

# Michigan Geological Survey Report 7 from the K-12 Outreach Director, Peter Voice [March 14, 2014]

## New Items:

1. Jan. 23 – Kathy Wright forwarded me a call from a Mr. Brooks who wanted to arrange a MGRRE tour for his daughter's brownie troop. Still working on scheduling it.
2. Jan. 23 – Added additional edits to the MGS Report.
3. Jan. 23 – Was contacted by Debbie Zolynsky (Lake Shore High School, Macomb County) – she wanted to know how to build a core porosity kit. We are planning on building her a set at cost. She also arranged for a CoreKids Event at her school – scheduled for March 28<sup>th</sup>.
4. Jan. 23 – Jason Hunter from Grand Haven Public Schools arranged for his class to visit MGRRE – they are scheduled for Feb. 11.
5. Jan. 23 – Contacted Jennifer Callahan (WMU Foundation) to see if we can arrange a couple of potential donors to come along with the Grand Haven Public Schools tour.
6. Jan. 23 – Contacted by Christy Meyers from St. Paul Catholic School (Grosse Pointe Farms, MI). Still working on scheduling an event – perhaps not with her class (2<sup>nd</sup> grade) but with older students at the school.
7. Jan. 24 – MGS Meeting.
8. Jan. 24 – Met with Suzanne Lutwick (WMU Foundation), Linda Harrison and Bill Harrison.
  - a. Discussed possible grants that CoreKids could apply for.
9. Jan. 25 – Attended the first Saturday of the Medallion Scholar Competition as an observer/judge of the competitors.
10. Jan. 27-28 – Started scheduling the 2<sup>nd</sup> K.G.M.S. seminar at the Survey for one of the Saturdays in February. Will plan on running the Michigan Fossils module. Tentatively scheduled for Feb. 8 at 1:00 pm.
11. Jan. 27 – Received confirmation of booth for the Michigan Science Teachers Association Meeting.
12. Jan. 28 – Linda Harrison and I met with David Miller (Keystone School, CO) over skype to discuss the possibility of running joint summer activities again (after Sue's work on Policy meetings).
  - a. Model our event on the Keystone Schools H2O School but here in Kalamazoo
  - b. Tentatively scheduled for summer 2015.
  - c. Dave Miller will work on putting together a draft description and identifying some possible funding opportunities.
  - d. I sent him information on the Hydrogeology field camp – to show that we have field sites designed for hydrogeology investigations as well as the staff with the proper qualifications.
13. Jan. 29 – Developed a proposal for a new Rare Earth Elements and Society Module. Suzanne Lutwick plans on submitting the proposal for a \$25,000 grant given by Toshiba Foundation on Feb. 1.
14. Jan. 30 – Submitted additional information for the Toshiba foundation proposal to Suzanne Lutwick.
15. Jan. 30 – Answered emails regarding scheduling events with Linda Dull (Branch County District Library System) and Jason Hunter (Grand Haven Public Schools). Answered emails from Lori Lachowicz on a scheduled event for Berkshire Middle School.
16. Jan. 30 – Contacted Laura Cross from the Kalamazoo Air Zoo requesting feedback on our past event and suggested that she come do a tour of MGRRE.
17. Jan. 31 – Suzanne Lutwick submitted applications/proposals to the American Honda and Toshiba America Foundations for CoreKids.

