



**Chesapeake Bay National Estuarine Research Reserve - Maryland
Estuarine & Environmental Education Market Analysis**

October 2012

Prepared by:

Chesapeake Bay National Estuarine Research Reserve in Maryland & Maryland Department of Natural Resources

Special Thanks to:

Samantha Green -- for her work on the survey instrument and for compiling and verifying the contacts of the EE provider list. Emily Thorpe -- for her work on the data charts and graphs.

Executive Summary

This report summarizes the results of market analysis conducted by the Chesapeake Bay National Estuarine Reserve in Maryland (CBNERR-MD) to determine who is currently providing environmental education (EE) opportunities; the type of programs they offer; the audiences they reach and what means they use for making educational experiences more meaningful and relevant. CBNERR-MD, with a strong background in environmental science, intends to use these results to determine/refine its niche in the environmental education field. Additionally, the results of the assessment will be offered to other EE providers so that existing programs can better meet the needs of the intended audience. This market analysis is part of a coordinated national initiative by the National Estuarine Research Reserve System (NERRS) of the National Oceanic and Atmospheric Administration (NOAA) to ensure the effectiveness of NERRS education activities.

This CBNERR-MD market analysis was conducted with environmental education providers in Maryland in 2011. It complements a teacher needs assessment conducted in Spring of 2012. Both tools will allow the CBNERR-MD staff to assess the strengths and gaps in environmental education services that the reserve and other organizations currently provide and to make decisions regarding how best to use resources to serve Maryland's teachers and students. A special Advisory Committee was created for assistance with the creation of the survey. The committee contributed valuable recommendations and guidance throughout the market analysis process. Committee members were also invited to provide questions which, while not relevant to estuarine education, would identify data that contributed to a larger state-wide environmental literacy effort.

Methods

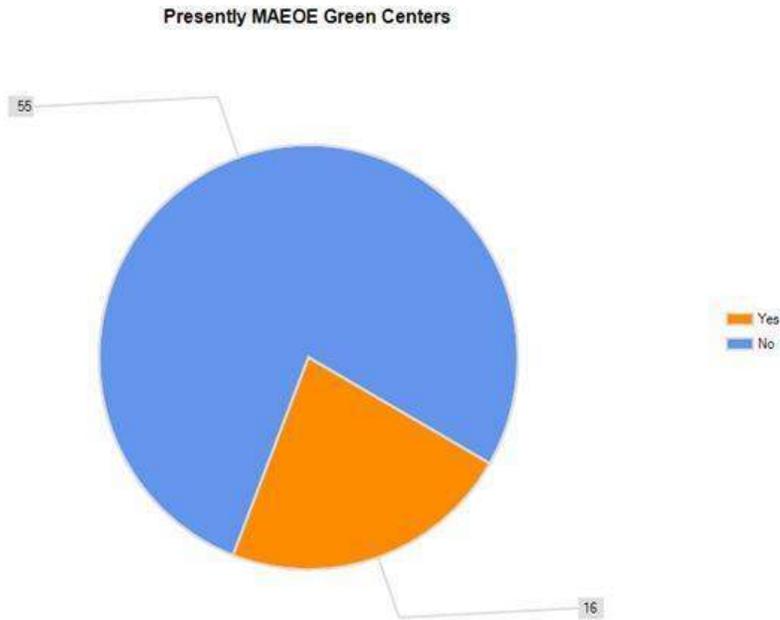
The online questionnaire designed for this study included 60 questions. The questions were designed by CBNERR-MD staff, with guidance from the Education Advisory Committee, which included staff of the Maryland Department of Natural Resources, Maryland Association of Environmental and Outdoor Education (MAEOE), and NOAA. The survey was distributed to 114 EE providers in Maryland. Seventy-two EE providers responded to the survey. The overall response rate was 68%. The final sample consisted of Maryland State Parks, county EE providers, secondary education institutions, private non-profit organizations, government agencies, and for profit businesses.

These providers were identified based on information from the Education Advisory Committee, regional directories of environmental education professional associations, online searches, and CBNERR-MD personnel. Each program was contacted by telephone prior to the survey to make them aware of the survey goals, methods, and schedule, and to confirm the contact information of the appropriate individual to receive the survey invitation. The survey was administered using the web-based survey tool SurveyMonkey, and it was accessible to invitees for four weeks from September 8 to October 11, 2011. Survey questions were designed to collect data on each respondent's organization, types of education programs provided, topics and grade levels addressed, topics needing additional attention by education programs, marketing methods, teacher professional development opportunities, fees, and program partners. Reminder emails were sent twice during the survey period to enhance the response rate.

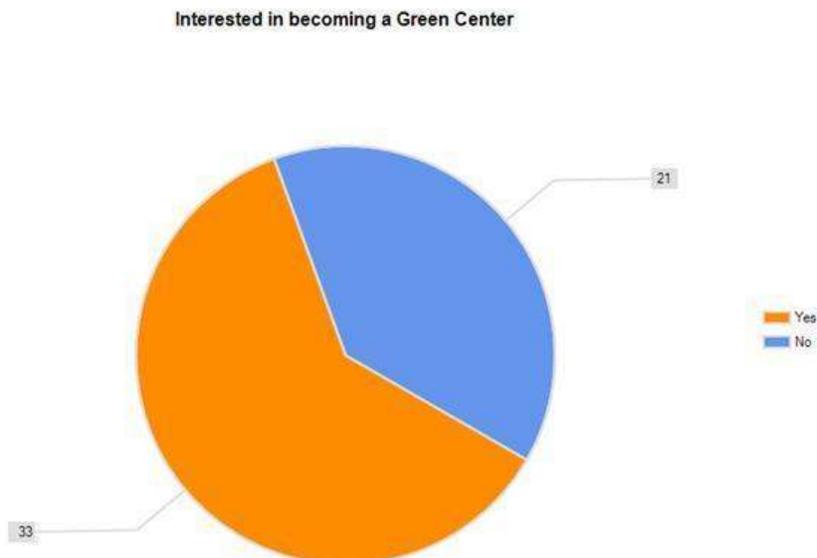
Results

The online questionnaire designed for this study included 60 questions. Questions 1-10 were respondent-specific: organization name, address, contact name, email, etc. Therefore, the results section encompasses questions 11-60. Pie charts represent number of responses to the question, not percentage.

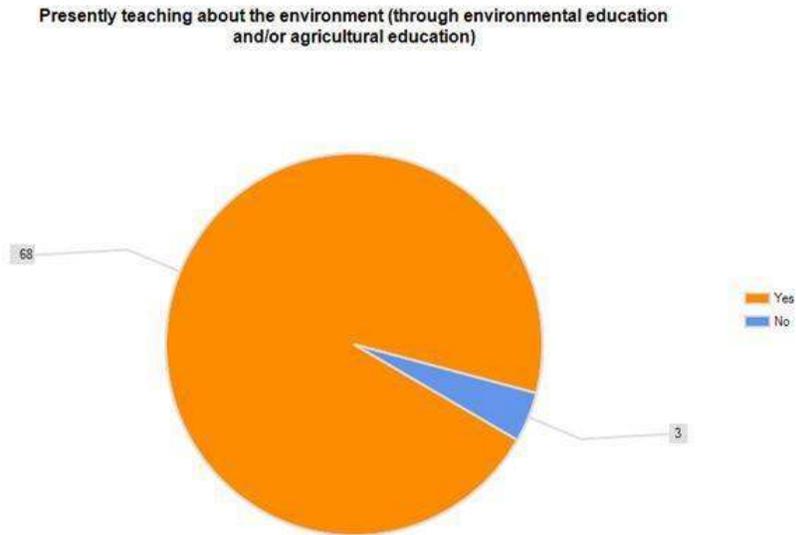
11. Is your organization a MAEOE Green Center?



12. If no, is your organization interested in becoming a Green Center?

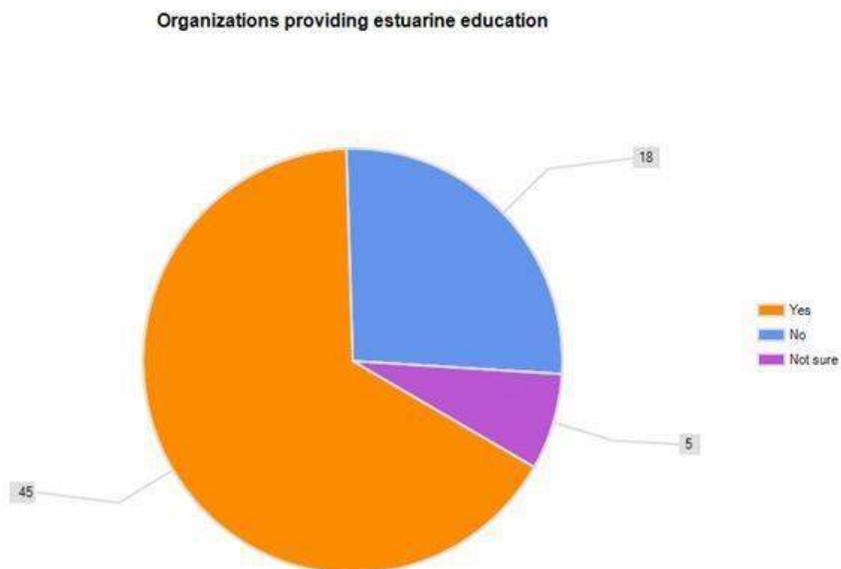


13. Does your organization teach about the environment (through environmental education and/or agricultural education)?

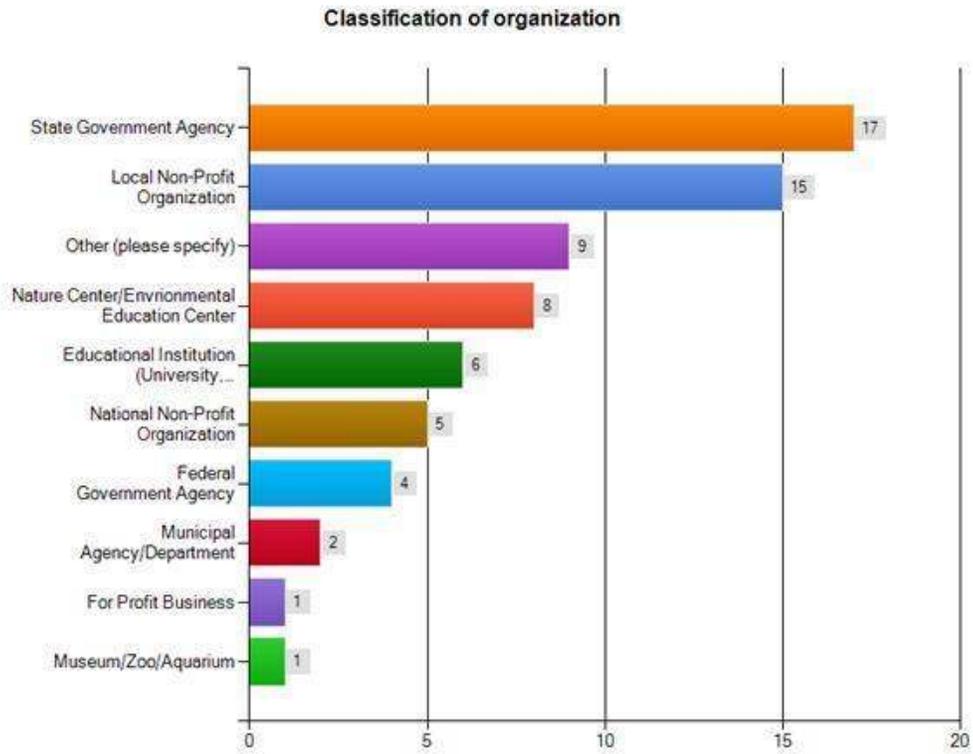


14. Does your organization provide teacher professional development relating to environmental education? (Only 3 people answered this question. The researchers have not determined how or why the question was missed by so many of those surveyed)

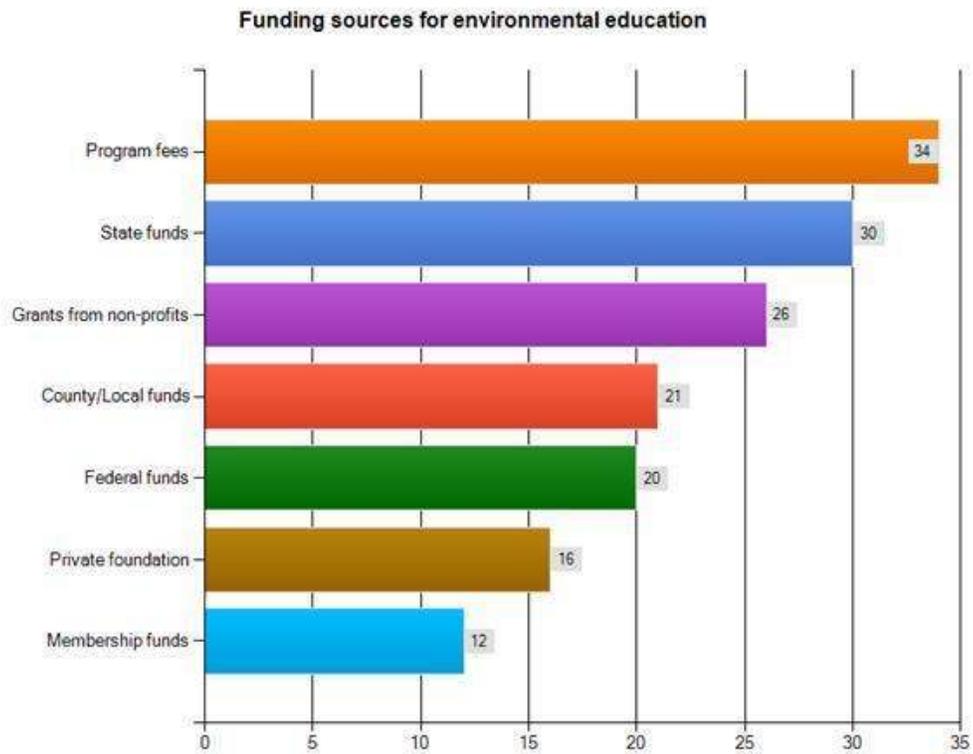
15. Does your organization provide estuarine education?



