster session or through an oral presentation.

The Regional Math and Science Center would like to congratulate all of the presenters on a great job this year! The amount of work they have put into their research and presentations is evident. Also, we would like to thank all of our observers who were either mentors of student presenters or fellow students that served as an intent and interested audience for our presenters.
As you and your district make plans for professional learning for the 2014-2015 academic year, be sure that you are aware of the offerings available through the GVSU Regional Math and Science Center. NEW this year are best practice sessions that can be scheduled at your school / district site at minimal cost. Check out the list below.

These opportunities also include two scheduled workshops with substitute reimbursement assistance available held on the GVSU Allendale Campus, and our signature annual conferences. The following are highlights of these programs for the upcoming school year. Watch the RMSC website www.gvsu.edu/rmsc, for more detailed information.

Scheduled Workshops:

(Registration materials for these workshops are available on the RMSC Website.)

- Orchestrating Mathematics Discussions in the High School Classroom (Flier)
  - Audience: Secondary mathematics teachers of algebra
  - Dates: October 7, November 13, & December 12, 2014
  - Location: GVSU Allendale Campus
  - Description: Based on the 5 Practices for Orchestrating Productive Mathematics Discussions and materials developed through the award-winning PRIME program, this workshop will provide teachers with concrete guidance for engaging students in meaningful discussions around mathematics in a way that is accessible and manageable for teachers. The content used for examples will be algebra-based.
  - Facilitators: Chelsea Ridge & Karen Meyers
  - Cost: $60 per person for the series; grant funds are available to assist with substitute reimbursement costs.

- Effective, Engaging Strategies for Writing in Science (Flier)
  - Audience: Secondary science teachers
  - Dates: October 14 & November 5, 2014
  - Location: GVSU Allendale Campus
  - Description: This two-day workshop will help teachers learn how to incorporate writing strategies into science instruction. This series will look at ways that writing can be used in the grade 6-12 science classroom that are effective, will engage students, and provide avenues for evaluating student learning. Participants will be provided with pedagogical tools designed to facilitate student learning and deepen conceptual understanding of the NGSS 7 and 8:
    - Engaging in argument from evidence
    - Obtaining, evaluating, and communicating information.
  - Facilitators: Kathy Agee & Karen Meyers
  - Cost: $40 per person for the two days; grant funds are available to assist with substitute reimbursement costs.

Conferences:

- Fall Science Update onium Wednesday, November 19, 2014 2 GVSU Pew Campus (downtown Grand Rapids). Cost: $45 per teacher.

Best Practices for School / District Level Professional Learning

- Math Talk
  - Audience: K-8 Teachers, Administrators, Instructional Coaches
  - Recommended Length: A variety of options are available for districts to consider: Two six-hour days with 3 hours of coaching; Four three-hour days with 3 hours of coaching; Three five-hour days; or Five three-hour days.
  - Description: This is a workshop to develop students abilities to communicate mathematical thinking. Standardized testing associated with the Common Core State Standards for Mathematics is moving toward assessing students abilities to construct viable arguments and critique the
reasoning of others. This kind of Math Talk requires intentional instruction. Join us as we explore instructional strategies for developing students communicating and reasoning skills.

- **Facilitators:** Drs. Esther Billings & David Coffey
- **Cost:** Negotiable (but minimal); dependent on number of teachers and location.

**SaM3: Science and Mathematics Misconceptions Management**

- **Audience:** Grades 5-9 Math and Science Teachers
- **Recommended Length of Time Required:** Three full days for complete workshop
- **Description:** The goal of the SaM3 professional development program is to increase a teachers ability to elicit and address student misconceptions, utilizing the content areas of Energy (science) and Fractions (mathematics) as a context for applying misconception management strategies. Connections will be made to the mathematics practices of the CCSS and the science and engineering practices of the NGSS.
- **Teacher teams who participate in this SaM3 training will gain:**
  - Increased core content knowledge in the focus areas of Fractions (mathematics) and Energy (science) across the disciplines.
  - Increased understanding of common student misconceptions in their content area.
  - A set of misconception management strategies to teach for understanding.
  - Usable lesson plans to use and examine through the year.
  - Skills in analyzing student work for understanding.
- **Cost:** Negotiable (but minimal); dependent on number of teachers and location; grant funds available.

**Developing Powerful Measurers**

- **Audience:** Grades K-5 teachers
- **Recommended Length:** 2-3 full days
- **Description:** The Developing Powerful Measurers workshop series is the outgrowth of an NSF funded project: Strengthening Tomorrows Education in Measurement (STEM) with Dr. Jack Smith from Michigan State University. The purpose of the project is to enrich the classroom experience of students and teachers for spatial measurement (length, area, and volume) especially in the elementary grades. Participants in this workshop series will discuss the conceptual, procedural, and conventional knowledge needed for success in the area of measurement. Elements of conceptual knowledge needed for effective teaching and learning in measurement (and its importance) such as the meaning of length, unit iteration, unit-measure compensation, unit conversion, and zero/scale on a ruler will be addressed.
- **Facilitators:** Karen Meyers & Chelsea Ridge
- **Cost:** Negotiable (but minimal); dependent on number of teachers and location.

