

Evaluation Report: Improving Recruitment and Retention of Teams to the Great Lakes Bowl

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Executive Summary

The Great Lakes Bowl is an annual regional competition of the National Ocean Sciences Bowl, an academic competition that tests high school students' knowledge of Great Lakes and marine science. A formative evaluation was conducted at the 2009 Great Lakes Bowl with the goal of improving recruitment and retention of teams to the competition. Evaluation questions were: 1) What motivates teachers to participate in NOSB? 2) What factors are important for continued participation in NOSB? 3) What factors would prevent teams from returning to NOSB? 4) What do NOSB teachers think are effective ways of advertising NOSB? 5) What can be the role of current NOSB teachers in recruiting new teams?

The evaluation was conducted internally by the Great Lakes Bowl coordinator. Focus group and survey data were collected from teachers who participated in the 2009 competition. Qualitative data from the focus group and survey were analyzed using content analysis. Quantitative survey data was analyzed using descriptive statistics, including counts, frequencies, percentages, mean, median, mode, and variability.

Results show that teachers are happy with the Great Lakes Bowl and are willing to support regional efforts to recruit new teams to the competition, including giving presentations at teacher meetings and workshops. Teachers learned about NOSB primarily through electronic, paper, and personal sources and ranked these as the top three means of effectively advertising the competition. A variety of factors motivate teachers to participate in NOSB, including personal and student interest, low cost, student enrichment, support of science curriculum, and supplementation of club activities. Cost increases, lack of student interest, and changes in location or time are factors that would cause teachers to discontinue participation. Factors that encourage retention of teams are competition perks, momentum, meeting scientists and professionals, and the fact that it provides extra-curricular activities for students. Teachers also indicated that they have adequate support from their schools and from NOSB. Educational opportunities for students and teachers through NOSB were most important to those who had participated in them but were not critical to their continued participation in the program. Teacher opportunities that offer credit were attractive to earlier-career teachers.

The results indicate several areas for program adjustments. Teachers are willing to help promote NOSB and should be included in the advertising and recruitment process. Assistance from the regional coordinator with slides and handouts for presentations will be a key part of implementing this change. Paper mailings had been discontinued but should be re-instituted based on the results. Student interest, while important, was more influential for retention than recruitment. Direct advertising to students would not be as beneficial as advertising to teachers. Recruiting efforts that focus on schools with science/quiz bowl clubs could also be successful. The importance of low competition costs to teachers indicates that we should avoid charging a registration fee to offset current NOSB budget cuts.

Overall, teachers' comments indicate that they are highly satisfied with the Great Lakes Bowl and are invested in contributing to the growth and future success of the program. Their testimonies highlight the importance of increasing the number of students and teachers that participate in NOSB.

Section 1: Goal of the Evaluation

The goal of this evaluation was primarily formative. The Great Lakes Bowl, a regional competition of the National Ocean Sciences Bowl (NOSB), recently completed its 12th year. In the current economic climate, funding for educational programs like NOSB is diminishing. In order for NOSB to continue to receive funding, we must demonstrate continued interest and demand for the program.

My central evaluation questions focused on improving recruitment and retention of teams to the Great Lakes Bowl:

- What motivates teachers to participate in NOSB?
- What factors are important for continued participation in NOSB?
- What factors would prevent teams from returning to NOSB?
- What do NOSB teachers think are effective ways of advertising NOSB?
- What can be the role of current NOSB teachers in recruiting new teams?

Section 2: Methods

The evaluation was conducted internally by the coordinator of the Great Lakes Bowl. Data were collected from teachers who participated in the 2009 competition in Ann Arbor, MI. A focus group discussion and follow-up survey were used to collect data from teachers. The focus group was held in Ann Arbor, the evening before the competition. The follow-up survey was completed by teachers after returning to their hometowns. A raffle of educational materials was held for teachers who returned their surveys.

Fourteen teachers participated in the 2009 competition. Seven participated in the focus group and ten completed the follow-up survey. Of the fourteen teachers, only one did not participate in either the focus group or survey.

The focus group discussion was taped and analyzed using content analysis. Using emergent categories, the focus group responses were grouped by question and organized into categories. In all cases, the unit of analysis was “response”. The survey included both qualitative and quantitative measures. Qualitative responses were analyzed using content analysis and grouped with the focus group data where appropriate. Quantitative survey questions were coded and responses were entered into an Excel spreadsheet. Descriptive statistics, including counts, frequencies, percentages, mean, median, mode, and variability (range from minimum to maximum values) were calculated where appropriate.