18. Jan. 31. Laura Cross (Kalamazoo Air Zoo) contacted me with possible dates for joint summer programs – I will add them to the schedule in the near future.
  - a. July 7-11 and July 14-16.
19. Feb. 4. Met with Ann Gilchrist and Jenny Trout – we did the most recent iteration of the Fracking demonstration (see Figure 1).
20. Feb. 4. Met with Laura Cross (Kalamazoo Air Zoo) briefly – she returned some samples borrowed from the Dept., gave me their catalog of courses/camps, and we scheduled a tour for the Air Zoo Staff at MGRRE (which is tentatively scheduled for Feb. 18 at 10:00 am – Ann and I will attend).
21. Feb. 4. Discussed with Ann Gilchrist and Zakk Waber who could run the currently scheduled events. Emailed Dawn Caldwell about specific events as well. We also discussed if there were any materials needed.
22. Feb. 4. Discussed the fracking demonstration with Heather Petcovic and also solicited ideas for the Natural Hazards: Volcanoes module.
23. Feb. 4. Emailed Dave Chapman (Okemos High School) about the progress of the fracking demonstration and reaching out to him as a classroom tester of the module.
24. Feb. 5. Prepared CoreKids Update for Feb. 5 faculty meeting.
25. Feb. 7. Was contacted by Patricia Graves-Wesolosky (new president of the MMS) of the Michigan Mineralogical Society – she wants to discuss possible collaboration especially with their fall Mineral Show. We have tentatively scheduled a meeting for early March, when we will both be at the MSTA Conference.
26. Feb. 7. Linda Dull from the Branch County District Library system sent me the dates that their library branches would like CoreKids to visit on – They requested 7 events over 5 days in June and July with the themes being Natural Hazards: Earthquakes or Volcanoes at each event.
27. Feb. 7. I contacted Laura Cross to give her potential dates during their Eco-camps when CoreKids could interact with their students – I had to schedule around the Branch Co. Library events and they asked prior to the Air Zoo, I gave them first choice on dates in July.
28. Feb. 7. Prepared presentation and handouts for the K.G.M.S. activity on Feb. 8.
29. Feb. 8. Duane Hampton emailed me the totals for an event he led using CoreKids materials. Webelos pack 291 – 2 kids and 3 adults.
30. Feb. 8. K.G.M.S. Mineral Study Group Quarterly Visit to MGRRE. Theme was Michigan Fossils. 10 adults and 8 kids.
  - a. Tentatively scheduled the K.G.M.S. Study Group Quarterly visit for May 24<sup>th</sup> as a field day at Grand Ledge.
31. Feb. 11. Grand Haven High School visit to MGRRE. Used the Michigan Geologic History module and various cores. 18 11-12<sup>th</sup> graders and 2 adults. Used as training session for Dawn Caldwell.
32. Feb. 14. Berkshire Middle School Event. 290 children, 5 adults. 6<sup>th</sup> grade classes. Michigan Geologic History Module.
33. Feb. 15. Discussed the Hydraulic Fracking Demonstration with John Esch, Mark Wollensak and Mark Nida of the Michigan Basin Geological Society – tentatively arranging to exhibit the model at a future MBGS meeting.
  - a. They suggested also contacting MOGA and Hal Fitch as potential people to show the model to.
  - b. I sent them an email with pictures of the apparatus and the results of fracking experiments on Feb. 17.
  - c. I also contacted additional Petroleum Geologists to look over pictures from the most recent version of the event – including Paul Daniels, Diana Morton-Thompson and the Batelle Group that was visiting MGRRE the week of the 10<sup>th</sup>.