16. How would you classify your organization?

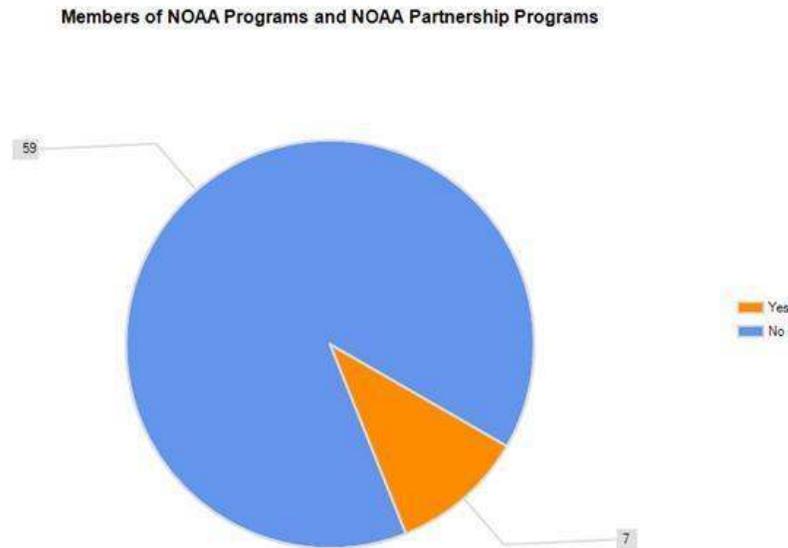


17. How are your environmental education programs funded?

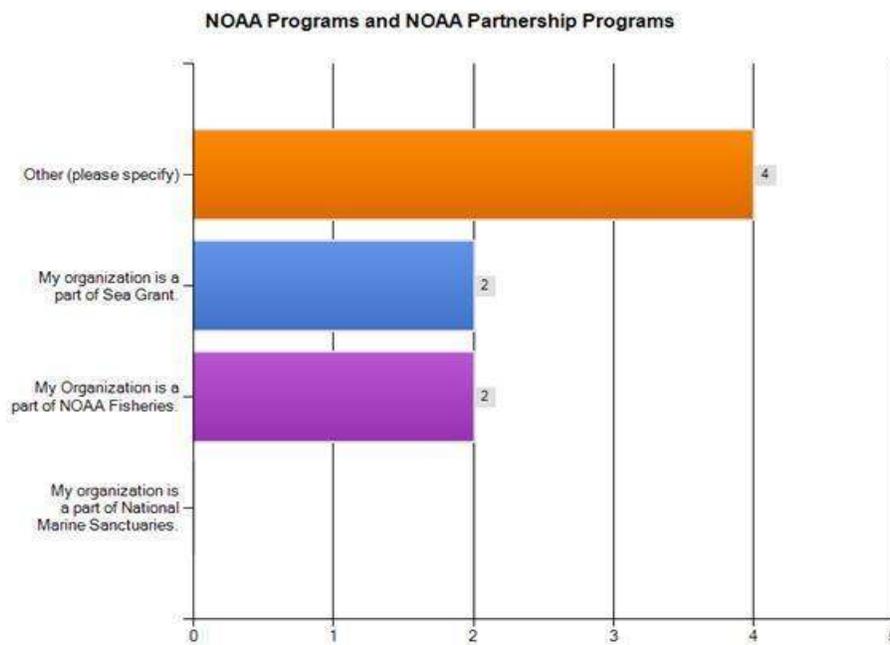


18. What is the primary mission of your organization? This question was asked to further narrow the pool of respondents to include only the most relevant responses, eliminating non-EE providers.

19. Is your program a NOAA Program or a NOAA Partnership Program?

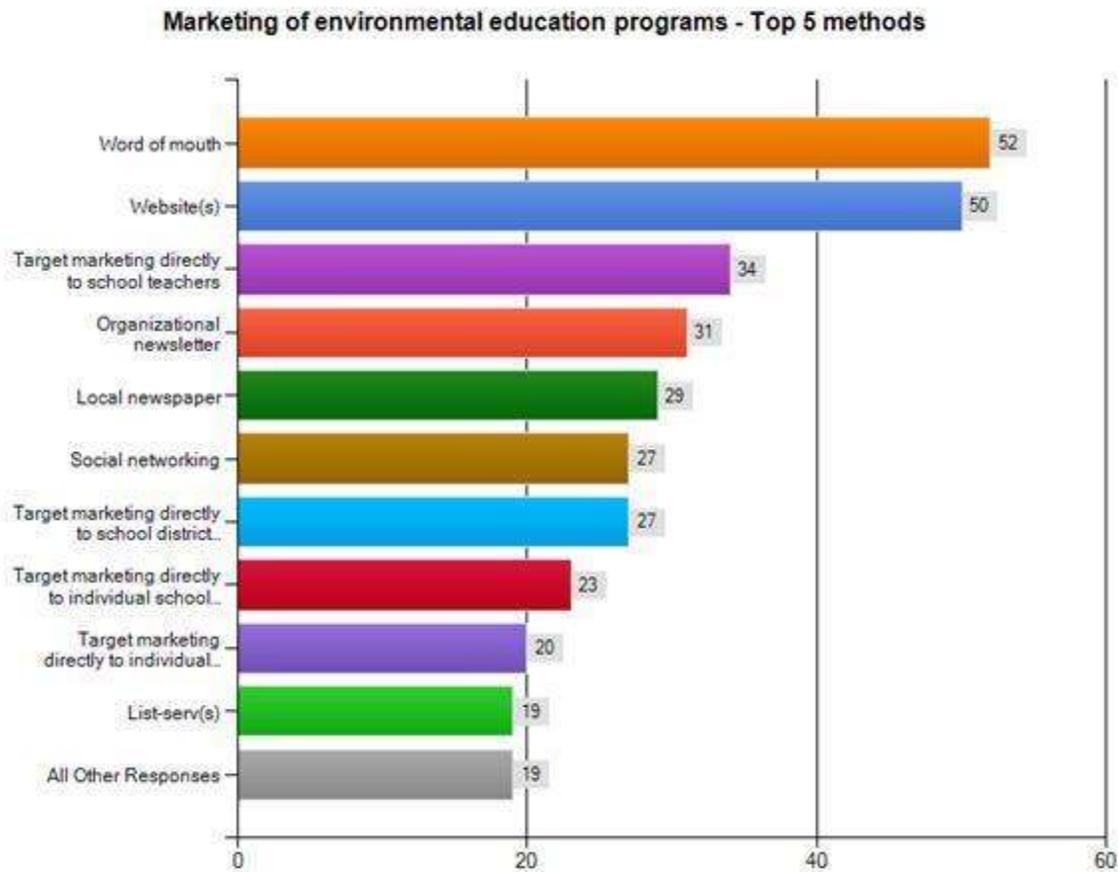


20. If yes, which program?



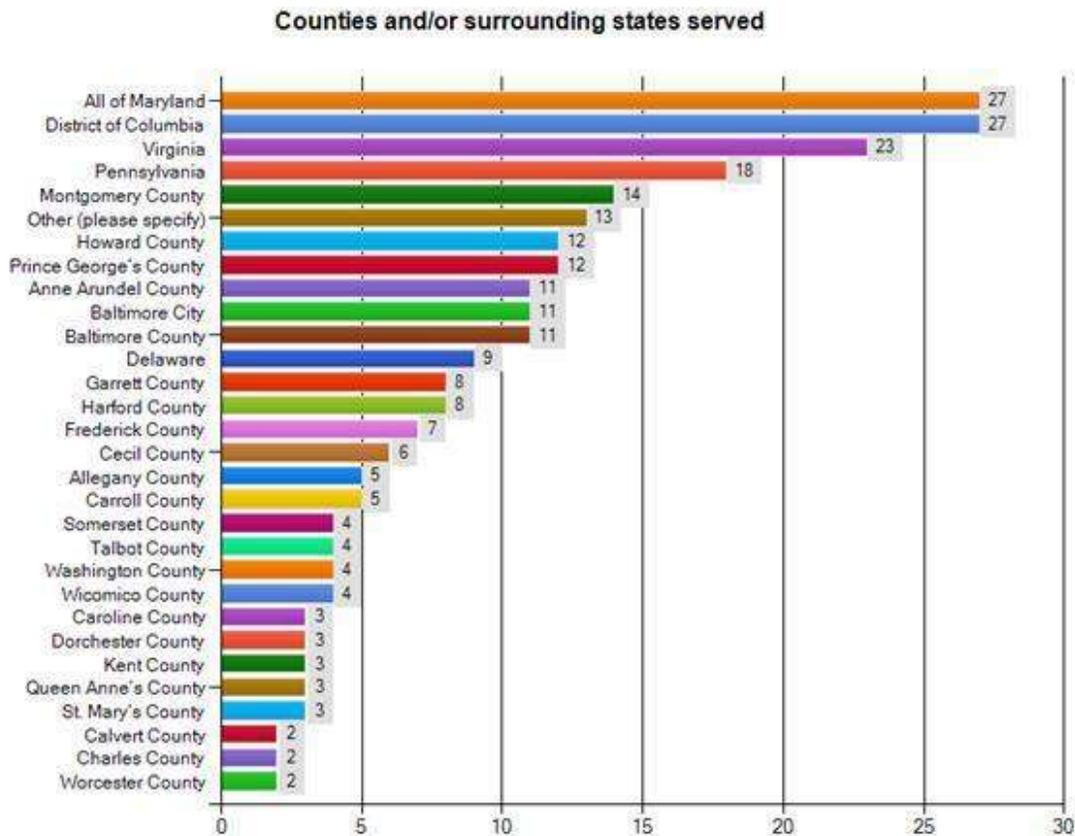
Bay-Watershed Education Training (B-Wet) and NERRS are classified under “other.”

21. How do you market your environmental education programs?



“Other” responses included: target marketing to students in the form of a flier and a brochure; Flyers posted at park; As part of the school system we don't "market" the program. We already have more students than time to teach them; Target marketing directly to individual schools; Educational Seminars and Conferences; Target to agriculture education and advocacy groups (CASA, PASA, 4H, SAEA,) university & PD venues; local politicians; Environmental Literacy now require participation; State and County Rosters of Certified Teaching Artists: Maryland State Arts Council's Arts In Education Residency Roster, Montgomery Co. AHCMC's Artist/Scholars Roster; libraries; School tours, International presentations, CEU workshops, Teacher training institutes; Target marketing to families who've previously participated; promulgate and conduct public meetings by selection and by request; Target marketing directly to EE providers; Target marketing directly to other partner organizations in the community

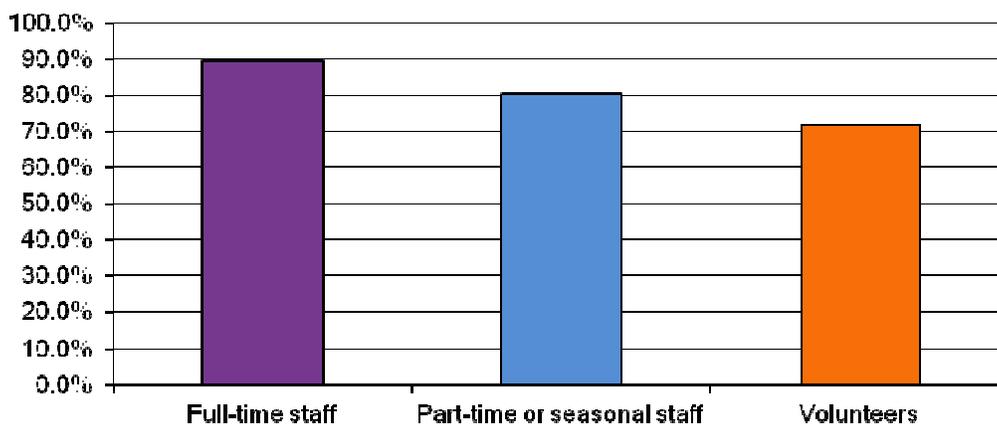
22. Which of the following counties and/or surrounding states do you serve?



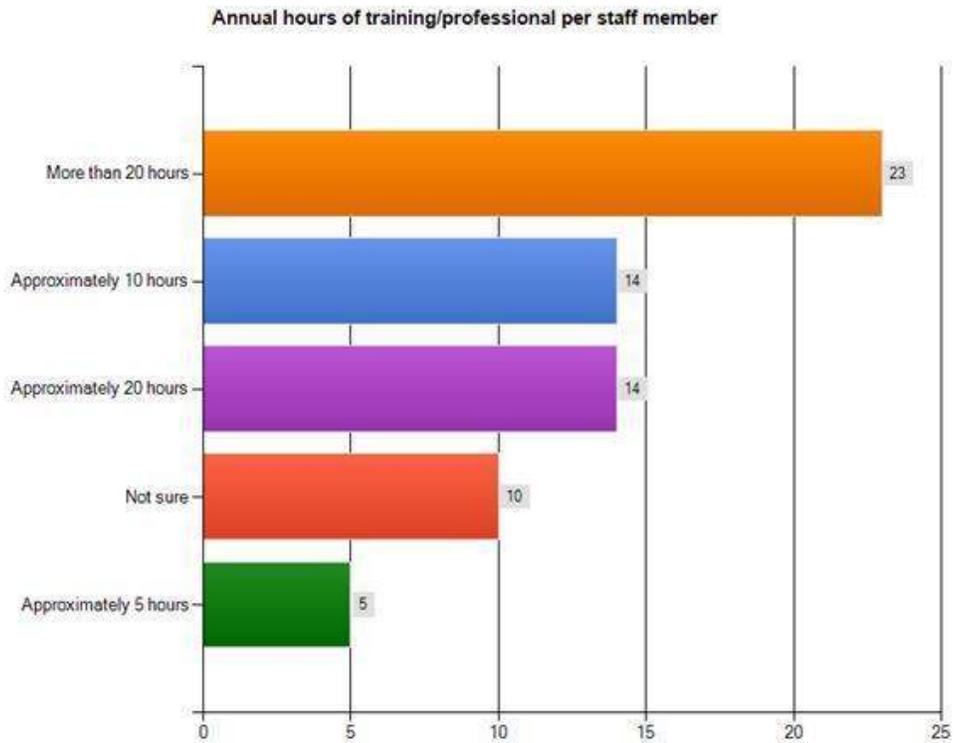
“Other” responses for Question #22 included: West Virginia, New Jersey, states surrounding the Bay Watershed, Global via network, and Maui, HI.