Section 3: Results

Qualitative measures

Qualitative measures are from both the focus group and from the qualitative portion of the follow-up survey.

- How teachers learned about NOSB:

When teachers were asked how they first learned about NOSB, their responses fell into 3 categories:

- *Electronic sources*
- *Paper sources*
- *Personal sources*

Electronic sources included internet, email, and announcements on list-serves. Paper sources included flyers, school mailings, newsletters, and professional publications. Personal sources included teaching colleagues, networks (including university, agency, and extension contacts), and professional meetings. No single source emerged as the primary source of information about NOSB, although electronic and personal sources were more common than paper sources.

- What motivated teachers to participate in NOSB:

When teachers were asked what motivated them to participate in NOSB, their responses fell into 6 categories: personal interest, student enrichment, low/no cost, supports science curriculum, augments existing club activities, and student interest. No single factor emerged as a primary motivator. When asked more about student interest as a factor, teachers indicated that student interest typically works as a motivating factor for retaining a school in the competition. Once a team has been formed, students are a key factor in recruiting their peers to the team and maintaining a school's participation after a teacher/coach's retirement or layoff. However, teams are not generally chartered at a school based on students' initiative.

- *Personal interest quotes*: "I have a love of oceanography", "I have a background and personal interest in ocean and atmospheric sciences"
- *Student enrichment quotes*: "I realize the importance of helping students build a deeper understanding of science and the world." "This is an additional opportunity for students to engage in science outside of the classroom setting."
- *Low/no cost*: "It's free to participate!" "This is an educational competition that offers real opportunities for students to travel for no cost."
- *Supports science curriculum*: "School subjects are seen as individual entities, but this competition allows the students to see how the world works from many angles with many specialties working together." "The competition topics are aligned to my science curriculum."
- *Augments existing club activities*: "We had 3 science clubs at the time—I thought ocean club would be a good addition."
- *Student interest*: "Students who had previously participated really did a good job twisting my arm to moderate a team (after their NOSB teacher/coach retired)."

- Factors that are most important for continued teacher participation in NOSB:

When teachers were asked what factors were most important for them to continue participation in NOSB, their responses fell into five categories: student interest, regional support, student opportunities, no/low cost, and positive student experiences.

- *Student interest*: “Continued interest among the student population. Right now they are very excited about it and it’s contagious so we’re getting additional members.” “Since our student body is so small, maintaining an interested core group of students is a high priority and concern.”
- *Regional support*: “Support from the local organizers—it really helps to have such supportive and organized people sending reminders and making the competition run so smoothly.”
- *Student opportunities*: “The fact that it opens doors for student summer internships and scholarships.”
- *No/low cost*: “No cost participation” “Low cost participation”
- *Positive student experiences*: “We love the t-shirts and extras, all the food and the ability to talk to the scientists.” “A positive learning atmosphere” “My purpose is to get students to meet other students with similar interests, meet professionals, and have the experience. It’s not the winning.”

A related question that elicited slightly different responses was, “What keeps you coming back to NOSB?” Teachers’ responses fell into four categories: competition perks, momentum, meeting scientists and professionals, and extra-curricular activities.

- *Competition perks*: “Going on cool trips.” “First class treatment, free hotels, food, prizes.”
- *Momentum*: “You get invested. Siblings get excited to participate after seeing older brothers and sisters do it. Families get invested in the program and want it to continue.” “Rivalries engender the desire to return year after year.”
- *Meeting scientists and professionals*: “Meeting ocean science and Great Lakes professionals is great for the students. They love the interaction.”
- *Extra-curricular activities*: “This provides an extra-curricular activity for Earth Club.”

- Factors that would cause teachers to discontinue participation in NOSB:

When teachers were asked what factors would cause them to discontinue participation in NOSB, their responses fell into five categories: large cost increase, lack of student interest, availability, location, and weather.

- *Large cost increase*: “Exorbitant increase in cost to participate”
- *Lack of student interest*: “We’ll continue as long as I have motivated students.”
- *Availability*: “We could not participate if it were held during school hours.” “Dates conflicting with college prep exams (SAT/ACT) could be a problem.” “If competition was held on a day that the majority of the students could not go.”