34. Feb. 16. Received email from Dave Chapman (Okemos High School) about scheduling a CoreKids visit to his classroom on March 18. I am working on the scheduling of staff for the event.
35. Feb. 17. Started planning a second MGRRE Education Portal Workshop for later in the spring. Initial discussion via email with Heather Petcovic, Bill Cobern and Bill Harrison. Working on scheduling a meeting for the four of us to hash out a workshop date, tentative schedule/outline of activities, etc.
  - a. Planning meeting tentatively scheduled for Feb. 25<sup>th</sup> at 1:00 pm.
36. Feb. 18. Met with Laura Cross and Erin Lewis of the Kalamazoo Air Zoo to discuss future collaboration.
  - a. Did a tour of the MGRRE Facility with demonstrations of our CoreKids Michigan Historical Geology Module.
  - b. Tentatively scheduled two Summer events
  - c. Also will try to schedule a themed Saturday event for the Fall (they do a similar partnership with the Kalamazoo Astronomical Society).
  - d. July 8 Event – full day on campus for the Eco Explorers Camp (4<sup>th</sup>-5<sup>th</sup> grade level)
  - e. July 16 Event – morning event at Kalamazoo Air Zoo for the Eco Explorers Camp (2<sup>nd</sup>-3<sup>rd</sup> grade level)
37. Met with Ann Gilchrist to discuss scheduling and module development.
38. Feb. 18. Received notice that our North Central GSA Abstract had been accepted. See attached copy of Abstract.
39. Feb. 18. Hired Lindsay Bergquist on an event-by-event basis to help out with CoreKids events. I also discussed Ann's pay rate with Kathy Wright and we decided to put in the paperwork to give her a much deserved raise.
40. Feb. 19. John Esch (DEQ) contacted me to tentatively arrange a demonstration of the hydraulic fracking model for the Office of Oil, Gas and Minerals Staff.
41. Feb. 21. Kim Clancey, Gull Lake Middle School contacted me to ask if they can reschedule the Volcanoes Module planned for Feb. 25 and 27<sup>th</sup>; the dates have been changed to Feb. 27<sup>th</sup> and 28<sup>th</sup>. I was able to accommodate their request.
42. Feb. 21. Kathy Wright forwarded me an email from Julie Schmidt, Arcadia Elementary School, Kalamazoo. Ms. Schmidt would like to arrange a campus visit for her 2<sup>nd</sup> graders with an emphasis on groundwater. I am currently working on scheduling an event for her group.
43. Feb. 24 and 25. Met with Ann Gilchrist to make sure we had the necessary supplies for our next batch of outreach events.
44. Feb. 25. Met with Bill Harrison, Heather Petcovic and Brian Horvitz to discuss a 2<sup>nd</sup> MGRRE Online Education Portal workshop.
  - a. Narrowed down a date – late May-early June
  - b. Developed an outline of the workshop
  - c. Outlined several goals of the workshop
  - d. Discussed potential sources of funding for the portal
  - e. Discussed similar currently available education tools online (either by approach or by similarity with thematic approach – see the Deep Earth Academy page at JOIDESresolution.org for one partially web-based educational resource that is also core-based).
45. Feb. 26. Worked on draft announcement for the MGRRE Online Education Portal Workshop II.
46. Feb. 27. Gull Lake Middle School visit was postponed to Monday, March 3 due to school closure (snow day).
47. Feb. 28. Gull Lake Middle School visit (Laurie Klok's classes) – 120 students and 4 adults.
  - a. Trial run of the new Natural Hazards: Volcanoes Module
  - b. Training of Dawn Caldwell, Zach Waber, and Nathan Brown