23. How many of each type of staff are responsible for the development, management, and delivery of your education programs?

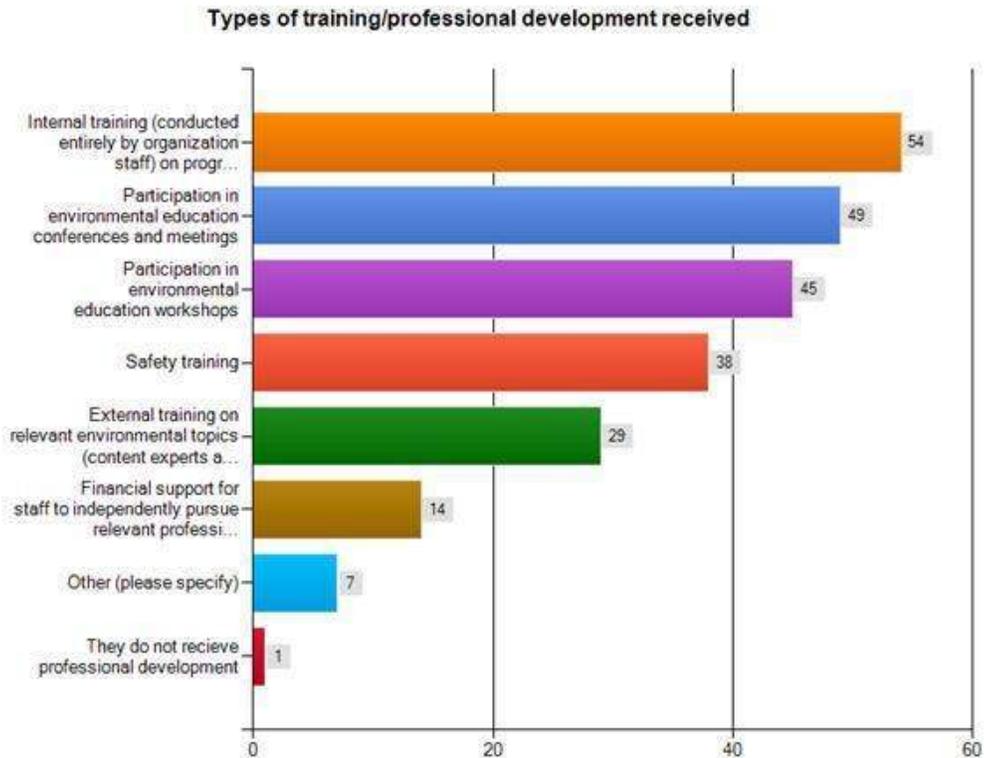
Staff responsible for the development, management, and delivery of education programs



24. Approximately how many hours of training/professional development does your program staff receive annually per staff member?

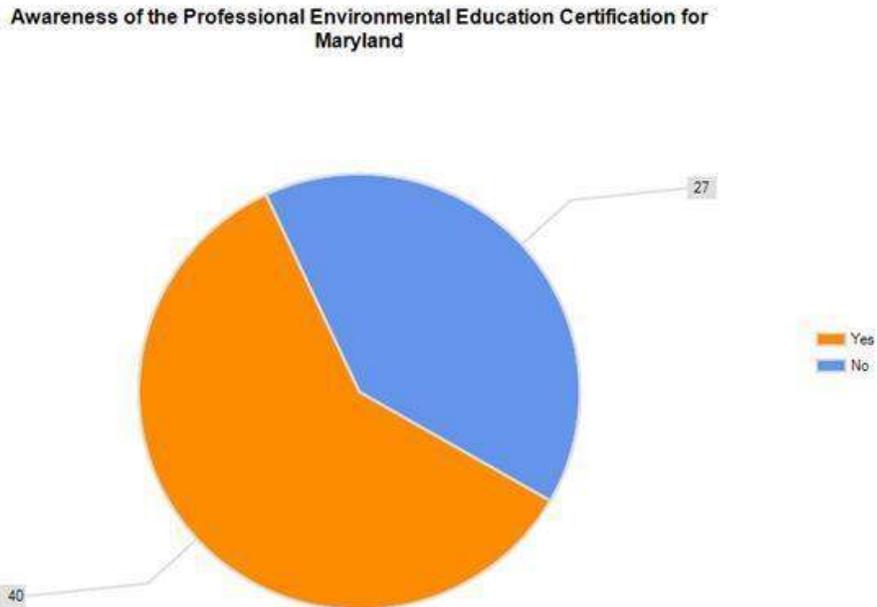


25. What types of training/professional development does your program staff receive?

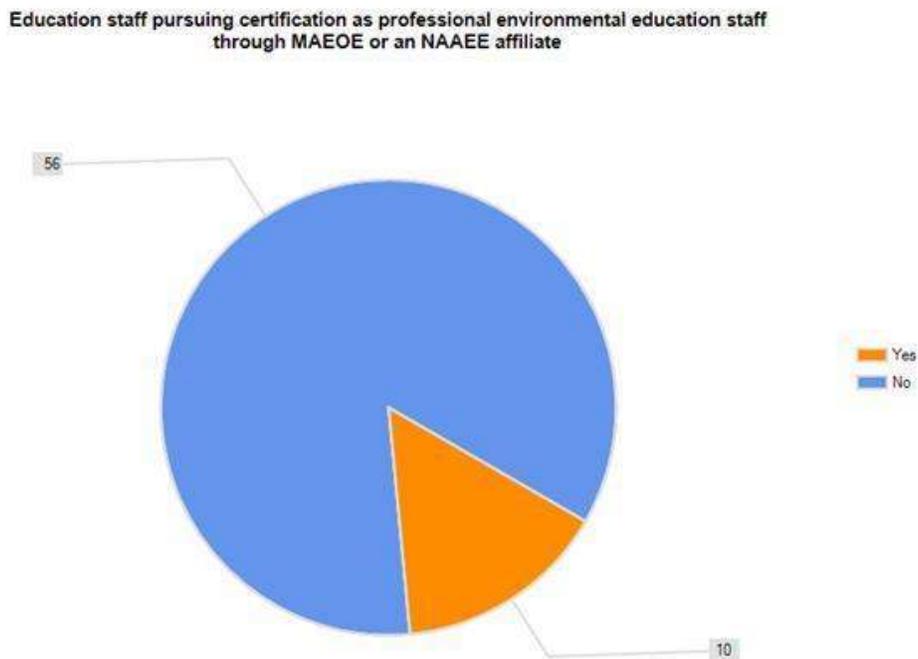


“Other” responses for Question #25 included: Online classes; not all staff take advantage of PD thru MAEF, MDA - an internal issue; Attendance at Coyote Mentoring, The Art of Mentoring, Building Strong Naturalist Communities, Montessori By Nature, A Sense of Place, and other workshops; webinars

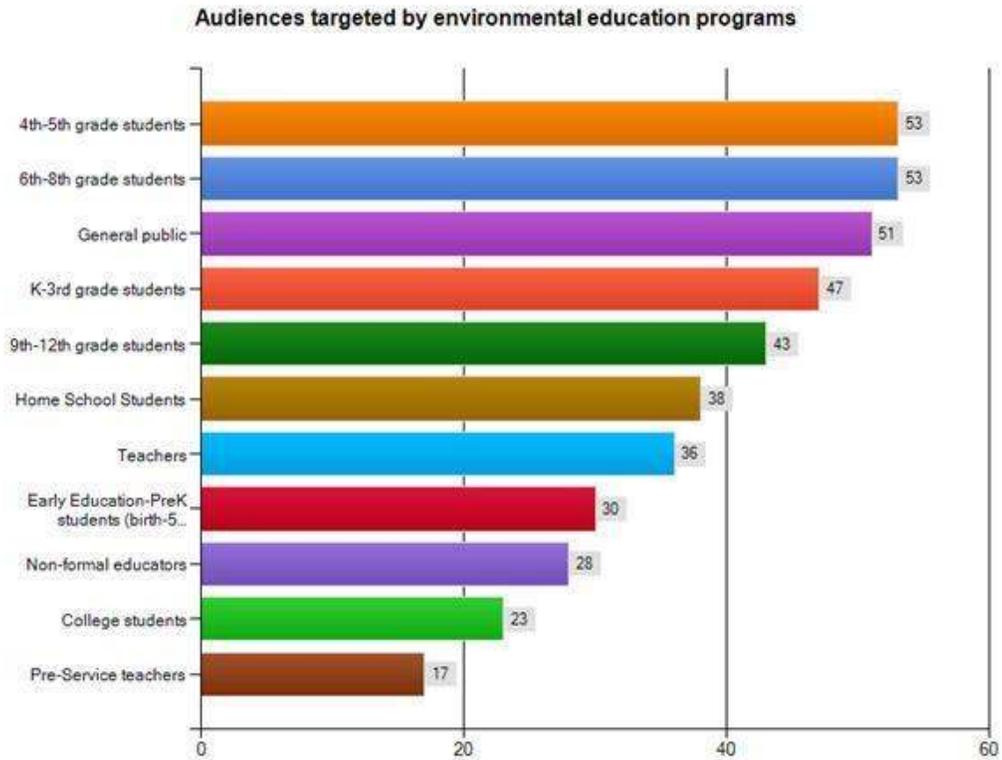
26. Are you aware of the Professional Environmental Education Certification for Maryland?



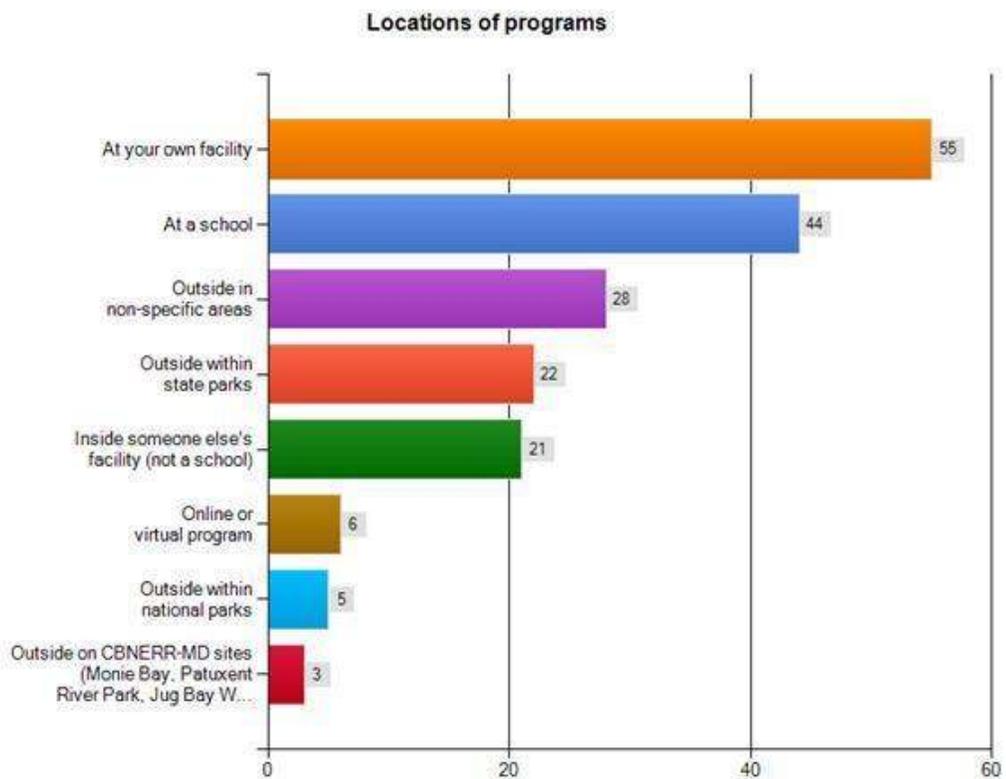
27. Are your program's education staff pursuing certification as professional environmental education staff through MAEOE or an NAAEE affiliate?



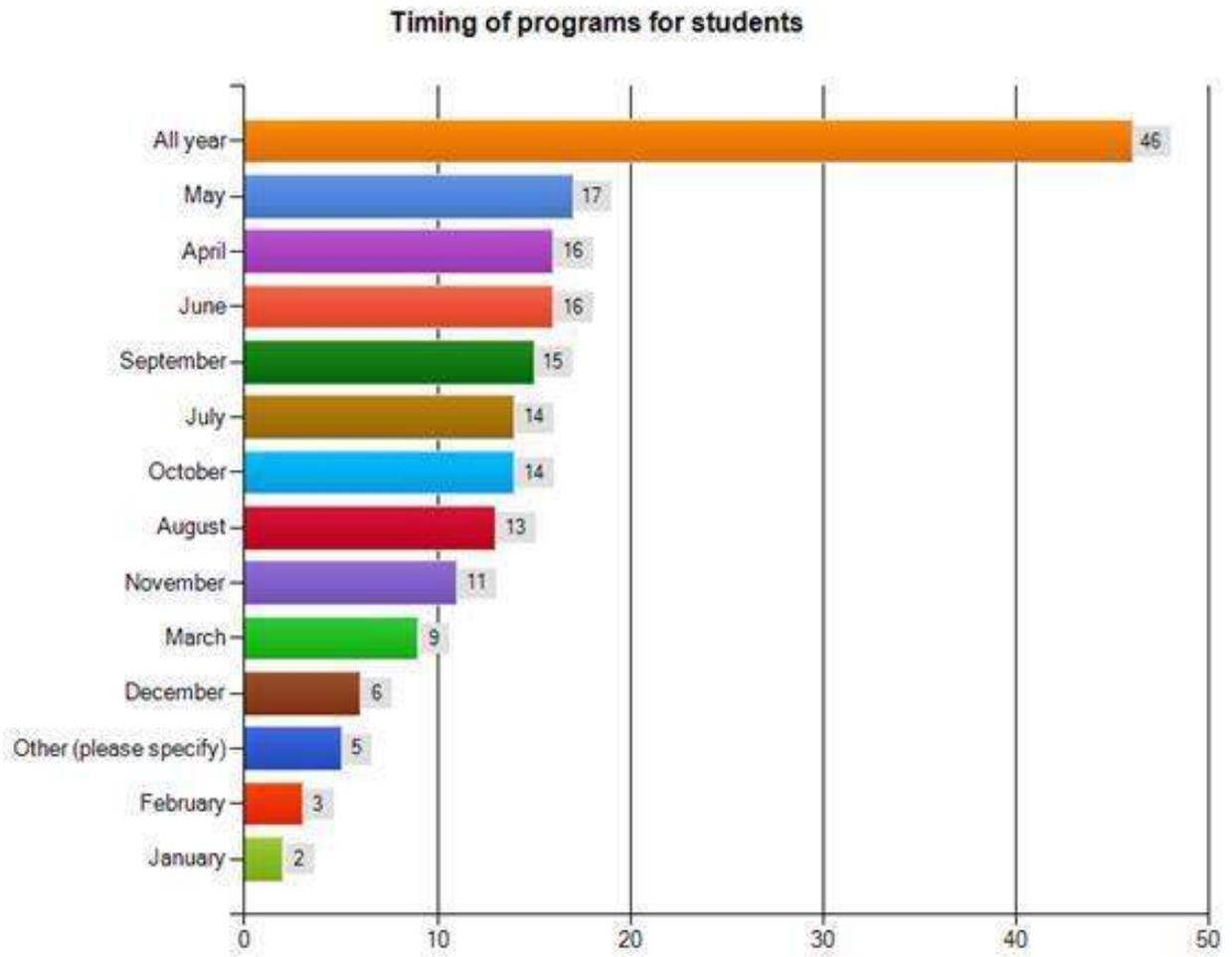
28. Which of the following audiences are targeted by your programs?