- *Location*: “Not being at UM.” “If regionals were moved far away from the current location.”
- *Weather*: “Weather is an issue (for travel) with the competition in February. We wish it could be later.”

Quantitative Measures

Quantitative data reported are from the survey and supporting qualitative responses from the focus group and survey are included where appropriate.

- Advertising NOSB to teachers:

Given 10 response options, teachers were asked to identify effective means of advertising NOSB to teachers. They checked all that applied. The top three choices were: 1) Email (n=9), 2) Mailings to the school (n=7), and 3) Presentations/exhibits at meetings (n=6). Professional associations, newsletter articles, colleagues, and Sea Grant extension/COSEE all received fewer responses (n=3-5). Media and list-serves were selected only 1 time each. Methods of advertising mentioned under “other” include universities, other science competitions, and teacher continuing education.

100% of the ten teachers surveyed indicated that they would be willing to promote NOSB among their colleagues and within their professional organizations. Supporting quotes from the focus group and surveys include:

- “I could sit at a booth at the MSTA conference”
- “I can talk up the competition with teachers in my district”
- “We would be willing to help promote NOSB any way we could”
- “I could write a short piece in the Science Education Council of Ohio newsletter.”
- “I can give presentations at workshops and conferences.”
- “I could visit other schools and volunteer to mentor a new coach.”

80% of the ten teachers surveyed indicated that they would be willing to make a presentation at a professional meeting.

- Retaining NOSB teams:

Ten teachers responded to a series of survey questions relating to team retention. Their responses were on a scale from 1 (strongly disagree) to 7 (strongly agree). 100% of teachers strongly agreed that costs for participating in NOSB are reasonable. Although costs are reasonable, fewer teachers agree that they are easily able to obtain funds to cover these costs. (mean response = 5.3, median response = 6, range:1 to 7).

Teachers indicated that they have enough interested students to compete each year (mean = 6). They also indicated that they receive adequate support from their school districts (mean = 6.3) and from NOSB regional and national offices (mean = 6.6).

Quotes:

- “The school board is excited when the team does well but there is no prompting from them to participate.”
- “District science supervisors can be enthusiastic and take initiative to promote these kinds of programs.”

NOSB teachers consider the content (mean = 6.2) and difficulty (mean = 6.1) of the NOSB questions appropriate.

Of the teachers who compete in other science competitions, responses were mixed on whether these competitions are helpful or take time away from NOSB. Overall, teachers slightly agreed (mean = 5.6, median = 6) that the competitions are helpful and slightly disagreed (mean = 3.4, median = 2.5) that they take time away from NOSB.

Quotes:

- “Competitions provide structure for the club. I wish there were more.”
- “At a small school, kids are pulled in many different directions. It can be difficult.”
- “It works both ways. It can deplete student resources and energy but can also work together.”

- NOSB educational opportunities and professional development

Ten teachers responded to a series of survey questions relating to NOSB educational opportunities and professional development. Their responses were on a scale from 1 (strongly disagree) to 7 (strongly agree). Teacher responses to this series of questions were quite mixed. Some teachers find these programs extremely valuable and others do not consider them an important factor in their participation. In all questions but one, responses ranged from 1 to 7; responses in the other question (importance of professional development programs in attracting them to NOSB) ranged from 1 to 6.

Overall, teachers slightly agree (mean and median = 5) that NOSB’s student internship and scholarship opportunities were important both in attracting them to the program and are important for their continued participation.

Quotes:

- “COAST internship is huge. Huge for the student on a personal level, but it also sold the program to the school and administration.”
- “Students are excited about them (internships and scholarships) but the competition is the main draw.”

