APPENDIX M

PUBLIC EDUCATION AND PUBLIC INVOLVEMENT
Core Education In-School Classroom Pre/Post Survey Analysis

Prelude

This data analysis was taken from 106 of the 113 classes conducted throughout the school year of 2017-2018. The survey does not include all 113 classes, the reason being mainly because some of the teachers did not conduct the pre-surveys. To keep results consistent these classes were removed and a goal for the next school year is to minimize this and to emphasize to teachers how important it is for them to complete the survey.

Another thing to note is that for the school year, the survey did not undergo any changes at all. As such, the results are consistent and it is suggested that any changes that are to be made to the survey be done before or early in the school year to maintain consistent and accurate data.

Results

The total averages for both the pre-survey and post-survey are 3.61 and 5.23. Thus, the City of Salinas saw an overall increase in knowledge about storm water and the watershed of about 1.63 on average. Every grade level saw at least a 1 point increase between surveys and on some grade levels a 2 point difference. Surveys are given on a 8 point scale which means there was an increase of around 12.5% to a 25% to the survey results.

When it comes to the averages by grade level, 5th graders got both the highest pre-survey and post-survey averages. A reason for this could be a result of the number of classes taught in each grade. As a result, some grade levels like the 2nd and 6th grade levels averages were more susceptible to fluctuation than the 5th grade level average. Another thing to note is that the 3rd grade level has both the lowest averages for both the pre-and-post surveys. It could very be that since the students are younger, they have a harder time grasping the information presented to them than other grade levels and while 2nd graders did score higher on average we only had a sample size of about 4 2nd grade classes so it's quite possible that their results could have been lower than the 3rd graders. **Regardless, there was an increase in knowledge of storm water and water quality in all grade levels.**
### Averages

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd</td>
<td>3.83</td>
<td>5</td>
</tr>
<tr>
<td>3rd</td>
<td>3.2</td>
<td>4.71</td>
</tr>
<tr>
<td>4th</td>
<td>3.18</td>
<td>5.32</td>
</tr>
<tr>
<td>5th</td>
<td>4.04</td>
<td>5.76</td>
</tr>
<tr>
<td>6th</td>
<td>3.8</td>
<td>5.4</td>
</tr>
<tr>
<td>Total</td>
<td>3.61</td>
<td>5.23</td>
</tr>
<tr>
<td>Total Difference</td>
<td></td>
<td>1.63</td>
</tr>
</tbody>
</table>

*Averages based out on a scale of 8

### Averages based on percentage

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd</td>
<td>48%</td>
<td>62%</td>
</tr>
<tr>
<td>3rd</td>
<td>40%</td>
<td>59%</td>
</tr>
<tr>
<td>4th</td>
<td>40%</td>
<td>60%</td>
</tr>
<tr>
<td>5th</td>
<td>51%</td>
<td>72%</td>
</tr>
<tr>
<td>6th</td>
<td>48%</td>
<td>68%</td>
</tr>
<tr>
<td>Total</td>
<td>45%</td>
<td>65%</td>
</tr>
<tr>
<td>Total Difference</td>
<td></td>
<td>20%</td>
</tr>
</tbody>
</table>

*Percentages were rounded
Program Objectives:

1. Students will understand what a watershed is and be able to share examples of our watershed neighbors.

2. Students will understand how water impacts land (erosion) and how water transports pollution throughout the watershed.

3. Students will understand the pathway water takes from the source to our homes to the treatment plant and back to the ocean.

4. Students will understand their impact on the watershed whether positive or negative and what they can do to prevent storm drain pollution.

The above objectives are the focus of the eight (8) question pre and post surveys that are given to the students. Although there is a span of different grade levels, the survey is clear and understandable for students to answer according to their knowledge. At the lower grades, teachers tend to read the questions and guide the students through the survey, especially when there are reading and language issues because the majority of students in Salinas are English Language Learners. But for the most part, students take the surveys independently before and after the classroom presentations.

The pre and post surveys were done online by a couple of classes this year on Google Docs. The teachers requested the online survey because their students had devices and the ability to access the Google Doc we had created. Attached is a sampling of information in graphic form on how the students answered the post survey questions online. The last two questions are open-ended so the students write sentences or phrases to answer them, and these are located on the final three pages.

This year we used the same survey during the entire Storm Water Education Program which has been easier to administer and analyze than in the past years. Students were able to understand the questions which were a combination of multiple choices, true/false, and open-ended. Overall, we’ve seen a definite improvement of students’ watershed knowledge, purpose of storm drains, and preventative measures to stop storm water pollution in Salinas. The sampling information on the circle graphs is a fair picture of students’ results after being given the Storm Water Presentation lessons.
2) What is a watershed?
40 responses

3) What does a storm drain do?
40 responses

10
4) When water runs off your school grounds and everywhere else it goes into the ocean.

40 responses

5) When you wash your hands at a sink or flush a toilet, where does the water go?

40 responses
6) Do you live in a watershed? Write YES or NO and for a bonus point, name your watershed.

40 responses

7) Name TWO types of water pollution you may see in your neighborhood or school.

40 responses

I don't know (2)

Trash and Dirty Water

trash and water pollution

Plastic, cardboard

trash pollution and poop with a dash of caca pollution

Oils and trash. These are the types of water pollution I think we're dealing with.

trash and oil

One type of water pollution is untreated sewage and trash like oil in storm drains.

Trash and leaves
8) Name THREE things you and your family can do to help prevent water pollution.
40 responses

idk (2)

Saving water, using less water, don't throw garbage in the water.

idk

Don't throw trash in the floors, and don't throw bad pollution
trash and wash the car
don't flush any type of medications. Avoid using garbage. avoid throwing trash.

Reuse, reduce and recycle

I don't know

We recycle and reuse or bags also we reduce the times we wash our cars or bathe our dogs

We can stop taking a long shower, stop using plastic bottles, and stop leaving the water on for a long time.

We can reduce, reuse, and recycle.

IDK

We Reduce, Reuse, and Recycle

do not waste water drink the water you got and no playing with the water.

Reduce, Reuse and recycle

me and my family, can help by not littering, recycling, and reducing.
dont throw trash on the floor pick up the trash dont waste water

Tell people to prevent water pollution, save water, and don't waste water

Don't waste that much water.
Tell people not to waste water, save water, use water when you only need it.

We can use reusable bags, don't dump oil into the streets, and recycling.

recycle, be careful of what you put around storm drains, and be careful what we dump down the sink

Put trash in the trash can, don't wash the car, and don't litter

Don't throw away trash, don't spill oil, and go to a car wash.

We can pick up trash, don't dump untreated water, and tell people around us to help out.

turn off the water when brushing your teeth take 5 minutes the shower and rape children

pick up trash, remind people not to mess with water and do not waste as much water.

we can stop throughing trash into the

we can help prevent water pollution is not throw trash into water and not throw oil into the water.

Three things me and my family can do is use reusable bags, don't throw oil in the water drains and just don't throw anything down the drains

help keep it clean

Throw away trash and rake your leaf and clean after your dog

inform people in my community. Pick up trash: not use plastic bags.

Clean it up, not wash our car and have soap go in the drain, and not water our plants with pesticides.

throw trash in the trash can and dump sewage in a treatment plant.

We can help by not spilling oils from cars into the sewage drain, picking up trash even if it's not yours. We can also keep it clean.

to not put oil in the drain and to not waste water

Pick up trash, tell people to not dump oil in the storm drains and stop people from dumping sewage in the ocean those are three ways we can prevent water pollution.

Not littering, pick up any trash we see, and not dumping oil.