48. Mar. 1. Sue Cambell (MSTA) contacted me to inform me that they were upgrading the CoreKids booths free of charge from the non-profit space 6' by 16' area to the commercial booth spaces – 8' by 20' area. I gladly said yes.
49. Mar. 1. Updated Metrics file to account for Friday's teacher survey. Now have 15 feedback forms covering three different modules.
50. Mar. 3. Gull Lake Middle School Visit (Kim Clancy's classes) – 135 students and 3 adults.
51. Mar. 4 and 5. Worked on updating the CoreKids metrics and handouts.
  - a. Put together a revised version of the CoreKids Brochure
  - b. Put together a revised version of the CoreKids Modules Description Sheets
  - c. Put together a CoreKids Program Overview, Metrics and Evaluations Binder for display at MSTA and other events with potential clients or donors.
52. Mar. 4. Pam Blough from the DEQ contacted me to ask for CoreKids brochures to hand out to teachers at the DEQ Earth Day event. I am still waiting to hear back from her.
53. Mar. 5. Lisa Appel (Cranbrook Institute) sent me an email asking me, if CoreKids could be involved with their Spring Break Earth Week Festival (April 7-11<sup>th</sup>). I have tentatively scheduled for us to join their Spring Break Earth Week Festival for April 8<sup>th</sup>-11<sup>th</sup>. The theme is The Environment and Climate Change.
54. Mar. 5. Hastings Middle School Visit
55. Mar.6-8. Michigan Science Teachers Association Meeting
  - a. Thursday
    - i. Briefly met with Patti Graves-Wesolosky (President, Michigan Mineralogical Association)
    - ii. Had roughly 50 people visit the booth including 10 children (Exhibit Hall was open to general public)
    - iii. Set up the CoreKids Booth
  - b. Friday
    - i. Had a longer meeting with Patti Graves-Wesolosky to discuss the MMA fall Mineral Show and CoreKids involvement at the Show.
    - ii. Had roughly 200 people stop at the booth
    - iii. Met with Tim Neason (Hasting Middle School, MESTA Officer) and discussed potential collaborations between CoreKids and MESTA.
    - iv. Met with Steve Barone and discussed possibility of having him do a few CoreKids events in the summer.
    - v. Met briefly with Dave Chapman to discuss upcoming CoreKids event at Okemos High School.
    - vi. Met briefly with Debbie Zolynsky to discuss upcoming CoreKids event at Lake Shore High School.
  - c. Saturday
    - i. Had roughly 100 people visit the CoreKids booth
    - ii. Discussed possible collaboration with the U of M Museum of Paleontology on their Geology day events
    - iii. Met with several representatives of the Metropolitan Detroit Science Teachers Association – they have invited CoreKids to their Nov. 8, 2014 meeting.
56. Mar. 6. Tom Howe contacted me with details on a school visit to Mattawan's 6<sup>th</sup> graders (~150 students).
57. Mar. 10. Kathy Wright forwarded me an inquiry from Stacy Belson at Northwestern Middle School, Battle Creek Public Schools. I sent Stacy copies of the CoreKids brochures and will attempt to schedule an event for her school.

- a. Scheduled a CoreKids event at Northwestern Middle School for April 1<sup>st</sup> – 6 sessions of 8<sup>th</sup> graders with approximately 160 students. [hydrogeology module].
- 58. Mar. 10-14. Ann Gilchrist is working on developing several activities for the Cranbrook Climate Change-Environment theme of their Earth Week Festival. Activities include:
  - a. What causes Climate Change?
    - i. Greenhouse gasses
      - 1. CO2 activity with raisins
      - 2. Acid rain activity with different rock types crushed
  - b. What are the effects of elevated greenhouse gas levels?
    - i. More severe weather events
      - 1. Warm colors activity with heat lamp and colored paper
      - 2. Tornado in a bottle activity with water and 2L bottles
  - c. How can scientists see differences in past climate?
    - i. Through living examples
      - 1. Tree ring activity with core samples and slice of tree

## Current Totals

Total K- 12 Student Interactions (As of July 2013)	<b>2420</b>
Total Adult Interactions (As of July 2013: Chaperones and teachers <b>at events</b> )	<b>72</b>
WMU Hydrogeology Field Trip; CMU Petroleum Geology Class (College Students); Saudi Arabia Geological Survey Visit; WMU Geology Club	<b>69</b>
Total Teacher Interactions (As of July 2013: <b>MESTA Annual Conference, Other Contacts, Workshop, MSTA Annual Conference</b> )	<b>470</b>
K.G.M.S. Seminar Series, etc.	<b>45</b>
Cranbrook Institute Dinosaur Festival (all ages)	<b>3330</b>
Kalamazoo Air Zoo Events	<b>12</b>
Gardner Family Visit to MGRRE (4 adults, 3 children)	<b>7</b>
STEM-ulating Career Day, WMU (33 children, 18 adults)	<b>51</b>
Pack 291 Webelos (2 children, 3 adults)	<b>5</b>
<b><u>Total:</u></b>	<b><u>6,478</u></b>

# Projected Totals of Upcoming Events

Scheduled School Visits:	421
Cranbrook Institute of Science Spring Break Earth Week Festival	~1,200
DEQ Earth Day Festival:	~3,300
K.G.M.S. Annual Show:	~1,500
Branch Co. Library System	150?
Kalamazoo Air Zoo Summer Events	40?
<b><u>Total Projected:</u></b>	<b><u>6,611</u></b>
<b><u>Total Projected + Actual</u></b>	<b><u>13,089</u></b>