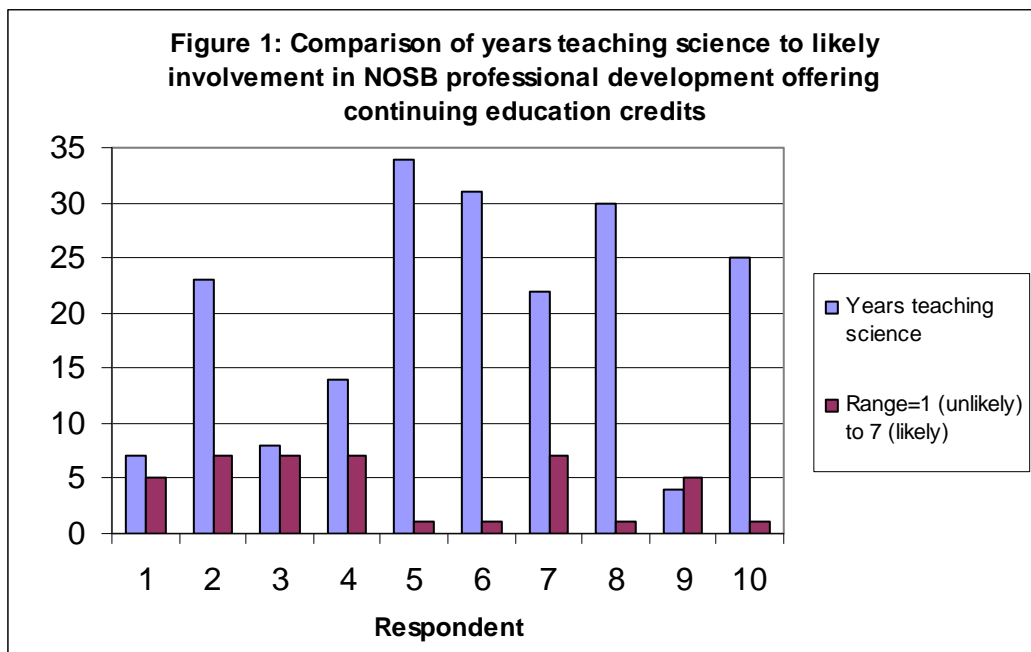
Teachers were unsure (mean and median = 4) whether professional development opportunities were important in attracting them to the program but slightly agree (mean = 4.6, median = 5) that these opportunities are important to their continued participation.

Quotes (professional development teachers would like to see offered through NOSB):

- “1-day local teacher workshops, at GLERL or SNRE would be well attended, very useful, and could greatly enhance program visibility in the region.”
- “Internship offers! I would like to see more contact with professionals in the field and possible internship opportunities.”
- “I appreciated the information as to how to participate in one of the EPA summer research opportunities on the Great Lakes.”

How important these programs are to teachers appears to be related to whether or not they or their students have had the opportunity to participate in them. 6 out of 10 teachers have had students receive a scholarship or internship through NOSB. These teachers agreed (mean and median = 6) that student awards increased their desire to continue participating in NOSB. 3 out of 10 teachers have participated in professional development through NOSB. These teachers all strongly agreed (mean = 7) that their professional development experience increased their desire to continue participating in NOSB.

Teachers differed on whether or not opportunities that offer continuing education credits (CEUs) would be attractive. Four teachers strongly agreed and four strongly disagreed that they would be more likely to take advantage of professional development opportunities that offer credits. Interest in CEUs appears to be related to how long they have been teaching science. The four teachers who were not interested in credit for professional development had been teaching for 25 or more years, while teachers with less experience indicated that CEUs would be a professional development incentive (Figure 1).