**Family Engineering for Teachers**

- **Audience:** K-6 Teachers
- **Recommended Length:** One afterschool session (two to three hours long)
- **Description:** Modeled after the popular Family Math and Family Science Nights, Family Engineering is a program developed to actively engage parents and their children in fun, hands-on engineering activities and events. (Engineering and engineering practices are new areas of emphasis in the Next Generation Science Standards, which need to be incorporated into K-12 classrooms.) Through this workshop, teachers and administrators will learn how to engage elementary children & parents in learning about what engineers do and the role engineering plays in all aspects of our lives. The program is also appropriate for classroom use. Visit Family Engineering at: [http://www.familyengineering.org/](http://www.familyengineering.org/) to learn more about this new national program.
- **Facilitators:** Kathy Agee & Karen Meyers
- **Cost:** Negotiable (but minimal); dependent on number of teachers and location.

**GLOBE Climate Change**

- **Audience:** Teachers of grades 5-9
- **Recommended Length:** One or two full days
- **Description:** The primary objective of the workshop is to foster deeper understanding regarding Earth Systems Science and climate change through:
  - providing the needed background content knowledge for teachers in Climate Literacy,
  - addressing some of the widely held misconceptions about climate change, and
  - equipping teachers with methods to assist students in collecting data related to climate change.
- **Participants will explore major issues associated with climate change with emphasis on the Great Lakes, learn how to monitor abiotic and biotic factors that impact climate using Global Learning and Observations to Benefit the Environment (GLOBE) protocols, and participate in activities that model instructional strategies for teaching about climate.
- **Facilitators:** Janet Vail (AWRI) & Karen Meyers (RMSC)
- **Cost:** Negotiable (but minimal); dependent on number of teachers and location.
Discover Millennium Park Program for Families

The Kent/MSU Extension Master Naturalist program and Kent County Parks is sponsoring a free and fun discovery program for kids of all ages! Join us at Millennium Parks Hansen Nature Trail between 10 a.m. and 3 p.m. on Saturday, May 17.

Families will enjoy a nature experience together while learning about Millennium Park and its history. The Hansen Trail will be staffed with guided docent stations that will engage families in learning about invasive species, amphibians and reptiles, geology, fish, birds, wetlands and more!

For more information on this event and directions visit the Discover Parks Event Facebook page.

Address:
Millennium Park 1415 Maynard Ave SW Walker, MI 49534

Note: Hansen Nature Trail is located at the corner of Butterworth and Riverbend (parking is allowed on Riverbend).
West Michigan Teacher Recognized as MSTA Science Teacher of Promise

The Board of the Michigan Science Teachers Association (MSTA) has selected Kristy Butler as the 2014 Science Teacher of Promise. Kristy is a teacher at Forest Hills Central High School in Grand Rapids and was chosen for inspiring students, demonstrating innovative teaching strategies, demonstrating potential for leadership, and exhibiting a passion for science and for teaching. She was honored at an awards ceremony at the 61st MSTA Conference in Lansing in March.

Kristy grew up in Wyoming, MI and is a graduate of Grand Valley State University. She states, “This award was such an undeserved honor. Even though this award has my name on it, really is an award for all the teachers that I have had in the past and my co-workers who mentor me each day. Without all of those great teachers to inspire and guide me along the way I would not be where I am today.

“This award means so much to me. I am grateful that every day I go to work; I arrive at my dream job.”
Don't Miss the Biennial Conference on Chemical Education This Summer!

The Biennial Conference on Chemical Education (BCCE), sponsored by the American Chemical Society, Division of Chemical Education is coming to Grand Valley State University from August 3 - 7, 2014. It is a wonderful opportunity for local and regional high school chemistry teachers to attend the largest gathering of chemical educators in the world. It is designed for secondary school chemistry teachers and college chemistry instructors and emphasizes the improvement of chemistry education at all levels.

The BCCE offers teachers an opportunity to network and interact with other chemistry educators (secondary school science teachers, undergraduate and graduate students, and post-secondary chemistry faculty) and to stimulate productive and innovative ideas. Among the 102 workshops and 77 symposia are 19 workshops and 5 symposia, with up to 50 papers especially designed for high school teachers. Topics include Advanced Placement Chemistry, chemical demonstrations, using social networks to teach chemistry, improving labs, technology in secondary education, and Next Generation Science Standards. We are awaiting approval on State Continuing Education Clock Hours (SCECHs).