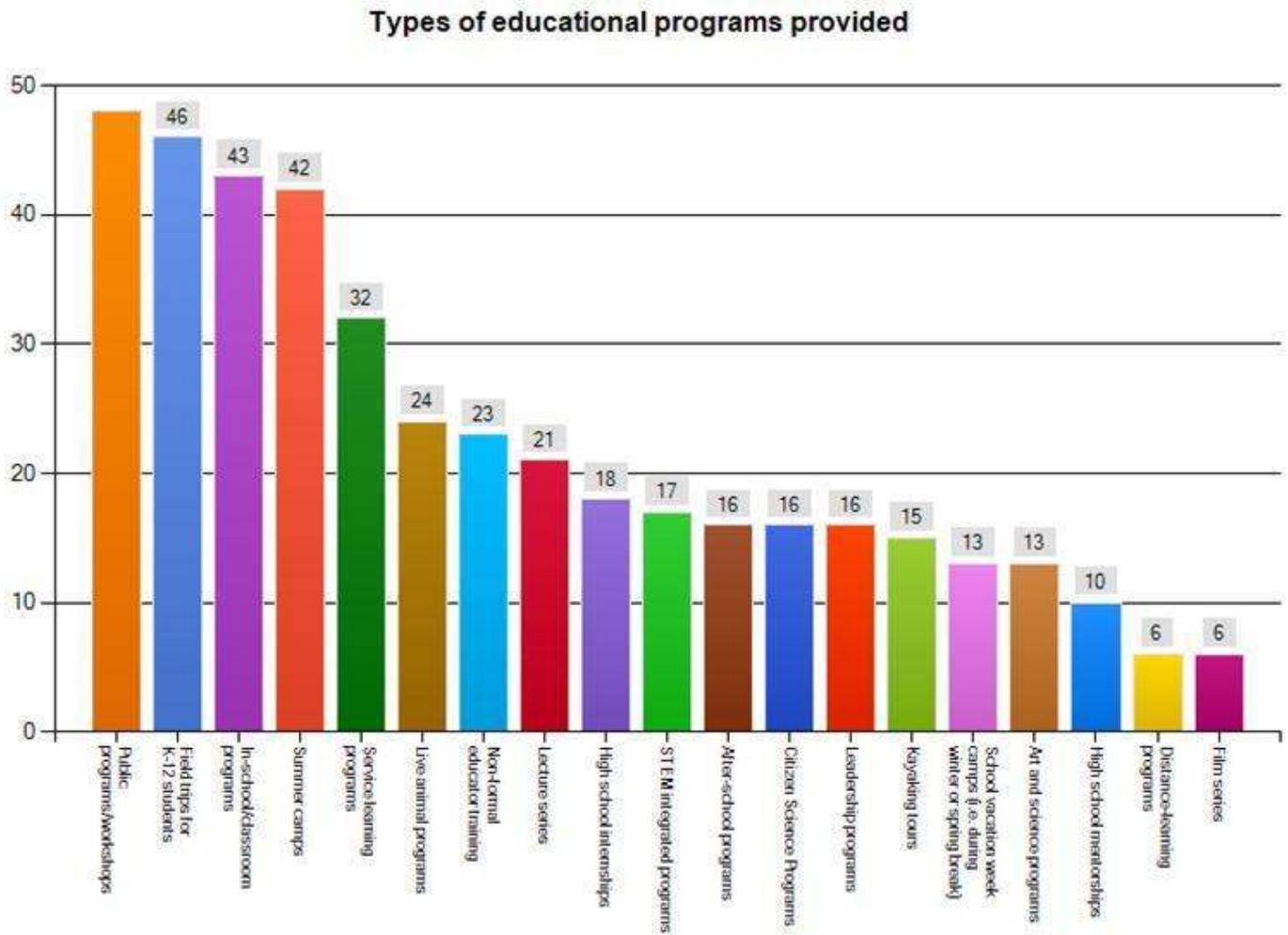
29. Where do your programs take place?



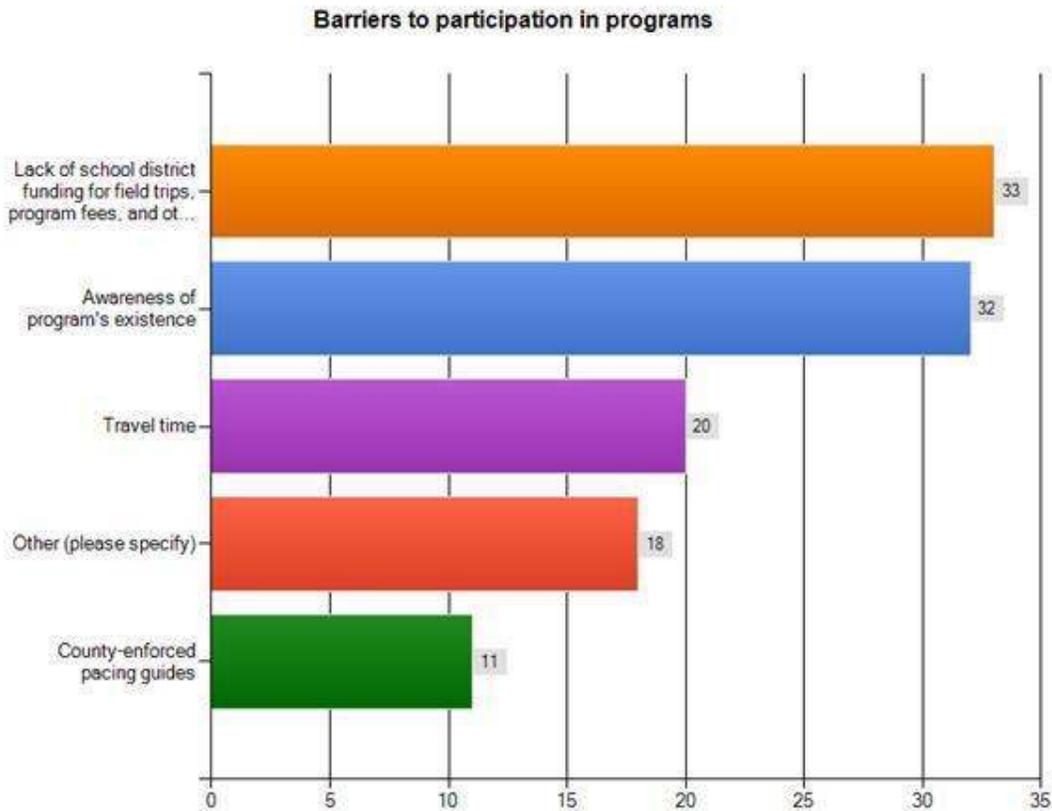
30. When does your organization provide programs for students?



31. What types of EDUCATIONAL PROGRAMS does your organization provide?

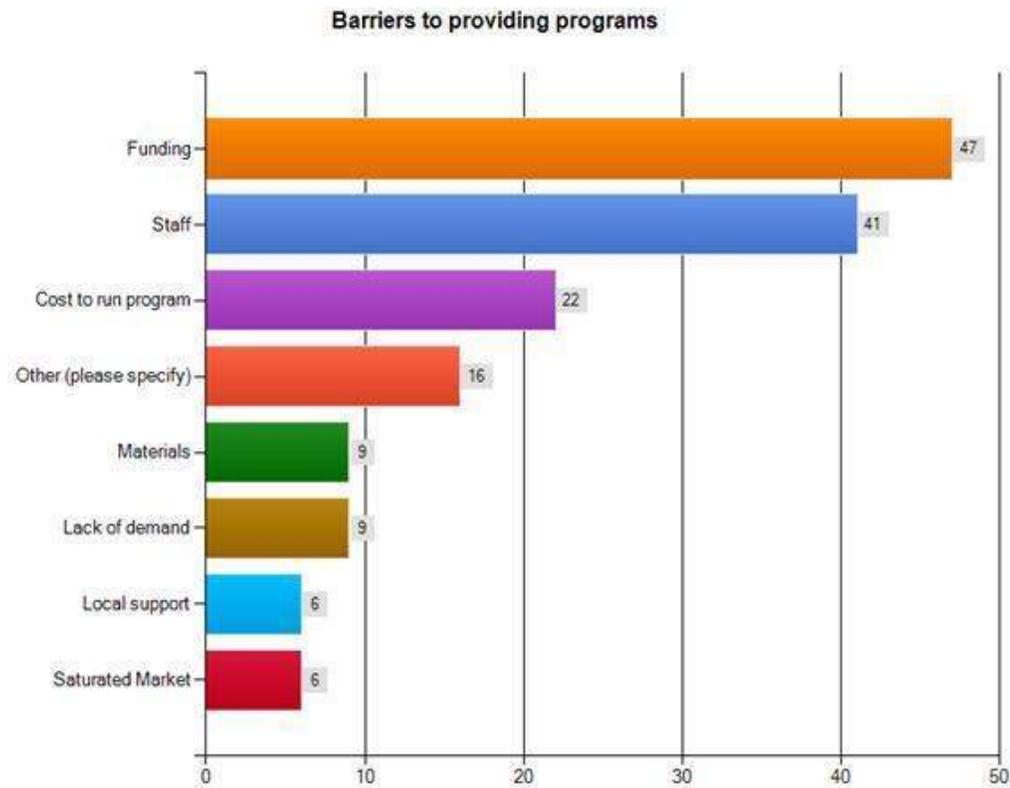


32. What barriers have you identified to participation in your program?



“Other” included the following responses: transportation costs; Appropriate number of staff members to serve audience; I now have to charge a fee for my programs; Difficulty in getting road signs due to the State Hwy Adm; bus needs; lack of publicity; weather; Time to accommodate all student needs; None; professional barriers - supervisors not "getting" that ag education IS environmental education - especially within the ag/EE/STEM/institutional industry; lack of teacher comfort; lack of focus and attention from decision makers; Funding; schools limit number of field trips per year per class; Access to nearby areas with bathroom facilities available; competition with other sites (for field trips); limitations due to needs of multiple partners; site based limits on number of participants

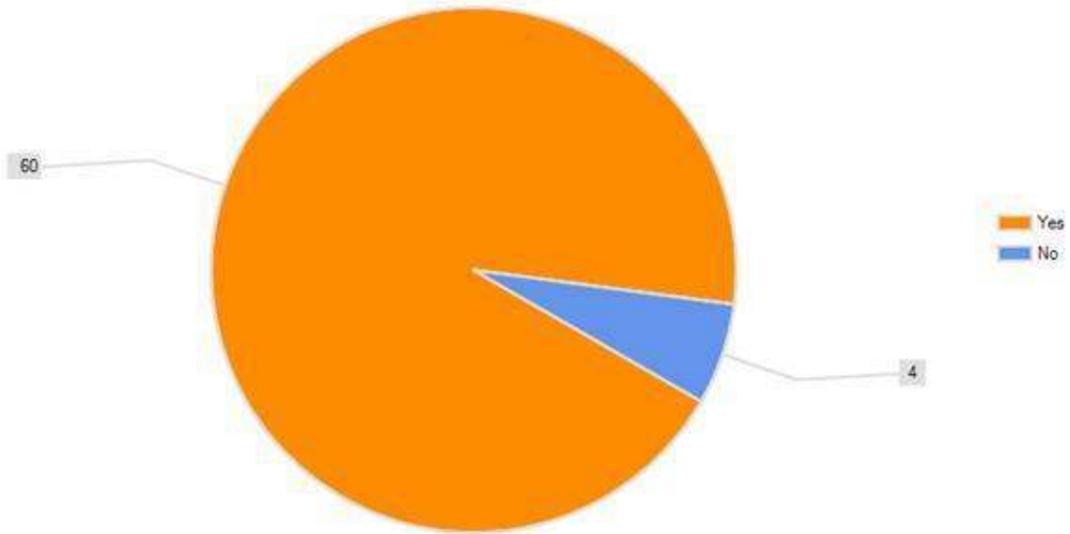
33. What barriers do you face in providing programs?



“Other” included the following responses: transportation costs; facility needs renovations, increased access points; Training opportunities for staff; transportation for kids; People still don't know where we are due to road sign lack; lack of publicity/lack of someone to do publicity; institutional barriers from both environmental and "old school" ag communities; we are an under serviced county for that reason; we are interested in hiring additional year-round environmental educators; outreach; space; lack of focus and attention from decision makers; aging facilities not built to accommodate class size; LAND! Permits and licensing is cost prohibitive because MD DHMH requires a license and fee for each site. This limits the ability to operate in several sites near many neighborhoods (unless it is only for seven days within three weeks...or some such odd requirement. I think this is awful and restrictive); limited core and no capital funding; travel costs and distances.

