Understanding the motivations for implementing “best management practices” by different interest groups

Erin Argyilan, Colin Highlands, Jennifer Wunsh

**Background**: The three members of this group represent individuals from the areas of education, environmental non-profit, and government groups that are interested in protecting and promoting healthy watersheds. We formed a group due to geographic proximity but also because these are three sectors that could potentially work together to achieve common goals. The purpose of the project was to conduct surveys or interviews to better understand what motivates people to install best management practices to protect the watershed. The targeted interest groups identified were: homeowners, farmers, and municipal government. These groups were selected because they were considered to be likely to have the motivation and/or opportunity to implement best management practices.

**Methods**: Each group member prepared a questionnaire specifically targeted to their interest group. Information was collected from homeowners through a combination of a written survey and oral interview. Information was collected from farmers through oral interviews. Information was collected from municipalities by targeting MS4 coordinators and stormwater engineers through an electronic survey. The project was not designed to influence, inform, or motivate the audience. The results are considered an indicator that can be used to develop a more comprehensive questionnaire for future work. Individuals were not selected randomly which may introduce some bias. Also, the design was can be used to compare information gathered through interview format versus electronic survey.

Below is a summary of the survey results and findings outlined by target group.

Erin Argyilan: Homeowners target group

Colin Highlands: Municipal storm water engineers or MS4 operators target group

Jennifer Wunsh: Agriculture target group

**Homeowners Target Group**

By: Erin Argyilan

***Interview #1 – Individual in Chicago that has a rain barrel and uses native plants.***

1. Have you heard the term “best management practice”?

No. But I am familiar with the term sustainability.

2. Could you tell me, what was your reasoning for installing the BMP?

* How did the concept of water conservation play in to your decision?
* How did the concept of water quality play in to your decision?
* Did money play in to your decision? If so, how?

The goal was to keep additional water out of the sewers to reduce stress and cost of treatment. The rain barrel provides available water even during a drought so there is added convenience. The rain barrel seemed to be a good step to promoting conservation. The native plants should do well on their own with little maintenance also adding to the convenience of the garden

3. Could you tell me, how do you think your BMP impacts:

* Water conservation in your area
* Water quality in your area

The impact of water conservation and quality is likely minimal since it is only one rain barrel. But it does keep that much more water out of the sewer system

4. Many people understand the logic and reasoning behind installing a BMP, what would you say actually motivated you to follow through with installation?

The City of Chicago heavily promoted the use of rain barrels. In addition she had developed a strong interest in sustainable farming.

5. Can you list the negative aspects or drawbacks of you BMP?

The rain barrel does not hold enough water and it is unattractive. There are no negatives for using native plants.

6. How did you decide the “scale” of the BMP?

The small lot size made a rain barrel and native planting a viable option. Also she did not want to add anything that would upset the neighbors.

7. Was cost a factor in implementing a BMP?

The fact that the city offered a discount on rain barrels was the key factor in implementation

8. What goes in to the maintenance of your BMP?

She has installed an overflow valve on the gutter which can get clogged. Aside from that there is not maintenance

9. How difficult is it for you to maintain your BMP? What makes it difficult? (could be money, time, resources, etc.)

none

10. Are there any resources that you wish would have been available to you when you were planning or implementing your BMP?

With regard to the planning her BMP, she felt she had to have an initial interest in the topic and then seek out information. However, there were plenty of resources and information ultimately available.

11. Do you think that the municipality/county should implement BMPs? If so, why? If not, why not?

Absolutely. Water is a valuable resource that is undervalued. Especially as part of the Lake Michigan basin the cities should conduct activities to protect water quantity and quality.

12. Do you think that the municipality/county should focus resources on educating people about BMPs? If so, why? If not, why not?

Education is key to getting people on board. The city support was essential to her decision to add rain barrels. She was concerned about the reaction of her neighbors but city support made it a viable option and an opportunity to educate her neighbors.

13. Would you be support having a portion of your tax dollars go to implementing BMPs in your town? Yes

14. Do you belong to or partner with any environmental organizations? If so, which ones and why? If not, why? No but she is the block caption for recycling.

15. Have you heard about cost-sharing options with local environmental organizations or your municipality/county for installing BMPs? No

16. If you were to recommend installing a BMP to someone, who would it be and why? Which BMP would it be and why? What would you say to “convince them”? She would recommend rain barrels and native plants to her neighbors and friends. While her individual impacts on water quantity and quality may be minimal, what if everyone saved one barrel?

***Interview #2 – Individual in Highland that had a rain barrel that broke and has also considered putting in permeable pavers to replace the driveway. She has not put in permeable pavers because of the cost. Her driveway is ona slope and would require hiring contractors.***

1. Have you heard the term “best management practice”?

Yes – procedures that work.

2. Could you tell me, what was your reasoning for installing the BMP?

* How did the concept of water conservation play in to your decision?
* How did the concept of water quality play in to your decision?
* Did money play in to your decision? If so, how?

The goal was to prevent runoff and reduce toxin loading in to the Great Lakes.

3. Could you tell me, how do you think your BMP impacts:

* Water conservation in your area
* Water quality in your area

The impact of water conservation and quality is likely minimal but important. Highland is a flood zone and only a few miles from Lake Michigan. By reducing runoff she is reducing the amount of material that is carried in to Lake Michigan.

4. Many people understand the logic and reasoning behind installing a BMP, what would you say actually motivated you to follow through with installation?

The decision to try a rain barrel was motivated by curiosity and a desire to feel like she was taking action.

5. Can you list the positive aspects or drawbacks of your BMP? The rain barrel reduces toxins and makes water available for the garden. Water that falls on her property is her resource so why pay for it? The permeable pavers would allow for more infiltration of precipitation and less runoff.