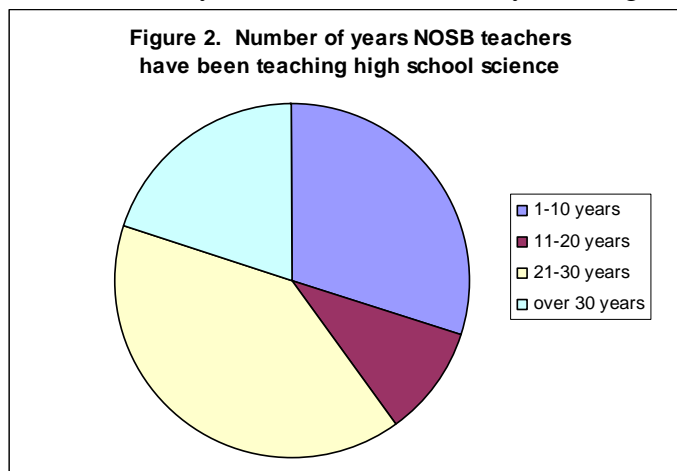


- Preparation

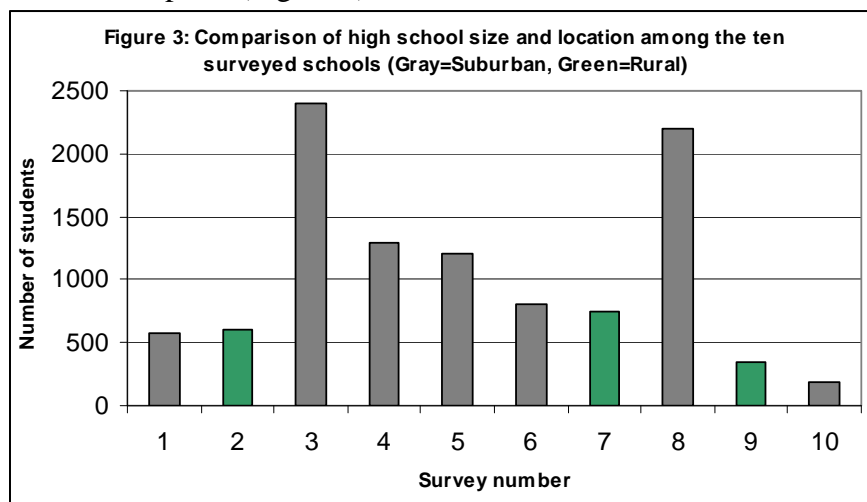
The survey collected data on how teams prepare for NOSB and whether or not new coaches need assistance with preparation through start-up kits or mentoring. Useful data was collected but I ultimately decided that it does not address the central questions of this evaluation. Need for additional preparation materials did not come up as an important factor in retention and recruitment, so I am not including a discussion of questions relating to preparation in this evaluation. I did code and analyze both the qualitative and quantitative data related to preparation, and I will re-visit it if and when the program requires it.

- Demographic information

At the end of the survey, I collected demographic data on the ten teachers who completed it. Among the ten teachers surveyed, length of time teaching science varied from 2 to 33 years with a mean of 12.6 years and a median of 6 years (Figure 2).



High school size varied as well, from 180 to 2400 students. Seven teachers described their school's location as suburban and three teachers described their school as rural. No schools were described as urban. The rural schools are generally smaller than the suburban schools, but not without exception (Figure 3).



Among the ten surveyed teachers, the number of Great Lakes professional development opportunities attended in the past 10 years varied from 0 to 4 with a median of 1. 50% of teachers had not participated in any related opportunities.

Section 4: Discussion and Implications of Results

Overall, the results show that NOSB teachers are happy with the current format of the Great Lakes Bowl and they want the program to continue. They are quite willing to support regional efforts to recruit new teams to the competition. I was surprised, but impressed with the result that 100% of teachers want to help promote NOSB. This is a key finding and indicates that we need to involve NOSB teachers in the team recruitment process.

For NOSB advertising, I was surprised that paper sources emerged as a major category. This is relevant information to have, since I had largely abandoned paper advertisements as a recruiting strategy. It was good to see that personal sources came up, but they ranked lower in importance than presentations/exhibits at meetings. I rely heavily on Sea Grant and other Great Lakes education networks to promote the competition, but the results indicate that I should focus more effort at teacher meetings and workshops. This is especially true in light of the fact that NOSB teachers are willing to help with this aspect of promotion.

Factors that motivate teachers to participate in NOSB were what I expected. However, I was surprised that more initial interest is not coming from the students. This is relevant, as I was considering advertising the competition directly to students and I will not pursue that at the present time. I had not realized the role that clubs play, and a recruiting focus on schools with science/quizz bowl clubs could help add new schools to the competition.

It was extremely useful to quantify the importance of both no/low cost participation and educational opportunities. Budget cuts are currently being discussed at the national level, and both of these issues are being addressed. Regional grants to run the 2010 competitions will be reduced by 7% with the option to charge teams a registration fee. Student internships will be reduced or eliminated in favor of lower-cost programs like video contests and web-based educational programs. The results of this evaluation will be helpful in deciding how to proceed with decision-making at our regional level. I will look into additional sponsorship funding to offset the budget decrease instead of charging a registration fee to teams. Since internships were important, I will explore regional partnerships that could provide opportunities locally.