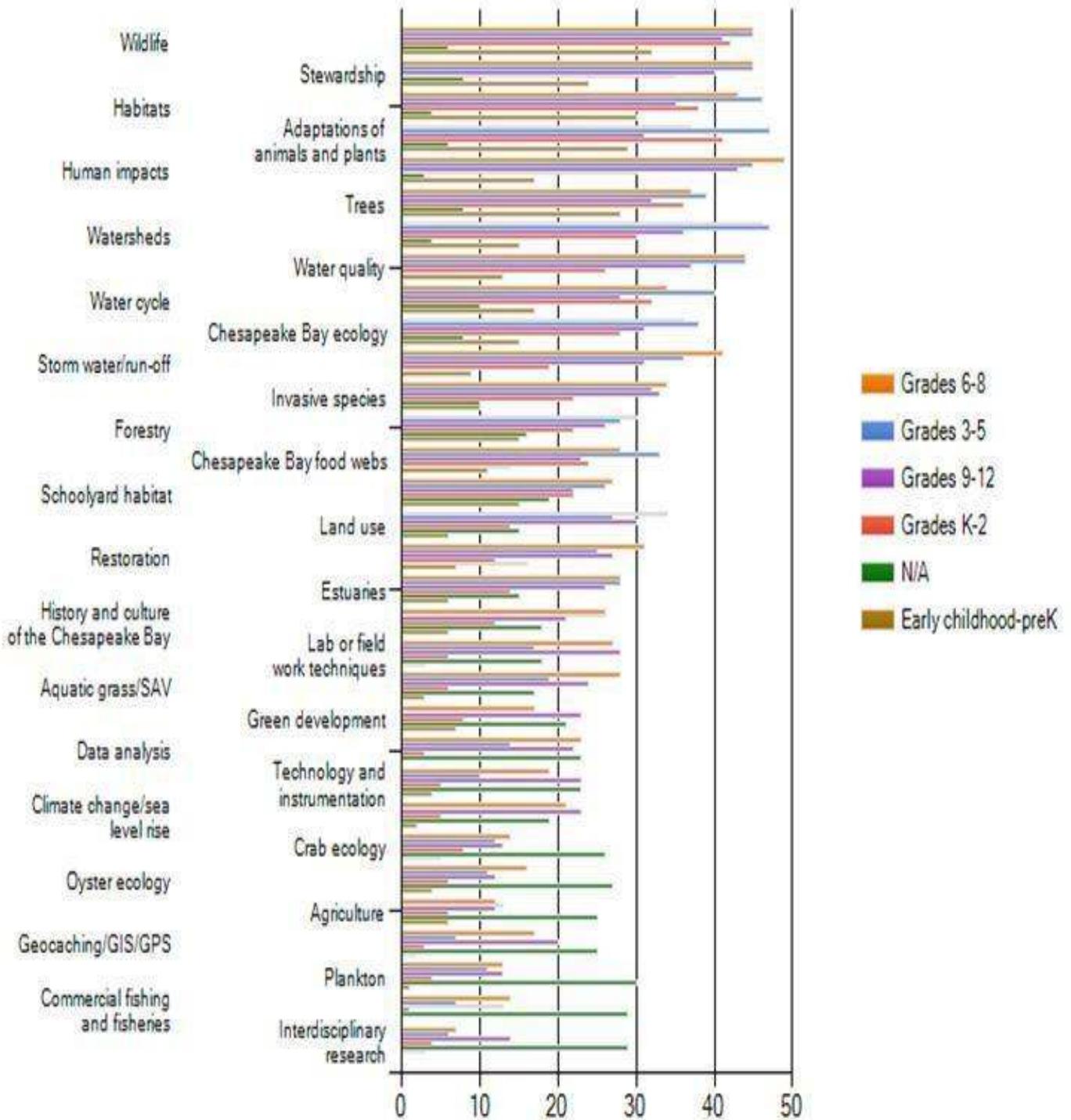
34. Do you provide access for persons with disabilities?

Access for persons with disabilities

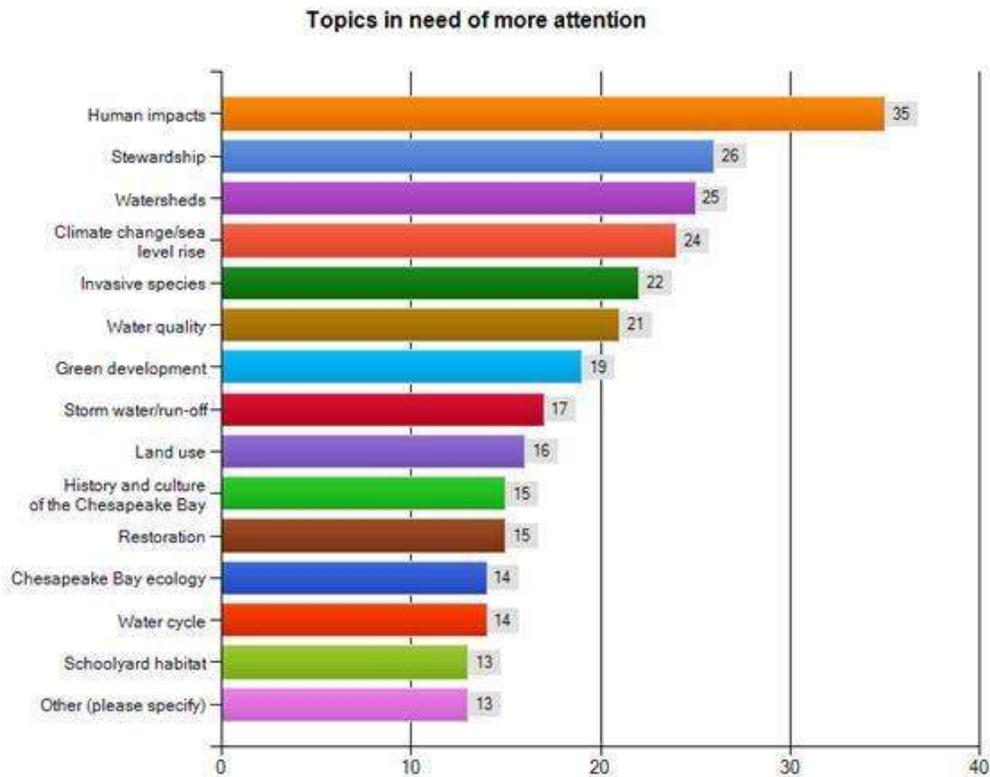


35. Which of the following topics are addressed by your preK-12 environmental educational programs and at what grade levels?

Topics addressed by preK-12 environmental educational programs per grade levels



36. Which topics do you think need more attention?

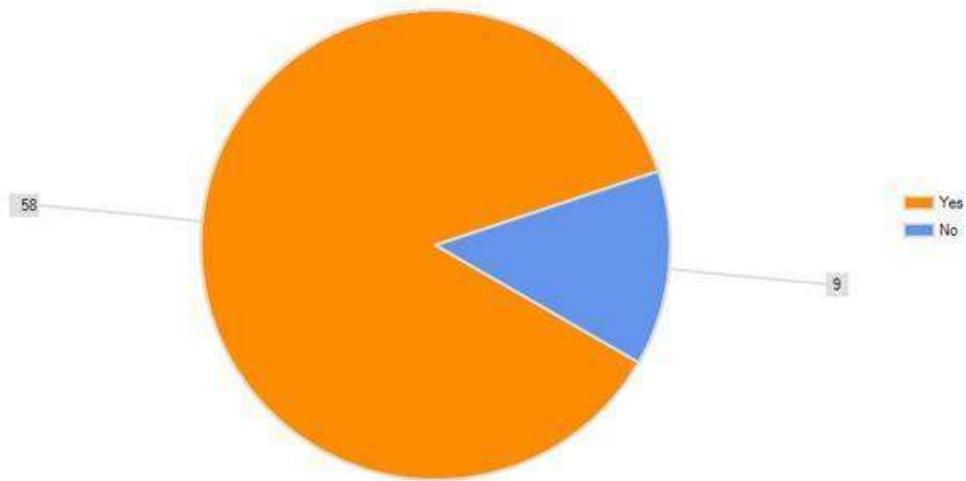


A few of the respondents indicated that they did not understand the question, as they were unclear about whether the topics were specific to their organization, or to EE in general. One respondent noted: If this question refers to in-house needs, I think MAEF exceeds the expectations of standard EE fare - if this question refers to outside, in the larger community - I think much more attention needs to be paid to PD in these topics for non-formal and formal educators in ag and EE integration. The more "stand alone" programs we do as institutions the less connection we ourselves see to food, society and environment.

For those who did add "other" topics to the list, they included: Climate change, but it is a politically charged subject; Issues analysis -- it needs a systematic approach, start at a younger age, increasing skill development as cognitively appropriate throughout their environmental career. We need a program developed like this. This would give students skill to apply to any issue rather than just facts about issues; Edible school gardens Sustainable food production, local food production; DIRECT EXPERIENCE! DIRECT EXPERIENCE! DIRECT EXPERIENCE! DIRECT EXPERIENCE! DIRECT EXPERIENCE! DIRECT EXPERIENCE!; Spatial thinking/analysis; procedures for critical analysis and evaluation of research conducted; Identification and innovation for the overwhelming problem of non-point source Toxic and Biological Pollution throughout the entire Chesapeake Bay Ecosystem (64,000 sq. miles) and the quest to find a decisive reproducible solution to this dilemma; Air Quality; Habitat loss.

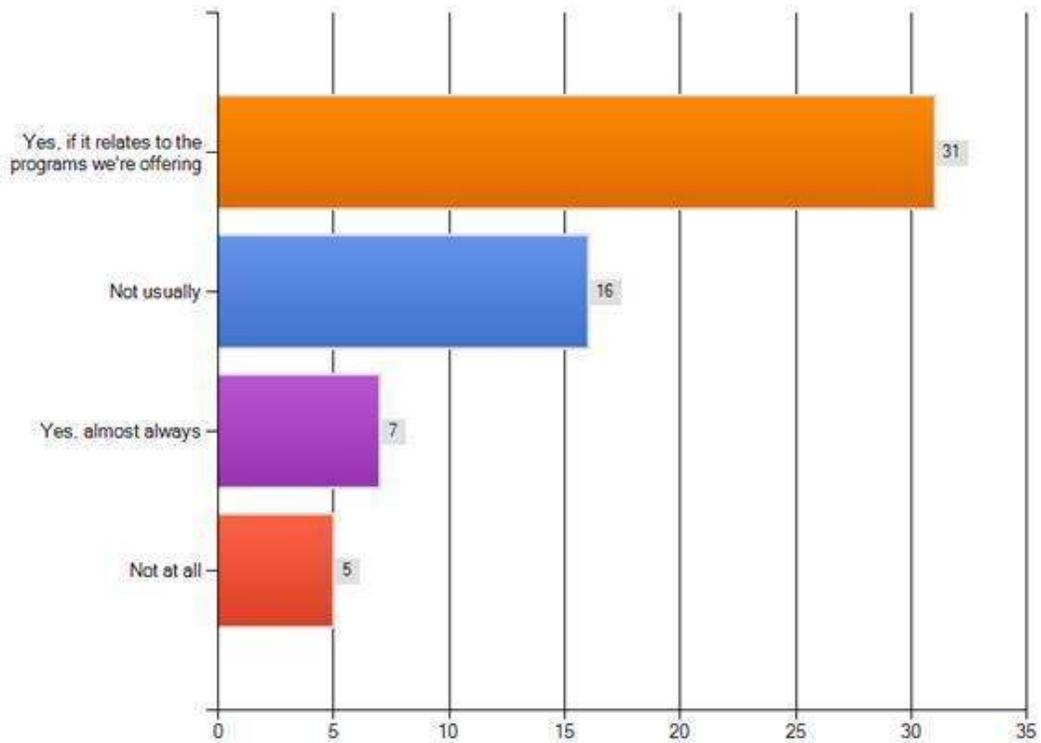
37. Will you answer a few questions relating to climate change?