6. Can you list the negative aspects or drawbacks of you BMP? None

7. How did you decide the “scale” of the BMP? The rain barrel is the easiest and most available BMP.

8. Was cost a factor in implementing a BMP? Yes. Cost was the main barrier to implementing permeable pavers.

9. What goes in to the maintenance of your BMP? Nothing

10. How difficult is it for you to maintain your BMP? What makes it difficult? (could be money, time, resources, etc.) The rain barrel was not plastic and it fell apart

11. Are there any resources that you wish would have been available to you when you were planning or implementing your BMP? She wishes that the city would advocate for BMPs and apply for grants that would allow cost sharing opportunities for homeowners.

12. Do you think that the municipality/county should implement BMPs? If so, why? If not, why not? Absolutely. BMPs implemented by the city would provide education and demonstrate leadership. The town is in a flood zone but is taking no action to address water quantity issues. Instead they leave everything up to the Army Corp of Engineers and towans are not doing their part to relieve stress on the river.

13. Do you think that the municipality/county should focus resources on educating people about BMPs? If so, why? If not, why not? The town needs to demonstrate implementation and focus on education regarding BMPs. If people do not know the value of BMPs they will not wupport the actions of the town. The town is not enough – every house needs to join in to water conservation efforts.

14. Would you be support having a portion of your tax dollars go to implementing BMPs in your town? Yes

15. Do you belong to or partner with any environmental organizations? If so, which ones and why? If not, why? No.

15. Have you heard about cost-sharing options with local environmental organizations or your municipality/county for installing BMPs? No

16. If you were to recommend installing a BMP to someone, who would it be and why? Which BMP would it be and why? What would you say to “convince them”? She would focus on her neighbors. The block is looking to pave the alley and she would like to see them put in permeable pavers to help control runoff downslope to other yards. She is worried about flooding for her neighbors. She would recommend rain barrels, native plants and perennials to her neighbors and friends.

***Interview #3 – Individual in Valparaiso that partnered with Save the Dunes Conservation Fund to install two rain gardens to address runoff. He is a fisherman and joined the Salt Creek Watershed group when it formed.***

1. Have you heard the term “best management practice”?

Yes.

2. Could you tell me, what was your reasoning for installing the BMP?

* How did the concept of water conservation play in to your decision?
* How did the concept of water quality play in to your decision?
* Did money play in to your decision? If so, how?

The goal was to try to control the amount of rainwater off the neighbors yard and their own. They were unable to establish a garden due to runoff and erosion. The filtering of water through the rain garden helps improve the water quality before it is discharged in to the streams and lake. He is concerned about water quality since he fishes.

3. Could you tell me, how do you think your BMP impacts:

* Water conservation in your area
* Water quality in your area

The rain garden appears to work well. He used to have to run a sump pump but has not since installation in 2009. The sump pump and rain gardens are now diverted in to the rain garden. The water fills the garden after a rain and then he can watch it dissipate slowly. It is hard to say how the garden is impacting water quality. The neighbor uses fertilizer and now at least that water is filtered through the garden.

4. Many people understand the logic and reasoning behind installing a BMP, what would you say actually motivated you to follow through with installation?

The opportunity to cost share with Save the Dunes was key in implementation. At the time he was struggling at work but could provide labor. Save the Dunes provided plants.

5. Can you list the positive aspects of your BMP? The rain garden would be a unique feature that would provide a diverse group of plants and attract bugs and birds.

6. Can you list the negative aspects or drawbacks of you BMP? None. He actually enlarged both the rain gardens this year

7. How did you decide the “scale” of the BMP? Save the Dunes helped determine the initial size. Also there were limits due to lot design. This year he was able to enlarge the gardens, more for esthetics than the need for improved function.

8. Was cost a factor in implementing a BMP? Yes. He is in construction and jobs were few. He had several students staying with him. They provided about $1000 in labor but Save the Dunes was able to put up funding for plants. He would not have been able to afford the plants.

9. What goes in to the maintenance of your BMP? There was a lot of hard work initially with the installation. But maintenance requires nothing beyond trimming plants in the spring.

10. How difficult is it for you to maintain your BMP? What makes it difficult? (could be money, time, resources, etc.) Maintenance requires trimming plants and keeping out invasive plants.

11. Are there any resources that you wish would have been available to you when you were planning or implementing your BMP? He sincerely wishes that he had known about stormwater issues and rain gardens at the time they were constructing the house. It would have been much easier to route gutters in to the garden design during construction. The labor of installing the garden would have been less because they would have had earth moving equipment already on site to help.

12. Do you think that the municipality/county should implement BMPs? If so, why? If not, why not? Absolutely. Northwest Indiana has an issue with combined sewers. He recognizes that retrofitting sewer systems is prohibitively expensive. The use of BMPs for stormwater could buy the city some time to raise money for BMPs, it would immediately relieve pressue on the sewers, and it would not create new problems.

13. Do you think that the municipality/county should focus resources on educating people about BMPs? If so, why? Yes – absolutely. Every spec house and new construction should have a rain garden

14. Would you be support having a portion of your tax dollars go to implementing BMPs in your town? Yes

15. Do you belong to or partner with any environmental organizations? If so, which ones and why? If not, why? Yes.

15. Have you heard about cost-sharing options with local environmental organizations or your municipality/county for installing BMPs? N/A

16. If you were to recommend installing a BMP to someone, who would it be and why? Which BMP would it be and why? What would you say to “convince them”? Any homeowner that appreciates their yard would enjoy a rain garden for the beauty of the plants and the diversity of insects and birds that are attracted. The water management alleviates the problem of water around your house. His initial goal was always to get the water away from his foundation. The rain garden accomplishes this and adds a unique character to his yard.