In addition, teachers attending BCCE will be invited to the initial launch of the American Association of Chemistry Teachers (AACT) during Fall 2014, just in time for back to school. The American Chemical Society will offer a Birds of a Feather (BOAF) session for teachers to learn about the goals and features of this new initiative.

Early registration fees for high school teachers have been set at $175 until June 1, 2014. This rate reflects a savings of $125 from the regular fees! On-campus housing rates start at $45/night. Information about the conference, including the full program and the registration process is available at: www.bcce2014.org.
InterChange Newsletter

Participate in the 65th Annual MCTM Conference!

Join other math educators on the campus of Hope College in Holland, Michigan this summer for the 65th Annual - MCTM (Michigan Council of Teachers of Mathematics) Conference, which is being held August 6 & 7, 2014.

MCTM is the professional organization for Michigan mathematics educators at any grade level, pre-K through college. As an advocate for excellence in mathematics education for all children, our members also include interested community members, pre-service mathematics teachers, and retired educators.

Pre-Conference Institutes are being held on Tuesday, August 5.
Save the Date to Celebrate With Us! The RMSC Turns 25 Years Old!

For almost 25 Years, the mission of the Regional Math and Science Center (RMSC) at GVSU has been to provide and coordinate leadership programs and services to achieve excellence for all in the teaching, learning, and application of mathematics and science.

Join us for an Open House at our office in Mackinac Hall on the Allendale campus on Wednesday, October 1, 3:00-6:00pm.

The center is funded by Grand Valley State University and the Michigan State Department of Education along with the continued support of partners like you. With your support, we can continue to develop a strong presence in the community and expand the services we offer K-12 students and teachers. For opportunities to donate, please visit the Support the RMSC page.
InterChange Newsletter


Kent ISD is offering professional development on STEM lessons designed to meet NGSS Engineering Standards and multiple CCSS.

Date: June 17 and August 21, 2014

Location: Kent Intermediate School District □ ESC Building

Audience: Teachers of grades 8 - 12

TOPICS

Using Google Earth
- Research Urban areas
- Classify Engineering information
- Develop professional maps
- Build supporting evidence using tables and graphs

Coding
- Learn coding basics
- Develop smartphone applications
- Use live interactive geographic data

Urban Modeling
- Create an environmental impact study
- Build an engineering model of a Urban area
- Analyze geographic information
- Design engineering solutions

Geographic Information Systems
- Research Urban planning
- Interpret Satellite images
- Classify Engineering information
- Build conclusions

Engineering Simulation and Modeling
- Create an Engineering model
- Use engineering models to test hypothesis
- Analyze and report economic information
- Analyze and report environmental information
- Build and support conclusions

The workshop is presented by Kent Intermediate Schools District Career Readiness Department □ STEM.

To register, go to the PD Hub at http://www.kentisd.org/instructional-services/professional-learning/
InterChange Newsletter

Prepare for the Second Annual Math-Team-Matics Competition!

This fun and friendly competition will feature creative and engaging problems to bring the mathematical practices to life. The event is hosted by Grand Valley State University’s Department of Mathematics and the Regional Math and Science Center on the Allendale Campus.

When: November 8th 2014
Time: 9 a.m.-3 p.m.
Location: Mackinac Hall, GVSU Allendale Campus
Cost: $70.00 for a team of 5 and 1 coach. $8 for each additional lunch.

Audience: The event is open to teams of 5 students in 7th-10th grade. There will be a division of 7th-8th graders and division of 9th-10th graders.

This is the only math competition in West Michigan that is open to middle schools! Content for the competition will be drawn from K-8 mathematics as well as high school algebra and high school geometry. The competition will begin with individual and team competitions followed by intense head-to-head Quiz Bowl-style team competitions in the afternoon immediately followed by awards. Lunch is provided for students and coaches. Friends and family are welcome to observe the afternoon activities.

Check out our website at http://bit.ly/MathTeam for example competition questions and additional information. For additional information contact Andrew Otten at ottenandrew@gmail.com.
Fall Science Update  □ Save the Date!

The 30th annual Fall Science Update Seminar hosted by the Regional Math and Science Center at Grand Valley State University (GVSU) will be held Wednesday, November 19, 2014. The theme for the upcoming event is "Celebrating Science Education: Past, Present, Future."

The keynote speaker will be master teacher Larry Fegel. During his presentation, he will share the successes and challenges of over 40 years of teaching science in West Michigan, as well as what he foresees for the future of science education.

The cost is $45 per person, $20 pre-service teacher, or $10 pre-service teacher without lunch.