Willingness to answer questions related to climate change

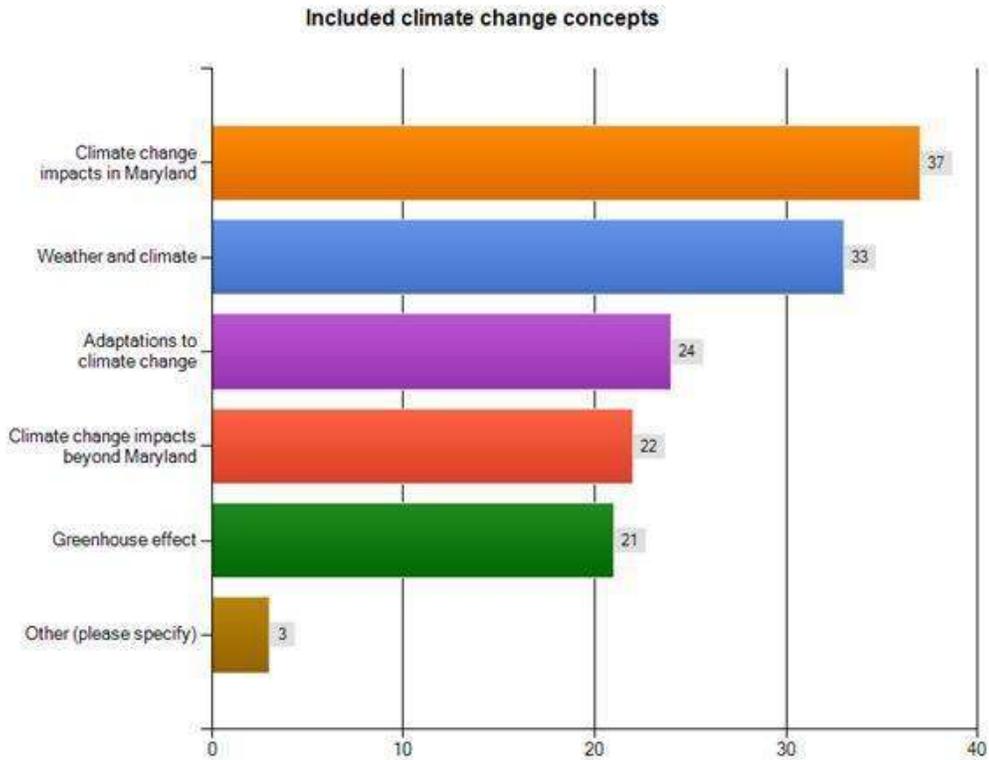


38. Do you include information about climate change in your programs?

Inclusion of climate change information in programs

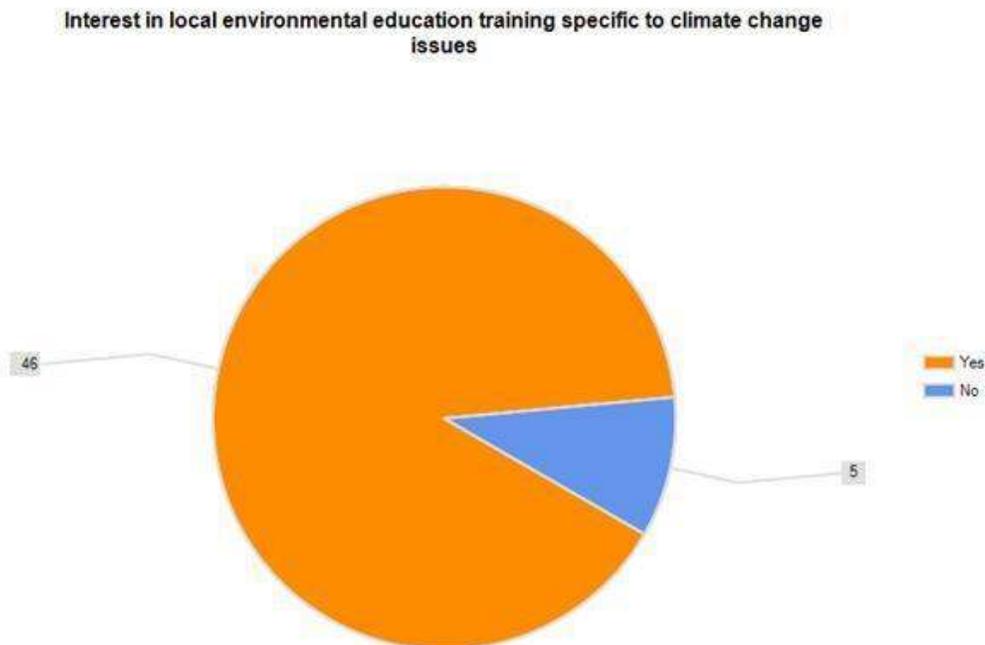


39. What climate change concepts do you include in your programs?



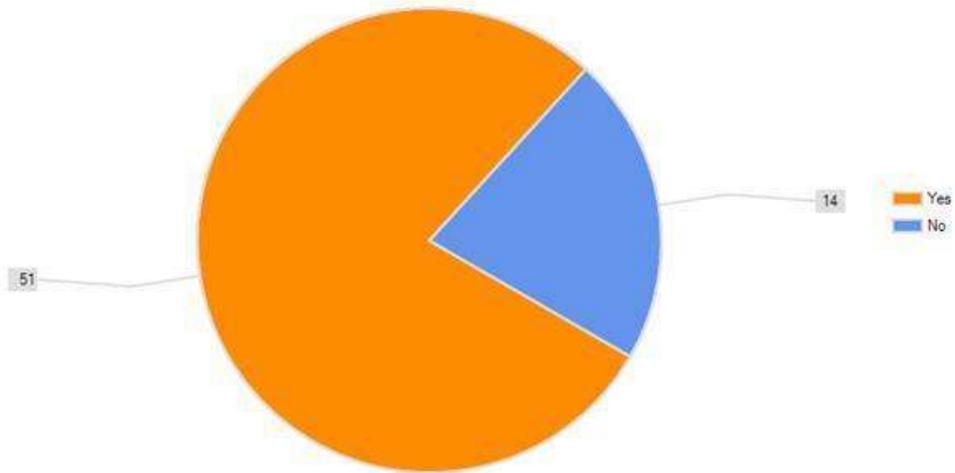
“Other” responses included: Utilize smaller ideas (recycling, decreasing carbon footprint--focus on solutions); ag innovation, agroecology and sustainable communities; history of climate change

40. Would you be interested in local environmental education training specific to climate change issues?



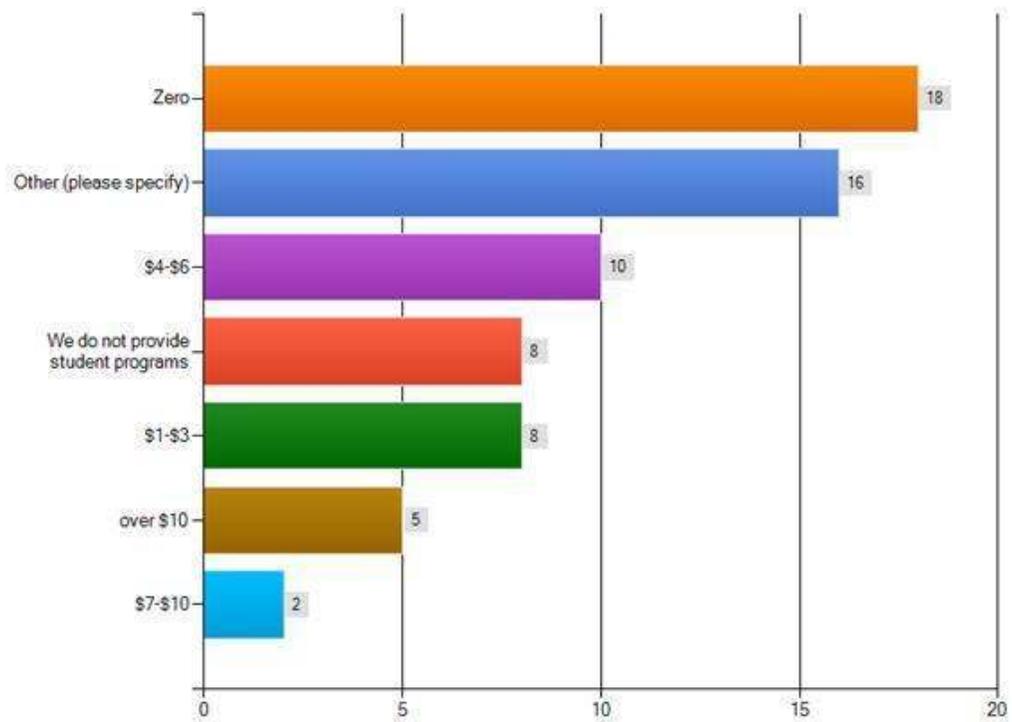
41. Do you align your programs with state curriculum and standards?

Alignment of programs with state curriculum and standards



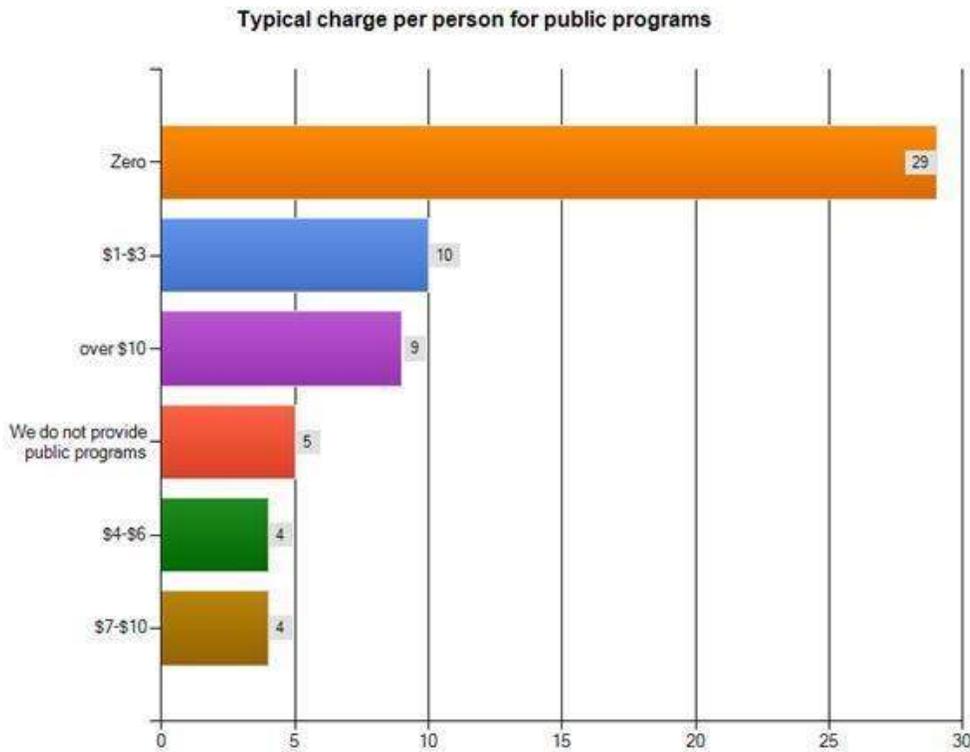
42. What do you typically charge per student for your school field trip programs?

Typical charge per student for school field trip programs



“Other” responses to Question 42 included: \$7 to \$12, depending upon the length of the program; We charge for Scales & Tales programming but give free entrance into the park and other naturalist lead activities are often free; \$2 per student; fees are not rated per person; Most are grant funded; depends on whether it is in county group (free) or out of county group (\$2); we have base fees not per person fees; It depends on the trip...zero to \$10; We do weekend programs and do not charge the families; Nothing as of yet. We are hoping to charge the general public though; We are not a shop-and-go organization -- we have never charged anyone for our service; student activity fee \$100; over \$10 but most funding provided by grants, not by the students; \$5 per student (\$3 per student at Title I schools)

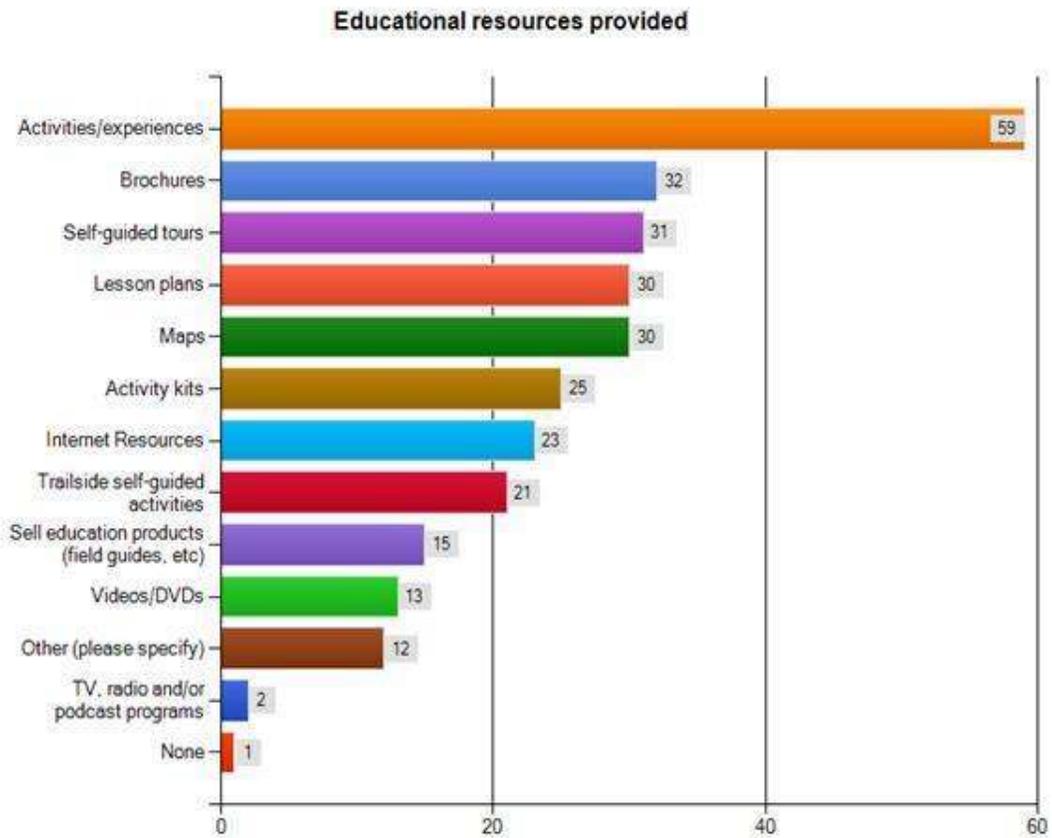
43. What do you typically charge per person for your public programs?



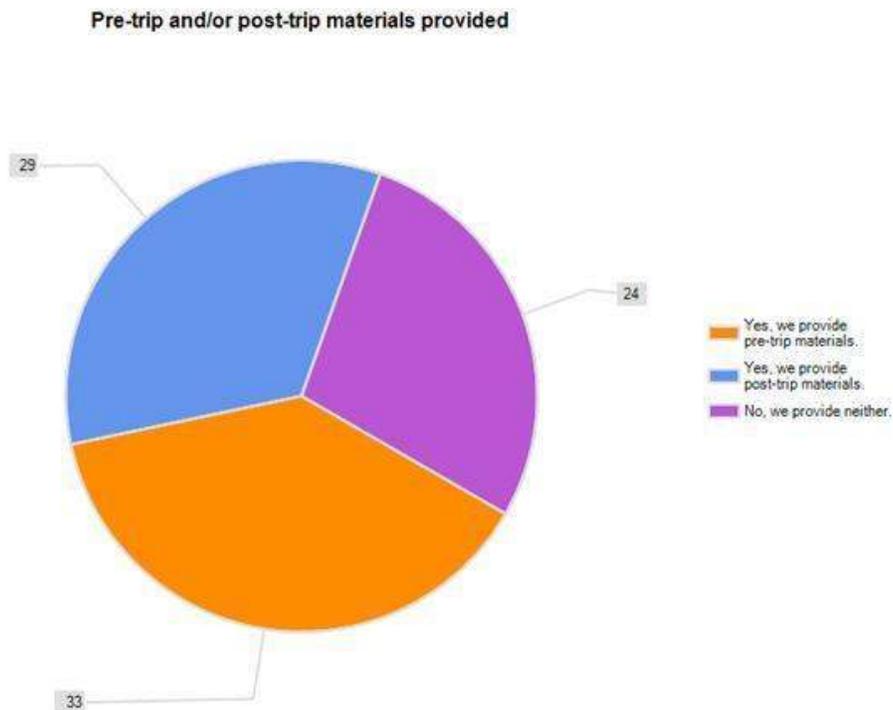
44. What is the average per student cost to run one of your programs?

