

# Thurston County Garden Rhapsodies Tour Program Evaluation July, 2009 Ann Heitkemper

## Introduction

Background: Chemical fertilizers and pesticides used by home gardeners contain toxic compounds linked to acute and chronic health conditions. Reducing gardeners' dependence on these products should reduce their potential exposure as well as decrease runoff into rivers and reservoirs. However, many people continue to use these products even though healthier alternatives are available.

The Garden Rhapsodies Tour (GRT) is one of several projects implemented by Thurston County Environmental Health Outreach to promote Common Sense Gardening practices. The GRT showcases local gardens in the community that integrate healthy choices for pest management. The GRT uses a "hands-on" approach to educate the community about water conservation methods and garden methods that reduce the use of toxic fertilizers and pesticides.

Thurston County Public Health and Social Services Department of Environmental Health, Thurston County Water and Waste Management Department, the cities of Thurston County, and the Washington State Department of Ecology work together to put on this annual community event.

Project and Goal: A program evaluation was used to assess the Garden Rhapsodies Tour. This evaluation addresses whether the tour was successful in achieving some of the program's implementation goals. It also addresses the tour impact on participants' attitude about healthier gardening practices. Although, annual assessment reports are generated, this external assessment provides an unbiased evaluation.

Objectives: The assessment tool used to evaluate the success of this project was a voluntary questionnaire filled out by tour participants at the end of the tour. Discussions of the project with Jennifer Johnson (Garden Rhapsodies Tour Director) and Rachel Laderman (Educational Outreach Director) were used to determine the scope of my involvement. The following questions were developed based on assessment needs and data available from the survey:

### Program Evaluation Questions:

Part 1 -- Does the Rhapsody Garden Tour project (2003, 2004, 2007, 2008) achieve the following specific implementation objectives:

- *Do the garden tours attract 600 or more participants annually?*
- *Do 20% of the participants fill out the surveys?*

Part 2 -- New additions to the survey in 2008 allowed for expansion of the assessment. These questions are: (1) If you have attended GRT previously, what changes have you made in your garden from ideas received at past tours; (2) Which common sense garden (CSG) practice(s) do you plan to share information on; and (3) Which CSG practice(s) do you plan to try as a result of the garden tour.

The second part of the evaluation was to address whether the 2008 Rhapsody Garden Tour program achieved the following impact objectives?

- Which common sense gardening practices do surveyed participants say they will try?
- Which common sense gardening practices do surveyed participants say they will share information about?
- Which garden practices have participants made in their home gardens from ideas received from past tours?

Part 3 -- The current assessment tool consists of a voluntary survey given to participants after the tour. The survey was created to get rapid feedback regarding the tour. The most current survey (2008) addresses garden tour implementation and impact on participants. Participants were asked about changes made due to attending the GRT and whether they would share this knowledge. The survey also asks participants to indicate which CSG practices they planned to try as a result of the garden tour.

Although these questions address important outcomes, the one group post-test design does not provide a baseline characterization of the participant's use of various garden practices prior to the tour experience. Also, this form of evaluation carries internal validity concerns. (e.g. Participants may begin to use common sense garden methods because of exposure to other sources of information such as TV shows and books.) Therefore, the third goal of this project was to design a stronger assessment tool for both implementation and impact objectives.

## **Methods**

Part 1 -- Implementation Evaluation: A retrospective evaluation of previous years' annual reports (i.e. 2003, 2004, 2007, and 2008) was used to look at the numbers of tour participants and how many participants completed the survey. The mean number and standard deviation of (1) participant attending and (2) percent completing the surveys was calculated.

Part 2 -- Impact Evaluation for 2008 Data: Data from the 2008 surveys was used to evaluate questions regarding the participants' attitudes about CSG practices. The total number of survey participants reporting that they would try or share one or more of the CSG practices was determined. Frequencies and percentages for each CSG practice were also calculated. Comments regarding CSG practices that participants use as a result of attending previous garden tours were categorized and frequencies and percentages were also calculated.

Analysis was done using SPSS 13.0 on my personal IBM Thinkpad. Table 1 contains a summary of evaluation questions, data, and analysis.