I was somewhat surprised in the variation of responses regarding the importance of educational opportunities to NOSB teachers' initial and continued involvement in the program. I expected educational opportunities to be more consistently valued, but it's also good to see that the teachers value the competition itself. Teacher professional development opportunities appear to be desirable, but not mandatory for the continued success of NOSB. However, it was interesting to note that once teachers participate in professional development opportunities through NOSB, they greatly value them as a program component. If teacher retention is a concern, offering increased professional development could be a useful tool. The results also indicate that teachers with fewer years of service are more likely to participate in professional development

opportunities that offer CEUs. If recruitment of early-career teachers is a priority, offering opportunities with CEUs would be a good strategy.

It was helpful to see that the involvement of Great Lakes scientists and professionals is important. This testimony will be important when I approach our sponsors for continued funding. It was also useful to see that holding the competition on campus is a draw. There has been some discussion of moving it to the new NOAA facility, and these results indicate that the Great Lakes Bowl should remain at SNRE on UM's central campus.

The demographic results indicate that the Great Lakes Bowl attracts a broad size range of schools, but they are primarily suburban. Because increasing diversity is a goal of NOSB nationally, this result highlights the need to target recruitment in rural and urban centers. However, because my current goals are to grow the program in a climate of reduced funding, I will focus recruiting efforts on the audience with whom I have had success. Once I have a full competition and/or additional funding, I could explore outreach to rural and urban schools.

Overall, this evaluation provides useful information to assist with recruitment of new teams and retention of existing teams in the Great Lakes Bowl. During the 2009-2010 school year, I will adjust my efforts to reflect the results of this evaluation. A future evaluation in conjunction with the 2010 competition would provide additional data on the efficacy of these adjustments and should be added to the work plan. In addition, the general trends I observed can be useful as a case study at the national level. I plan to share my results, not only with my NOSB planning team, but with my Great Lakes education colleagues at IAGLR and with other NOSB regional coordinators around the country and the NOSB national office.

In closing, I wanted to share some of my favorite general comments:

- “My NOSB students have told me that this is the ONLY way they see that all of science is really connected. These are smart students, and we try in our classes to connect various fields, so it really struck me how important this is. The public policy aspect of this is not lost on them. Two students confided that they had changed their minds and decided to pursue careers in science as a result of what they learned through their NOSB experience. Even though they had been interested in science for a long time, they had not seen the numerous career possibilities. I think this already important outcome is further enhanced by opportunities to attend seminars, visit labs, and especially do internships in ways that NOSB makes possible.”
- “Great competition! Keep it just like it is and we will continue participating if at all possible.”
- “I stood on a table at the Enviro-thon to tell everyone about NOSB!”
- “Keep doing what you do! Great competition!”

These testimonies are excellent reminders of why it's important to continue improving the NOSB program and to reach as many interested students and teachers as possible.

Logic Model for National Ocean Science Bowl (NOSB) regional competition—the Great Lakes Bowl

Inputs	Outputs		Outcomes	
	Activities	Audience	Short-term	Long-term
\$15,000 grant from <i>Consortium for Ocean Leadership</i> to host NOSB regional	Host the NOSB regional competition, including recruit teams, train volunteers,	High school students and teachers, homeschoolers, local youth clubs We typically host 100 students/teachers	Knowledge of ocean and Great Lakes science, technology, history, and economics. (Gain “ocean literacy”)	Students will pursue careers in oceanography or Great Lakes science; students will incorporate their values and awareness of the oceans and Great Lakes into whatever field of study they pursue
Sponsorship money and in-kind support from NOAA-GLERL, CILER UM-SNRE, USGS, Michigan Sea Grant, Michigan Tech Research Institute, Great Lakes Commission, and other local partners	Provide teams with supplemental experiences, including NOAA lab tour, interactions with scientists, and mixers with other students and coaches.	Great Lakes science, policy, and education professionals. We typically train and use 75 volunteers.	Attitude: students will recognize the value of the oceans for human life and all life on earth.	
Volunteers from sponsoring partners	Host the winners of 4 th place at the national NOSB competition for a NOAA tour of the Great Lakes.		Awareness: increase students’ and teachers’ familiarity with ocean and Great Lakes issues	
Support from education networks for advertising and recruitment	Organize exhibits from local Great Lakes organizations for students to view on competition day		Teachers will incorporate ocean and Great Lakes topics into their classroom teaching, across many disciplines.	
	General advertising and promotion efforts (mailings, emails, presentations, networking)			

2009 NOSB Coaches Focus Group

The purpose of this focus group is to learn more about what attracts people to NOSB and how to improve recruitment and retention of teams. We want to better understand how you learned about the program and how we can encourage new schools to participate. In the current economic climate, funding for educational programs like NOSB is diminishing. In order for NOSB to continue to receive funding, it is vital that we demonstrate interest and demand for the program.