Fifty-three respondents answered this open-ended question. The most common answer was that the per student cost varied according to the specific program. Many respondents answered in a way that indicated that they did not understand the question. Of those that answered the question with a thoughtful monetary range, the cost for most EE providers to run education programs seemed to average about \$30 per student.

45. Which of the following EDUCATIONAL RESOURCES do you provide?

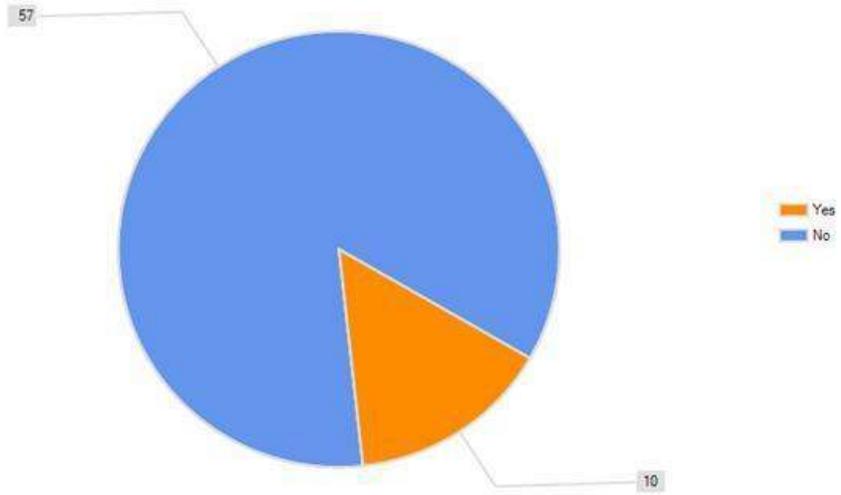


46. Do your educational programs provide pre-trip and/or post-trip materials?



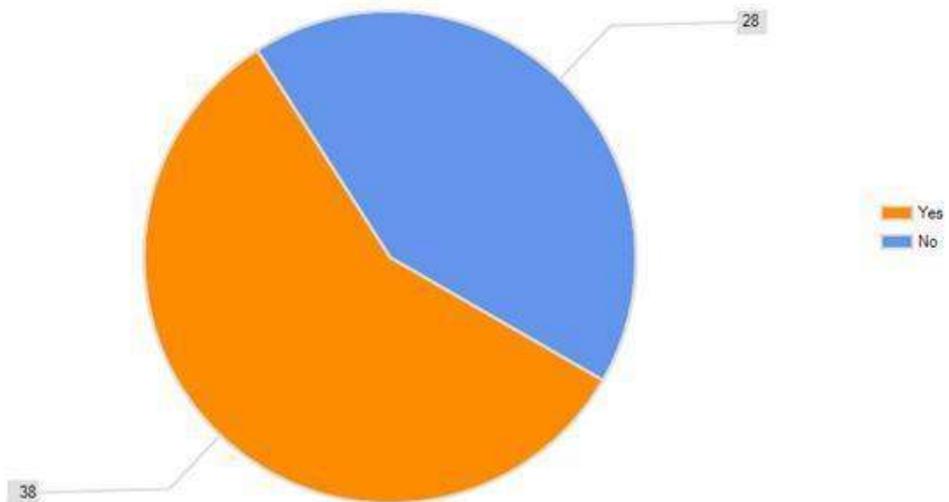
47. Are your programs offered in languages other than English?

Programs offered in languages other than English

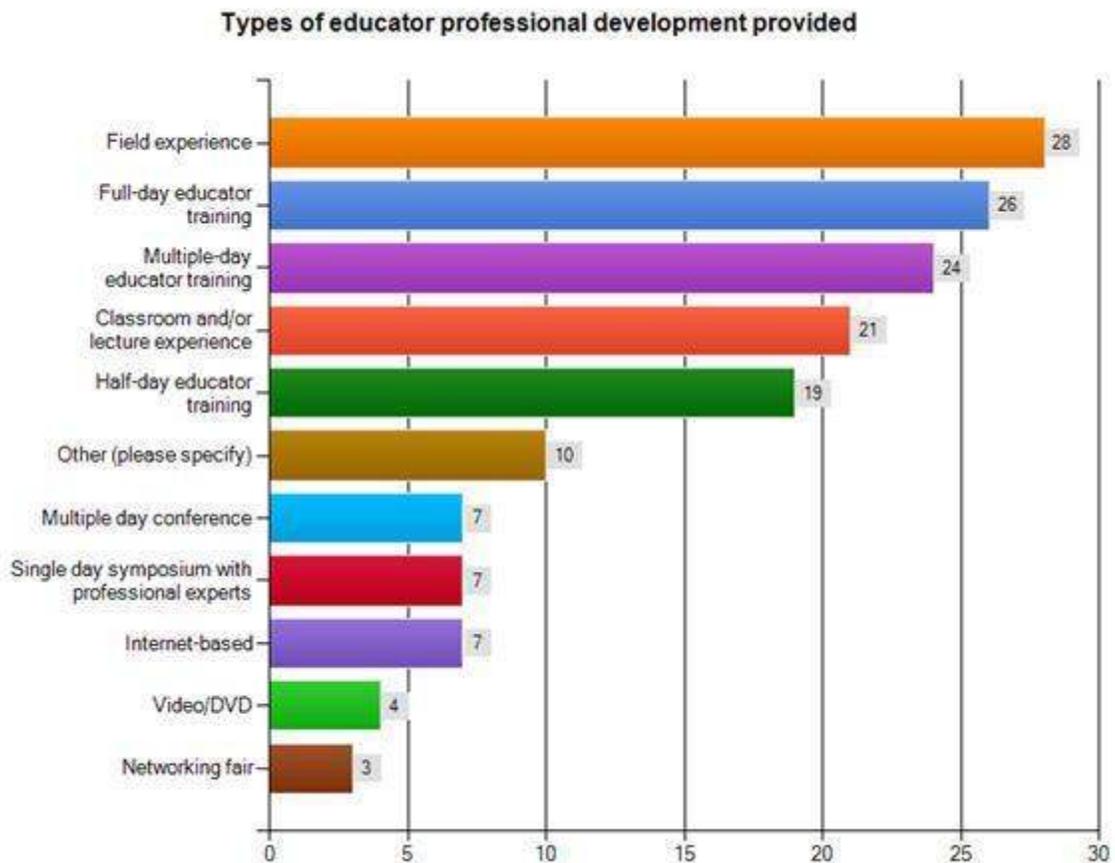


48. Do you provide teacher professional development?

Teacher professional development provided

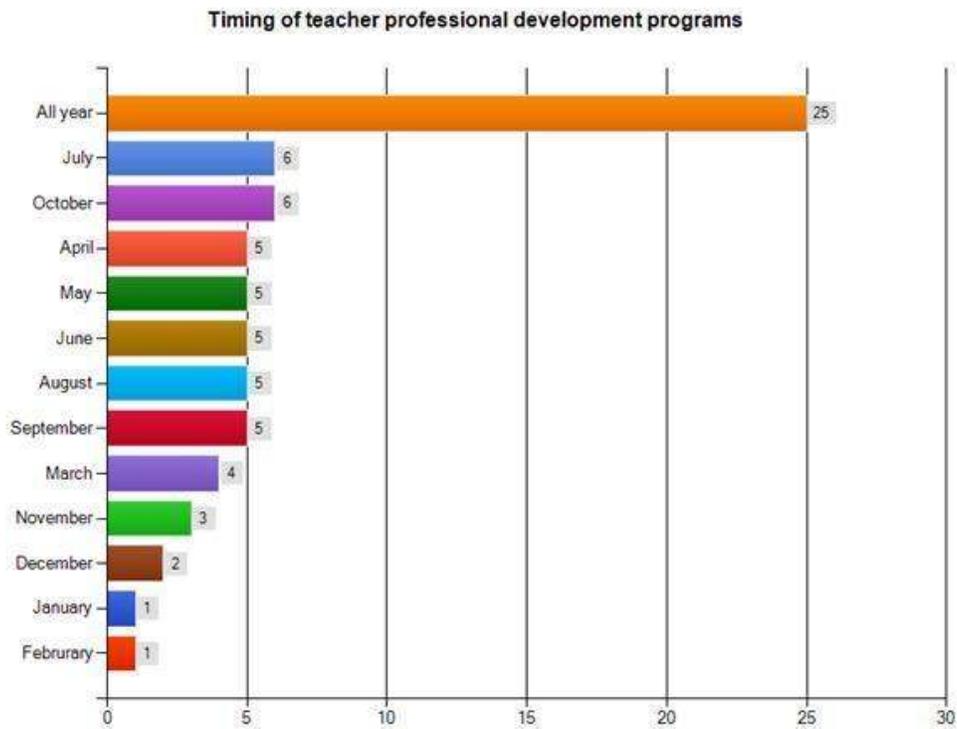


49. What types of educator professional development do you provide?

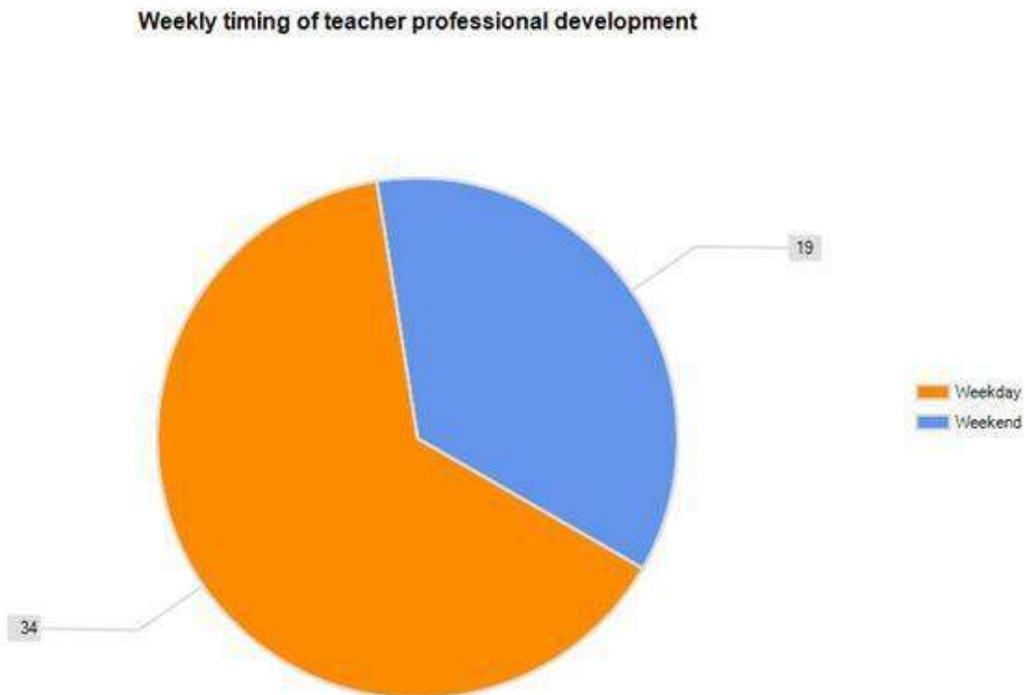


“Other” responses included: Generally Project Wild, WET, PLT; We have offered limited WOW training through Environmental Concern; I share what I know about teaching and environmental education and, if the teachers asked for it, I would try to figure out how to pay for workshops; workshops, professional experts; It's rare that we get the opportunity to provide PD; hoping to see that change w/ the newly adopted EE Lit and graduation requirements; Workshops, conferences, retreats; The Art of Mentoring; Conference hands-on workshops and presentations; in conjunction with CBF Chesapeake Classrooms

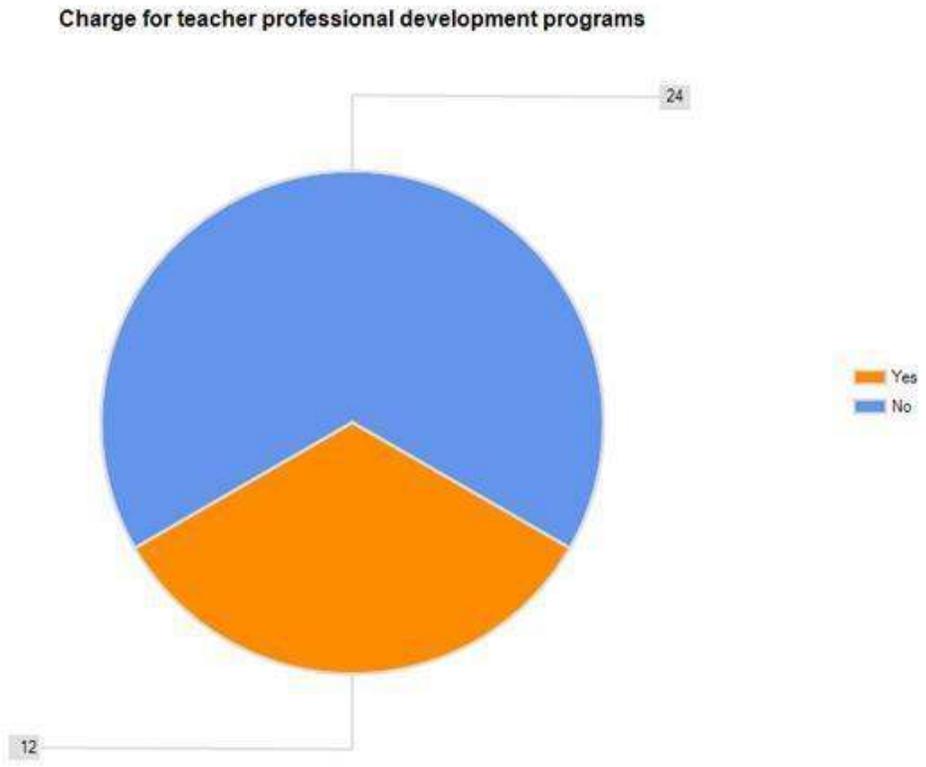
50. When does your organization provide teacher professional development programs?