Please plan on joining us at GVSU for this all-day conference of rich science content and pedagogy. Mark your calendar and watch for more details on our website at www.gvsu.edu/rmsc soon.
Mark your Calendars! The annual Math in Action Conference will be held in Mackinac Hall on the GVSU Allendale Campus on Saturday, February 21, 2015. Math in Action is of interest to K–12 teachers of mathematics, administrators, curriculum directors, parents, prospective teachers, and college and university mathematics education, mathematics, statistics, and education faculty.

Help us spread the word and "like" the Math In Action facebook page and follow us on Twitter @GVSU_MIA. We hope to see you all there!
Women of STEM □ Join FabFems!

The FabFems directory is a national database of women in science, technology, engineering and mathematics (STEM) professions who are inspiring role models for young women. The FabFems directory is accessible to young women, girl-serving STEM programs, and other organizations that are working to increase career awareness and interest in STEM.

Responding to national data concerning the lack of women in science and engineering, the National Girls Collaborative Project is leveraging their collaborative network, industry partners, professional organizations, and institutions of higher education to implement the FabFems Project. The first phase of our website will serve exclusively as a directory of women in STEM fields, highlighting personal stories and career pathways. Eventually, FabFems will expand into a dynamic online social space, where Role Models will have the opportunity to publicly engage with youth during STEM-related speaking opportunities, forums and events. Through positive role model interaction and increased interest in collaborative STEM projects, the FabFems Project intends to broaden the participation of females in the STEM pipeline and to increase the retention of female professionals in STEM fields and careers. The FabFems Project is designed to facilitate the important connection between young women and STEM female professionals during critical transition points in the career pathway.

The National Science Board, the National Academies of Science and Engineering, the American Association for the Advancement of Science, and other leading policy entities have voiced concern over the lack of women in science and engineering. When girls have approachable role models (women in STEM who see their work as rewarding, relevant, and enjoyable), their impression of what it means to be a STEM professional can change dramatically and they are more likely to pursue STEM courses and careers. Using the extensive network of the National Girls Collaborative Project, the FabFems Project creates a national directory of accessible female STEM professionals, FabFems, to be connected with young women and girl-serving STEM organizations. These FabFems will exemplify the pathway to STEM and interact with students and educators through STEM activities, speaker engagements, field trips and more.

Funding for the FabFems project is provided by the Motorola Solutions Foundation and the National Science Foundation.

For more information, visit the Fab Fems website at www.fabfems.org/
BOOK REVIEW: UNQUENCHABLE: AMERICAS WATER CRISIS AND WHAT TO DO ABOUT IT BY ROBERT GLENNON

WATER WARS: THE UNITED STATES' OVERLOOKED AND UNDERRATED BATTLE ON THEIR OWN SOIL

By Dane Gorris, in coordination with Dr. Erik Nordman, Ph.D., Grand Valley State University


Robert Glennon’s Unquenchable presents a realistic and startling insight into the war Americans have been battling on their home soil for generations: water rights.

Glennon delves directly into the troubling details and disorganized and wasteful uses of water throughout the country. Atlanta’s crisis to find more water for their growing population kicks off the book and from the first few pages Glennon grabs the readers attention and uses a humorous, yet scientifically-sound manner of addressing our existent and ever growing search for water.

As a passionate and professional student of environmental policy and law, Glennon does not hold back in Unquenchable. Glennon’s passion for water flows through his every word and careful use of concrete details to support his statements. Traveling to seemingly every locale in the United States running low on water, Glennon is an indispensable bank of water knowledge, and Unquenchable is a beautiful and well-written culmination of his work.

Apart from his first hand experience working with water nationwide Glennon also provides the tools necessary to control our ever-growing search for water. By expounding on numerous water shortages and failing control measures in the first part of his book, Glennon dedicates the second half to solutions to our water shortages and to those people that have already taken steps in the right direction.

Numerous times throughout his book Glennon applies various economic strategies that could be used to favor water conservation and efficient use; at one point he even alludes to a necessary reduction in world human population. Glennon considers everything from desalination plants in the Western United States to simply putting an actual, realistic price on the use of our water to incentivize our citizens to conserve at a level to reverse our current actions. Glennon demonstrates he is no stranger to the policies of natural resource management and Unquenchable is a wonderful representation of these principles.

Although Glennon writes in a very calculated and educated way Unquenchable could serve as a supplemental learning material to many high school or higher level students. Just as important as its lessons in natural resource management, Glennon offers insight into the applications of economics and natural resource policy as well. Glennon’s well-researched and effective use of real-world examples makes Unquenchable even more informative, although many examples are from 2009 or even earlier.

Another element that could make Unquenchable even more empowering in the realm of water management would be implications on a worldwide basis. Glennon does a great job of pinpointing areas of concern in the United States, and what we should do to fix them, but international viewpoints and current regulations on water management could open the door to even further possibilities.