➤ Welcome coaches, introduce Sonia and myself; have coaches do brief introductions. Give overview of topic, purpose. Set ground rules.

1. How did you first learn about NOSB? What initially motivated you to participate?
(Prompts: from a colleague, professional society, email announcement, Sea Grant, COSEE, GLIN, National Marine Sanctuary, NOAA; interest in oceans, student interest, supervisor encouragement, extra-curricular requirements)
2. You are all returning NOSB coaches. What motivates you to participate in NOSB each year?
(Prompts: program quality, cost, location, supplemental programs, ocean focus, UM association, incentives from schools, student interest.)

Is there anything that would prevent you from returning?

(Prompts: lack of school support, increased costs, lack of supplemental programs)

3. What would motivate other teachers to participate in NOSB?
(Prompts: also think about overcoming possible barriers, travel, hidden costs, support from NOSB regional/national, school/district support, tech constraints)
4. What are some effective means of advertising NOSB to teachers? What role could you play?
(Prompts: external (email, professional orgs, etc.) vs. internal (science chair, school district), worth advertising directly to students?)
5. Have you and/or your students taken advantage of NOSB's educational opportunities and linkages to professional development programs?
(Prompts: National Ocean Scholar, COAST internship, ARMADA, COSEE, NMEA, GLEAMS)

How important are these programs to your continued participation?

6. Are you involved with any other science competitions?
(Prompts: Science Olympiad, Envirothon, National Science Bowl, Quiz Bowl)

How does this affect your participation in NOSB?

(Prompts: positive, cross-pollination vs. negative, competing for time/resources; would it be worth recruiting schools that are active in other competitions?)

7. How do you prepare students for participation in NOSB? How could NOSB help new teachers with preparation?
(Prompts: oceanography class, clubs, how much time spent, materials, mentoring new coaches?)

Finish with any general comments or thoughts.

2009 Great Lakes Bowl Teacher Survey

The purpose of this survey is to follow up on our focus group discussion, which gathered information on why you choose to participate in the National Ocean Sciences Bowl (NOSB) and discussed ways of increasing the number of schools that participate in the Great Lakes Bowl. In the current economic and political climate, funding for educational programs like NOSB is diminishing. In order for NOSB to continue to receive funding, it is vital that we demonstrate interest and demand for the program.

History with NOSB:

1. How did you first learn about NOSB?

2. How many years have you participated in NOSB? ABOUT _____ YEARS

Recruiting teams to NOSB:

Effectively advertising NOSB to busy teachers is an ongoing challenge. We'd like to find out more about how you receive information on educational programs for you and your students.

1. What is the best way to advertise NOSB to teachers? Please check all that apply.

_____ Mailings to the school _____ Newsletter articles (please specify)

_____ Email announcements _____ List-serves (please specify)

_____ Media (please specify) _____ Colleagues

_____ Professional associations _____ Presentations/exhibits at meetings

_____ Sea Grant extension/COSEE _____ Other (please specify)

2. When you first discovered NOSB, what motivated you to participate?

3. Would you be willing to promote NOSB among your colleagues and within your professional organizations?

_____ YES In what ways? _____ NO

Retaining NOSB teams:

We would like to retain as many teams as possible each year. Your experiences will help us understand what keeps teams returning to the Great Lakes Bowl.

How strongly do you disagree or agree with the following? <i>Circle one for each.</i>	Strongly Disagree	Moderately Disagree	Slightly Disagree	Unsure	Slightly Agree	Moderately Agree	Strongly Agree	Not Applicable
Costs for participating in NOSB are reasonable.	1	2	3	4	5	6	7	NA
I am easily able to obtain funds to cover NOSB costs.	1	2	3	4	5	6	7	NA
I have enough interested students to compete each year.	1	2	3	4	5	6	7	NA
I receive adequate support from my school/district for NOSB	1	2	3	4	5	6	7	NA
I receive adequate support from NOSB national and regional offices.	1	2	3	4	5	6	7	NA
Electronic registration and preparation materials are easily accessible to me.	1	2	3	4	5	6	7	NA
The content of NOSB competition questions is appropriate.	1	2	3	4	5	6	7	NA
The difficulty level of NOSB competition questions is appropriate.	1	2	3	4	5	6	7	NA
My students and I participate in other high school science competitions.	1	2	3	4	5	6	7	NA
Preparation for these other competitions helps with NOSB.	1	2	3	4	5	6	7	NA
Preparation for these other competitions takes time away from NOSB	1	2	3	4	5	6	7	NA