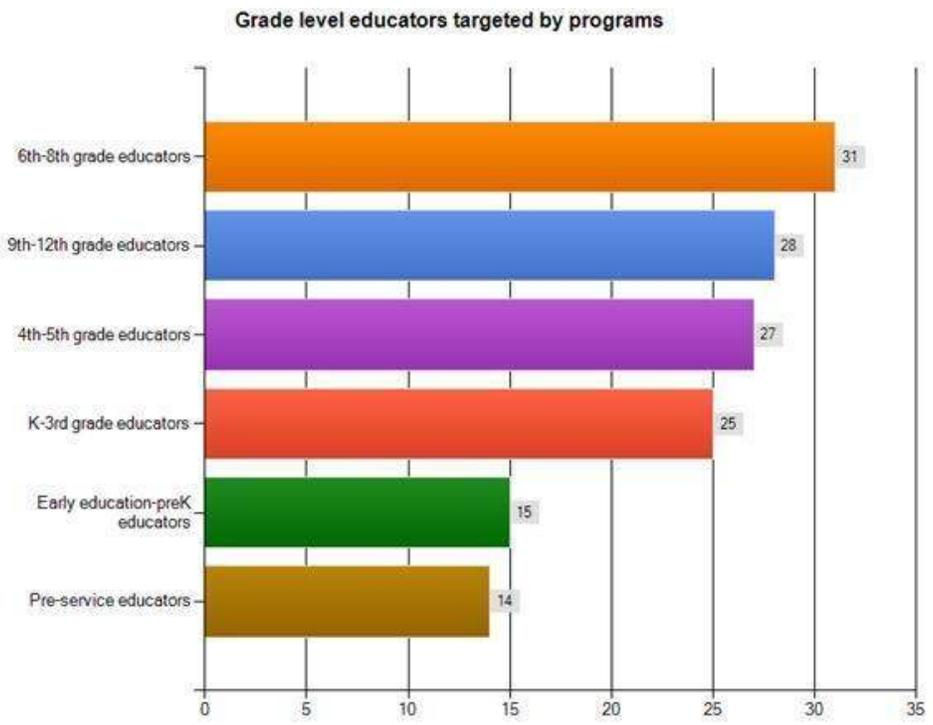
51. When during the week does teacher professional development programming usually occur?



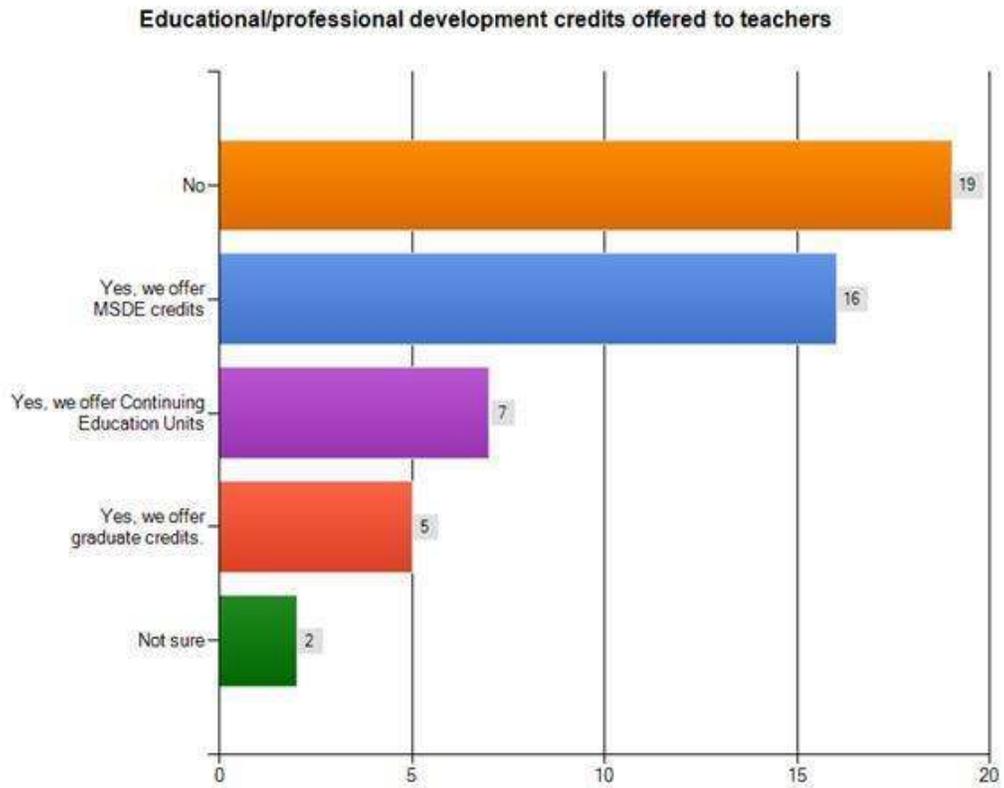
52. Do you charge for teacher professional development programs?



53. What grade level educator do your programs target?

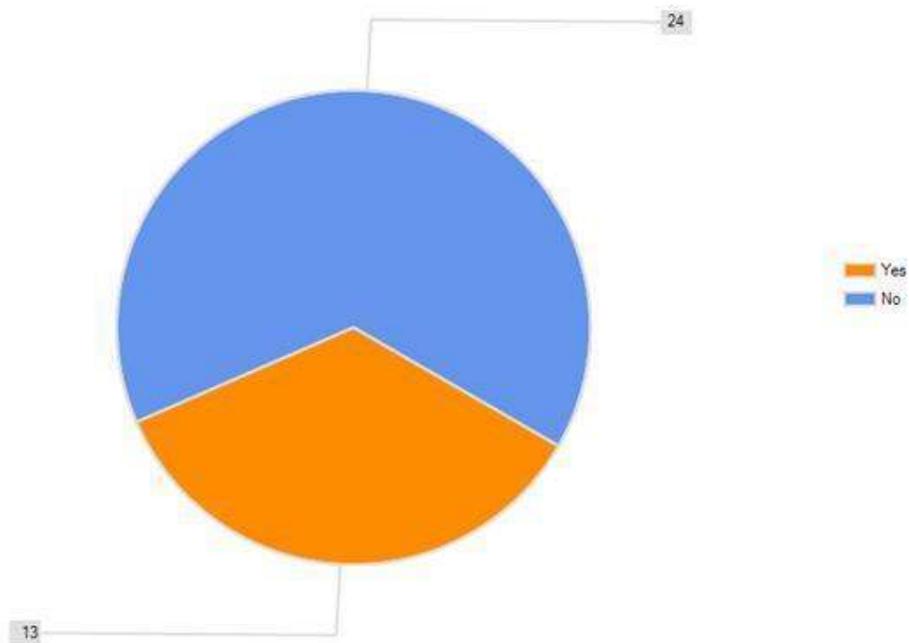


54. Do you offer teachers educational/professional development credits?



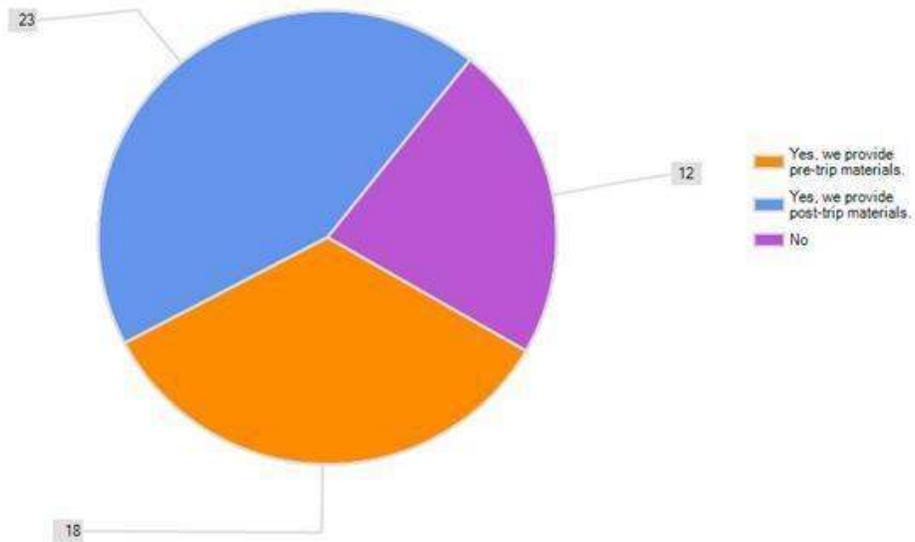
55. Do you provide teachers with a stipend for participating in your professional development programs?

Stipend provided for teachers participating in professional development programs



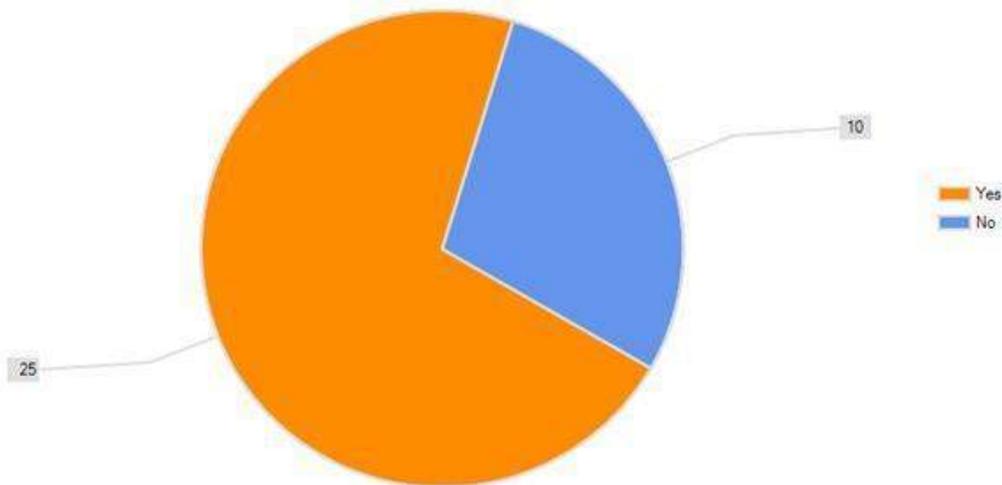
56. Do your professional development programs provide pre-trip and/or post-trip materials?

Pre-trip and/or post-trip materials provided for professional development programs

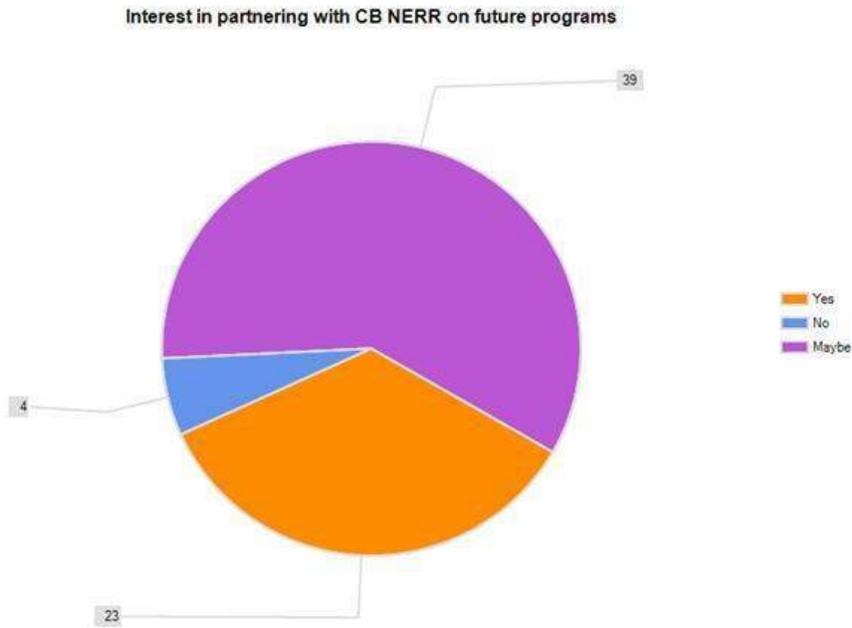


57. Does your organization follow up with participating teachers to assess whether they are using the information learned in your professional development programs with their students?

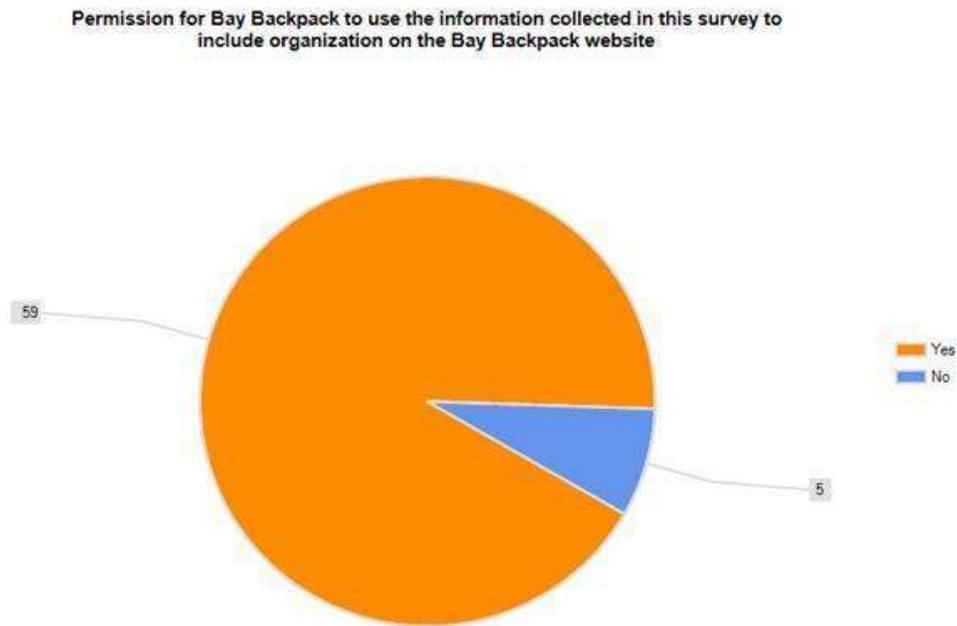
Follow up with participating teachers to assess whether they are using the information learned in the professional development programs with their students



58. Is your organization interested in partnering with CBNERR-MD on future programs?



59. Do you give permission for Bay Backpack to use the information collected in this survey to include your organization on the Bay Backpack website?



60. Would you like to be contacted when the results of this survey are made available?

Sixty-four of the respondents indicated they were interested in the results of this survey.