**Table 1: Summary of Evaluation Questions, Type of Data and Analysis**

Question	Independent Variable	Dependent Variable	Type of Data and Analysis
Do the garden tours attract 600 or more participants annually?	Garden Tour Advertisement Campaign	Number of participants	Mean (Standard Deviation)
Do 20% of the participants fill out the surveys?	Garden Tour	Number of participants surveyed	Mean Percentage (Standard Deviation)
How many participants report they will try or share knowledge about one or More Common Sense Gardening Practices?	Garden Tour 2008	Number of participants surveyed	Frequency (Percentage)
Which Common Sense Gardening practices do surveyed participants say they will try?	Common Sense Gardening Practice	Number of participants surveyed Indicating They Will Try a CSG	Frequency (Percentage)
Which Common Sense Gardening practices do surveyed participants say they will share knowledge about?	Common Sense Gardening Practice	Number of participants Indicating They Will Share Information about a CSG	Frequency (Percentage)
How many participants report using a Common Garden Practice as a result of attending a previous tour?	Garden Tour	Number of surveyed participants	Frequency (Percentage)
Which garden practices do surveyed participants report they use as a result of attending previous tours?	Garden Practice	Number of surveyed participants	Frequency (Percentage)

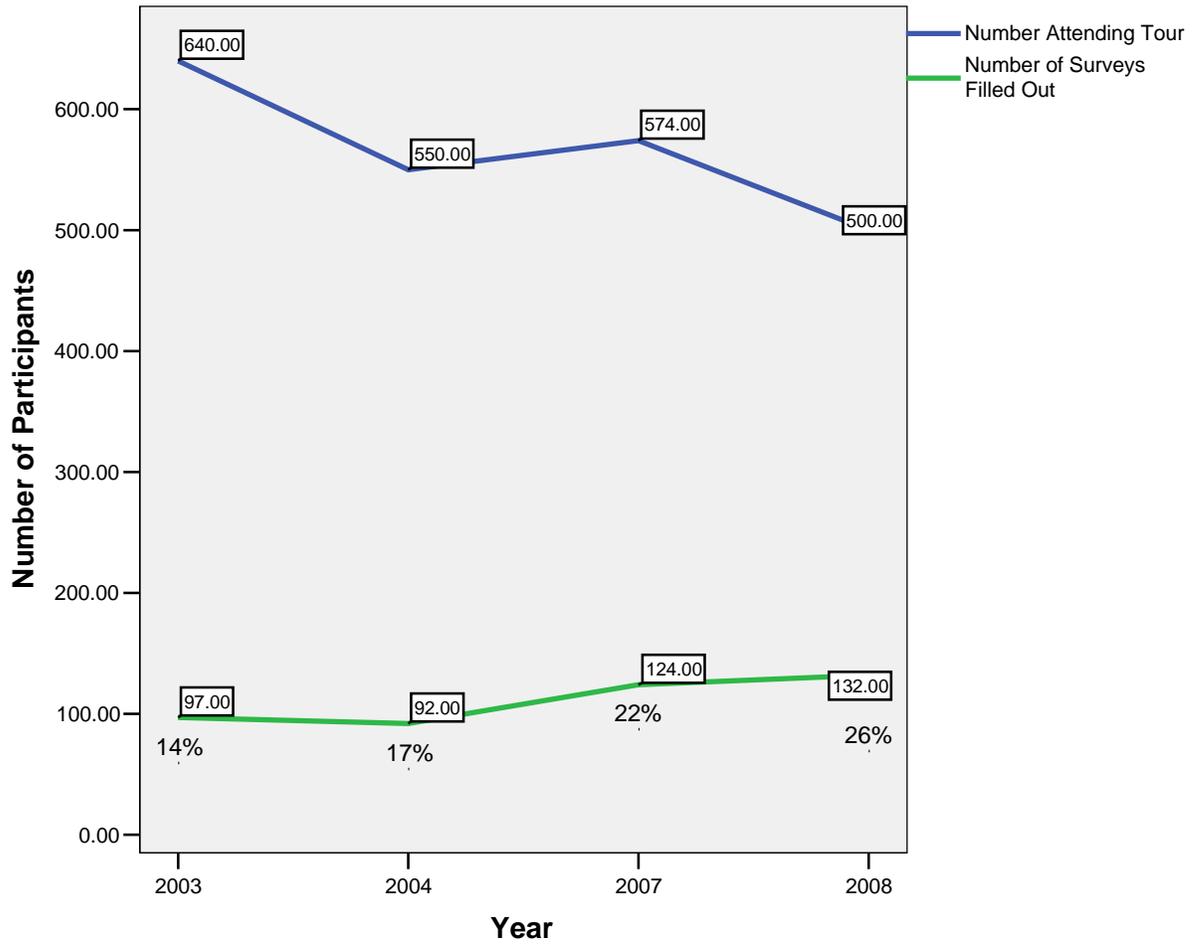
*Part 3 – Evaluation of the Assessment Tool:* The survey was evaluated using the survey construction guidelines and program evaluation methods of Grembowski.<sup>1</sup>

## Results

*Part 1:* The mean number of people attending the tours in 2003, 2004, 2007, and 2008 was 566 (SD 58.0) (Figure 1). The tour attracted, on average, 94% of the proposed goal of 600 participants. The mean percentage of tour participants that completed the tour survey was 20 (SD 5.0). Although the tour numbers have decreased in recent years, the

number of individuals completing the survey has increased above the proposed goal of 20% in the last two years (Figure 1).