1. What factors are most important for your continued participation in NOSB?

2. Are there any factors that would cause you to discontinue your participation in NOSB?

Preparation:

Ocean science is not part of the typical high school curriculum, so participation in NOSB often requires additional learning on the part of both students and teachers. In this section, we'd like to find out more about how you handle preparing for NOSB.

How strongly do you disagree or agree with the following? <i>Circle one for each.</i>	Strongly Disagree	Moderately Disagree	Slightly Disagree	Unsure	Slightly Agree	Moderately Agree	Strongly Agree	Not Applicable
I spend time outside of school hours preparing students for NOSB.	1	2	3	4	5	6	7	NA
I have adequate materials for practice sessions.	1	2	3	4	5	6	7	NA
NOSB provides helpful on-line preparation materials.	1	2	3	4	5	6	7	NA
I teach a high school oceanography or Great Lakes science class.	1	2	3	4	5	6	7	NA
This class serves as preparation time for my team.	1	2	3	4	5	6	7	NA
I advise a science or quiz bowl club related to NOSB.	1	2	3	4	5	6	7	NA
Club meetings serve as preparation time for my team.	1	2	3	4	5	6	7	NA
A “start-up” packet would be helpful for new NOSB coaches.	1	2	3	4	5	6	7	NA
I would be interested in mentoring a new NOSB coach.	1	2	3	4	5	6	7	NA

Please describe your NOSB preparation process and indicate which parts have been most successful:

NOSB educational opportunities and professional development:

When funding is available, NOSB offers scholarships and internships to student participants and professional development opportunities to teachers. We are interested in the extent to which these programs attracted you to NOSB and how important they are to your continued participation in the program.

How strongly do you disagree or agree with the following? <i>Circle one for each.</i>	Strongly Disagree	Moderately Disagree	Slightly Disagree	Unsure	Slightly Agree	Moderately Agree	Strongly Agree	Not Applicable
NOSB's student internship and scholarship opportunities were important in attracting me to the program.	1	2	3	4	5	6	7	NA
NOSB's student internship and scholarship opportunities are important to my continued participation in NOSB.	1	2	3	4	5	6	7	NA
NOSB's teacher professional development opportunities were important in attracting me to the program.	1	2	3	4	5	6	7	NA
NOSB's teacher professional development opportunities are important to my continued participation in NOSB.	1	2	3	4	5	6	7	NA
Students from my school have been awarded a scholarship or internship through NOSB.	1	2	3	4	5	6	7	NA
These awards increased my desire to continue participating in NOSB.	1	2	3	4	5	6	7	NA
I have participated in teacher professional development through NOSB.	1	2	3	4	5	6	7	NA
This professional development experience increased my desire to continue participating in NOSB.	1	2	3	4	5	6	7	NA
I would be more likely to take advantage of NOSB professional development opportunities that offer credits.	1	2	3	4	5	6	7	NA

Are there any additional student or teacher opportunities you would like to see offered through NOSB? Please describe.

Additional Information

Did you participate in the Coaches focus group at the 2009 Great Lakes Bowl?

_____ YES _____ NO

How long have you been teaching high school science? ABOUT _____ YEARS

How long have you been teaching at your current school? ABOUT _____ YEARS

How large is your high school? ABOUT _____ STUDENTS

How would you describe your school's location?

_____ URBAN _____ SUBURBAN _____ RURAL

How many Great Lakes professional development opportunities have you participated in during the past 10 years?

ABOUT _____ OPPORTUNITIES

Would you be willing to make a presentation about NOSB at a professional meeting?

_____ YES _____ NO

Do you have any additional comments?

If you are willing to share your **name and contact information**, please include them here:

THANK YOU for taking the time to complete this survey! Your feedback will help us improve the NOSB program for you and your students. Please feel free to contact me with any questions or concerns:

***Laura Florence
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734-741-2392
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