## a. Past Outreach Events (During Voice Tenure as Director, K-12 Outreach)

- i. July 30<sup>th</sup> – Cub Scout Group, Kalamazoo MGRRE Tour
- ii. Aug. 5<sup>th</sup> – WMU Hydrogeology Camp MGRRE Tour
- iii. Aug. 22<sup>nd</sup> – Lego Robotics League MGRRE Tour (Natural Hazards – Impacts Module)
- iv. Sept. 11-13<sup>th</sup> – Cranbrook Institute of Science Rouge River Festival (Hydrogeology Module)
- v. Oct. 4-6<sup>th</sup> – Michigan Earth Science Teacher Association/Michigan Alliance of Environmental and Outdoor Educators Annual Meeting
- vi. Oct. 14<sup>th</sup> – Loaned Module to Kalamazoo Geological and Mineral Society for a School Visit – Star Elementary, Plainwell
- vii. Oct. 21<sup>st</sup> – Scheduled School Visit - St. Mary Visitation School, Bryon Center (Michigan Geologic History Module)
- viii. Oct. 25<sup>th</sup> – Petroleum Geology Class, Central Michigan University – MGRRE Tour
- ix. Oct. 30<sup>th</sup> – Kalamazoo Reformed Heritage Christian School MGRRE Tour
- x. Nov. 1<sup>st</sup> – MGRRE Online Education Portal Workshop
- xi. Nov. 1<sup>st</sup> - Okemos High School Geology Class MGRRE Tour
- xii. Nov. 5<sup>th</sup> – Saudi Arabia Geological Survey MGRRE Tour
- xiii. Nov. 11<sup>th</sup> – Scheduled School Visit, Upton Middle School, St. Joseph (Michigan Geologic History Module)
- xiv. Nov. 12<sup>th</sup> and 14<sup>th</sup> – Scheduled School Visit, Gull Lake Middle School (Michigan Geologic History Module)
- xv. Nov. 16<sup>th</sup> – Kalamazoo Geological and Mineral Society Lecture Series – MGRRE talk and tour

- xvi. Nov. 18<sup>th</sup> – Scheduled School Visit, St. Francis School of Ann Arbor (Michigan Geologic History Module)
- xvii. Nov. 20<sup>th</sup> – WMU Geology Club Tour
- xviii. Dec. 11<sup>th</sup> – Scheduled School Visit, St. Francis of Ann Arbor (Natural Hazards – Earthquakes Module)
- xix. Dec. 12<sup>th</sup>-13<sup>th</sup>- Scheduled School Visit, Upton Middle School, St. Joseph (Natural Hazards – Earthquakes Module)
- xx. Dec. 26<sup>th</sup> – Dec. 30<sup>th</sup> – Cranbrook Institute of Science Fossil Festival (Michigan Fossils Module)
- xxi. Dec. 30<sup>th</sup> – Kalamazoo Air Zoo Digging Michigan Camp (Michigan Fossils Module)
- xxii. January 18<sup>th</sup> – WMU STEMulating Career Day (Michigan Geologic History Module)
- xxiii. Jan. 21<sup>st</sup> – Scheduled School Visit, Gull Lake Middle School (Natural Hazards: Earthquakes Modules)
- xxiv. Jan. 22<sup>nd</sup> – Scheduled School Visit, Gull Lake Middle School (Natural Hazards: Earthquakes Module)
- xxv. Jan. 25<sup>th</sup> – Dr. Hampton borrowed CoreKids equipment for outreach event with a Webelos Scout Pack.
- xxvi. Feb. 8<sup>th</sup> – Kalamazoo Geological and Mineral Society Seminar Series (MGRRE)
- xxvii. Feb. 11<sup>th</sup> – Grand Haven Public Schools – MGRRE Tour
- xxviii. Feb. 14<sup>th</sup> – Scheduled School Visit, Berkshire Middle School
- xxix. Feb. 28<sup>th</sup> – Schedule School Vist, Gull Lake Middle School
- xxx. Mar. 3<sup>rd</sup> - Scheduled School Visit, Gull Lake Middle School
- xxxi. March 5<sup>th</sup> – Scheduled School Visit, Hastings Middle School
- xxxii. March 6<sup>th</sup> -8<sup>th</sup> -Michigan Science Teachers Association Annual Meeting