Figure 1: People Attending GRT and Completing Garden Tour Surveys



Part 2: Five hundred people attended the 2008 Rhapsodies Garden Tour. Of those 500, 132 participants filled out surveys (26.4%).

Seventy-four percent of participants reported an interest in at least one of the Common Sense Garden practices (Table 2). Survey participants were most interested in trying water conservation methods. Thirty one percent (n=41) recorded an interest in using **soaker hoses** and 38.6% (n=51) recorded an interest in **using close planting**.

Survey participants showed the least interest in **leaving grass clippings on the lawn** (eight participants (6.1 %)).

Nine survey participants (6.8%) recorded that they were planning to share information on garden practices (Table 2).

Forty-four survey participants (33.3%) commented about changes made due to attending previous garden tours. There were 73 comments regarding positive changes made in gardening. Of the 73 comments, 31.5% said that they now use **Pacific Northwest-adapted or native plants in their gardens** (Table 3). Eleven percent also reported that they are now **composting, using close planting, or using water conservation methods**. Some survey participants also reported that they now *use mulching methods* (i.e. 6.8%). Three participants (4.1%) did not respond with specific changes but did comment about how the **garden tour inspired them to keep trying to improve their garden practices**. Other behaviors reported included the ability to **identify beneficial insects or native plants** (2.7%). Only two participants (2.7%) reported that the tour had **no influence** on their gardening practices

A number of comments (16.4%) described their **use of design and decoration** learned from previous garden tours (Table 3).

**Table 2: GRT Participants Reporting That They Will Try or Share Information about Common Sense Gardening Practices (n=132)**

Garden Practice	Number of Participants Who Will Try (%)	Number of Participants Planning to Share Information (%)
Compost yard waste	16 (12.1)	1 (.8)
Compost kitchen waste	21 (15.9)	1 (.8)
Leave grass clippings on lawn	11 (8.3)	0 (0)
Choose plants adapted to our area	23 (17.4)	2 (1.5)
Keep or plant native plants	20 (15.2)	1 (.8)
Install soaker hoses or drip irrigation	41 (31.1)	0 (0)
Use close plant spacing to reduce weeds and watering	51 (38.6)	1 (.8)
Use mulch to reduce weeds and save water	28 (21.2)	0 (0)
Choose least-toxic weed control	24 (18.2)	1 (.8)
Encourage beneficial insects	34 (25.8)	0 (0)
Choose least-toxic pest control	19 (14.4)	1 (.8)
Choose least-toxic disease control	21 (15.9)	1 (.8)
Stop using toxic pesticides	25 (18.9)	1 (.8)
Use slow-release, organic fertilizers	30 (22.7)	0 (0)
Total Participants Reporting In At Least One Category	98 (74%)	9 (6.8)

**Table 3: Comments Indicating Garden Practice Changes Made Due to Attending Previous Garden Tours**

Garden Practice	Number of Comments Indicating a Change (%)
Mulching	5 (6.8)
Composting (including worm bins)	8 (11.0)
Plant Choices (including natives and Pacific NW adapted types)	23 (31.5)
Close planting technique	8 (11.0)
Water conservation techniques	8 (11.0)
Decorative garden designs (including walkway designs)	12 (16.4)
Identification of natives or beneficial bugs	2 (2.7)
Inspired to keep working at it	3 (4.1)
Miscellaneous comments	2 (2.7)
Reporting not influenced	2 (2.7)
Total Responses	73 (100)

Part 3: Assessment Tool Design Suggestions:

Format of Tool: The current post-test survey has limited value for impact information because there is no baseline on individual participant knowledge and attitudes regarding Common Sense Gardening practices prior to the tour experience. Budgetary constraints limit the use of more expensive and time-consuming assessments. However, two proposed modifications are discussed below. The first method would have minimal impact on budget or time. The second method would create more cost in terms of time and money but would provide a clearer assessment of the program's impact on behavior modification.