## **b. Upcoming Events**

- i. March 17<sup>th</sup> – Scheduled School Visit, Mattawan Middle School (Tom Howe)
- ii. March 18<sup>th</sup> – Scheduled School Visit, Okemos High School
- iii. March 28<sup>th</sup> – Scheduled School Visit, Lake Shore High School
- iv. April 1<sup>st</sup> – Scheduled School Visit, Northwestern Middle School, Battle Creek
- v. April 8<sup>th</sup>-11<sup>th</sup> – Cranbrook Earth Week Festival?
- vi. April 9<sup>th</sup> – Hydraulic Fracking Demo at MBGS Meeting
- vii. April 22<sup>nd</sup> -Michigan Dept. of Environmental Quality Earth Day Event
- viii. April 24<sup>th</sup>-25<sup>th</sup> -North-Central GSA Section Meeting
- ix. May 2<sup>nd</sup> –4<sup>th</sup> -Kalamazoo Geological and Mineral Society Annual Show
- x. May 24<sup>th</sup> – K.G.M.S. Grand Ledge Trip
- xi. June 18<sup>th</sup> – Quincy Branch, Branch Co. District Library
- xii. June 18<sup>th</sup> – Algansee Branch, Branch Co. District Library
- xiii. July 8<sup>th</sup> – Kalamazoo Air Zoo Eco Explorers Camp – on main campus
- xiv. July 9<sup>th</sup> – Coldwater Branch, Branch Co. District Library

- xv. July 10<sup>th</sup> – Bronson Branch, Branch Co. District Library
- xvi. July 10<sup>th</sup> Sherwood Branch, Branch Co. District Library
- xvii. July 11<sup>th</sup> – Union branch, Branch Co. District Library
- xviii. July 16<sup>th</sup> – Kalamazoo Air Zoo Eco Explorers Camp – at Air Zoo
- xix. July 17<sup>th</sup> – Coldwater Branch, Branch Co. District Library
- xx. August 12-16<sup>th</sup> – Michigan Science Teachers Association Annual Meeting

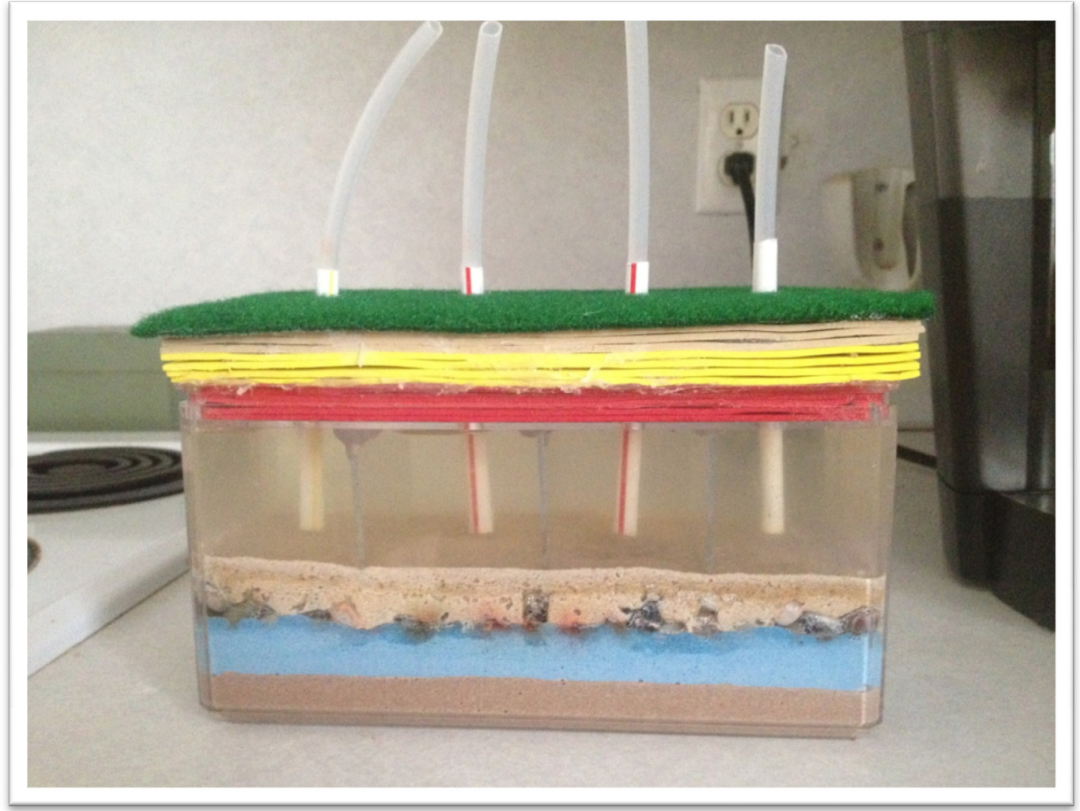
**c. Fall Events (Tentative)**

- i. Sept. 9-12. The Cranbrook Institute of Sciences Rouge River Festival
- ii. Oct. 10-12. Michigan Mineralogical Society Annual Show
- iii. Nov. 7-8. Gull Lake Community Schools Foundation – Sparks Series, Science and Engineering Fair.
- iv. Nov. 8 Metropolitan Detroit Science Teachers Association Meeting

**d. Working on scheduling**

- i. Grant Public Schools
- ii. Walled Lake Girl Scouts
- iii. Thornapple Kellogg Middle School, Middleville – wants two days 6<sup>th</sup> and 8<sup>th</sup> graders.
- iv. Mr. Brook's Brownie Troop, Kalamazoo Area
- v. St. Paul Catholic School, Grosse Pointe Farms
- vi. Arcadia Elementary School 2<sup>nd</sup> graders – Rood Hall tour.
- vii. DEQ Office of Oil, Gas and Minerals – hydraulic fracking module demonstration





**Figure 1:** Image of the Fracking demonstration Apparatus.



**Figure 2:** Images of the CoreKids booth at MSTA 2014

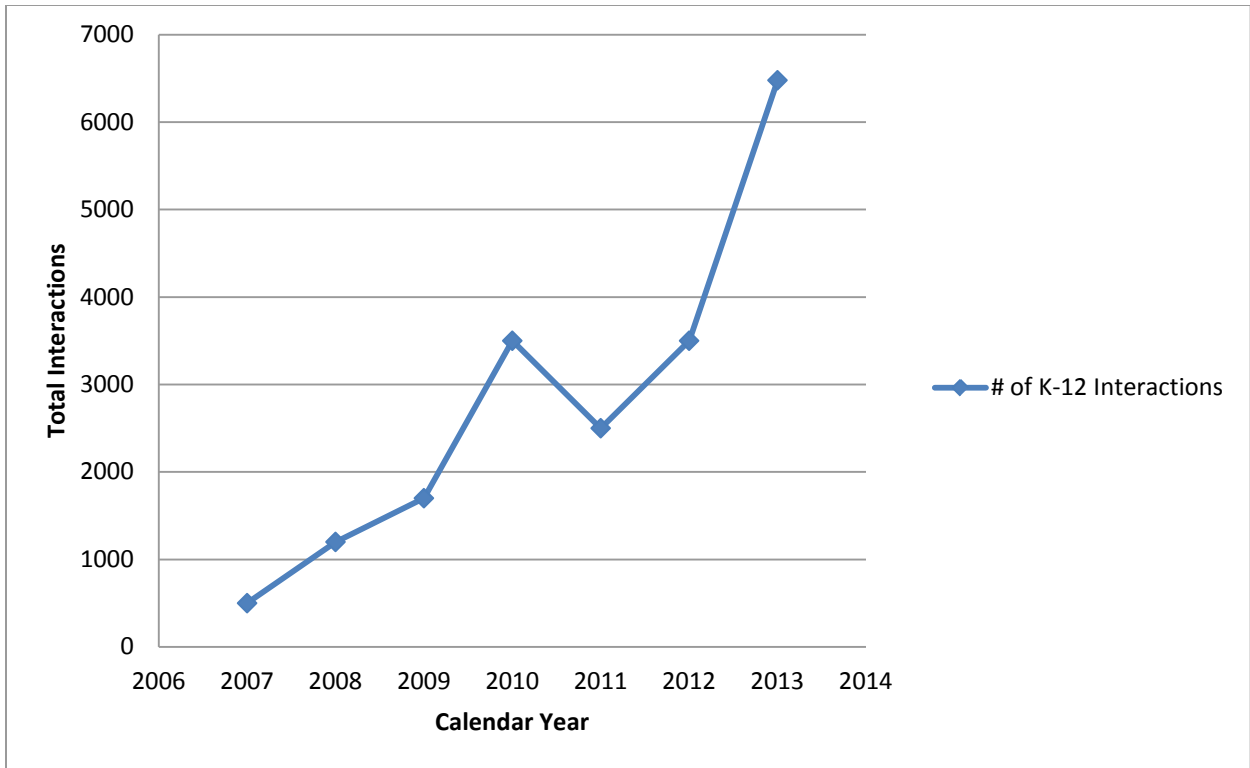


Figure 2: Updated annual total actual interactions (K-12, teachers, and others).

North-Central Section - 48th Annual Meeting (24–25 April)

Paper No. 17-3

Presentation Time: 9:00 AM

EXPANDING THE IMPACT OF THE MICHIGAN GEOLOGICAL SURVEY'S COREKIDS PROGRAM: PRODUCTIVE PARTNERSHIPS WITH NON-PROFITS AND REGIONAL AMATEUR GEOLOGY GROUPS

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The CoreKids program was established for K-12 outreach by the Michigan Geological Repository for Research and Education (MGRRE). MGRRE, now part of the Michigan Geological Survey housed at Western Michigan University, is a core repository with emphasis on the bedrock and glacial geology of the Lower Peninsula. CoreKids has traditionally focused its outreach efforts on classroom visits in which trained staff present hands-on learning activities related to topics of energy, oil and gas, subsurface geology, groundwater issues, environmental geology, natural hazards, and Michigan fossils. The modules are designed to supplement the resources available to area teachers as either classroom visits or field trips to the MGRRE facility. CoreKids operates on grant funding. Over the past year, we have experimented with developing partnerships with local amateur geological and mineralogical societies, regional professional geological societies, and other non-profit organizations in order to increase the reach and impact of our outreach efforts.

A presence at state Science and Earth Science Teaching Association annual conferences increased the number of teachers asking for CoreKids materials and classroom visits. We partnered with the Kalamazoo Geological and Mineral Society (KGMS) to develop a seminar series with quarterly events at the MGRRE facility. Partnerships with the KGMS and other local mineral-collecting clubs included the development of educational activities at their annual mineral shows. We participated in the activities of the Cranbrook Institute of Science's Rouge River Festival and Fossil Festival events.

The positive results of expanding our partnerships with other entities included a significant increase in our total interactions with both K-12 students and the general public. Participation in other group's outreach events was more cost-effective. We were able to generate contacts in shorter periods of time and for less cost per interaction. It expanded our area of impact from southwestern Michigan into the rest of southern Michigan and allowed us to provide information, activities and resources to people in the Lansing, Detroit and Grand Rapids regions. As a side benefit, association with other groups increased our visibility, especially when the other entity had resources for event promotion.

Session No. 17

T18. Public Outreach Beyond the Classroom: Geological Surveys, Museums, and Parks

Friday, 25 April 2014: 8:15 AM-12:00 PM

Cornhusker Marriott Olive Branch

Geological Society of America Abstracts with Programs. Vol. 46, No. 4, p.0

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