*Method 1:* A one group pretest-posttest method could be utilized. The tickets could be modified to include a brief survey of the ticket-purchaser's pre-tour behaviors regarding common sense garden practices (Appendix A). Garden Rhapsody Tour tickets are sold on-line and at local businesses including a number of garden supply stores prior to the tour. Ticket takers at the event could remove the survey portion of the ticket. Ticket-takers could also provide the participant with the posttest survey (Appendix A). Numerically-matched surveys would be used. One way of accomplishing this is to have a number on each ticket so that when the ticket is turned in, the ticket-taker would mark that number on the posttest survey. The one group pretest-posttest design allows measurement of individual intention to use CSG before and after the intervention. Common Sense Gardening practices and Non-Common Sense Gardening Practices would be included on the survey. Survey results of pre- and post-tour garden practice could be compared. This type of test requires the same subjects to be included in the before and after measurements (i.e. matched pairs):

**Table 4: Modification of Impact Assessment Question**

Impact Question	Dependent Variable	Independent Variable	Type of Data and Analysis
Which gardening practices does the participant use?	Garden Practice	Use or no use (yes/no)	Binary; Sign Test

*Sampling and Power:* The sample size depends on the number of participants completing the post-tour survey. Assuming 20% of the participants surveyed change from no use to use of a garden practice (e.g. use of least toxic pest-control), 80 participants would be required to complete the post-tour survey. This calculation assumes an 80% power and 5% Type I Error Rate, and a correlation coefficient of .23.

*Method 2:* The method describe above could be modified to include a second follow-up survey. This survey would be used to determine if participants incorporated some of the ideas from the garden tour into their home gardening practices after a period of time. However, this method would be more time-consuming and costly. In addition, incentives would have to be used to ensure a significant response rate from participants. Local business/institutions could be asked to assist in this process. For example, tour participants could receive a postcard survey combined with a gift certificate or free gift notice. These surveys would be sent out 6-10 months after the garden tour. Tour goers would turn in the survey and pick up their complementary item at a donation site.

South Puget Sound Community College Horticulture program is a possible donation source. The Horticulture program at SPSCC has an annual Mother's Day plant sale. Tour participants would deliver their survey at the Mother's Day sale event and receive a free

plant or price reduction on a plant. The college, in turn, draws more people to its plant sale. This method would require tour participants to provide their mailing address on their pre-tour or post-tour survey in order to match individual survey numbers.

Survey Implementation Questions: Participation numbers and survey numbers are easily determined from the current survey. However, participation satisfaction is difficult to assess. The current survey asks for comments regarding the shuttle service provided and the tour in general. It is difficult, however, to quantify this information. Ranking of satisfaction could be used to assess participant satisfaction in addition to comments. Ranking (1= excellent to 4 = poor) provides an easier response format for the evaluator. Ranking also provides a clearer numerical assessment of participant satisfaction.

**Table 5: Modification of Participant Satisfaction Questions**

Implementation Question	Independent Variable	Dependent Variable	Type of Data and Analysis
Please rate your level of satisfaction with the tour assisting you to use common sense gardening practices at home.	Garden Rhapsodies Tour	Level of Satisfaction	Ordinal Percent
Please rate your level of satisfaction with the shuttle service.	Garden Rhapsodies Tour	Level of Satisfaction	Ordinal Percent

## **Principle Findings:**

- The tour has attracted slightly below the proposed number of participants.
- The proposed proportion of participants completed the surveys.
- Seventy-four percent of participants indicated that they were interested in using Common Sense Gardening practices.
- Participants showed the most interest in water conservation methods.
- Less than 10% of participants showed an interest in sharing information.
- Thirty-three percent of participants stated that they had made changes in their gardening practices as a result of attending previous tours.
- The most prevalent change in gardening practices reported was use of Pacific Northwest-adapted or native plants in their gardens.
- This assessment tool does not provide a clear assessment of the garden tour's impact on participant attitudes about Common Sense Gardening practices or participant satisfaction.

## **Recommendations:**

- Modification of the assessment tool to include:
  1. A pretest - posttest format for impact evaluation; and
  2. Ranking of participant satisfaction.

## References

1. Grembowski, D. ; The Practice of Health Program Evaluation; Sage Publications, Inc. 2001.

## Appendix A

# 2009 Garden Rhapsodies Tour Ticket # \_\_\_\_\_

Before turning in this ticket today, please take a moment to fill out this short survey. **Thanks for your time!**

1. How did you hear about the tour?  newspaper article     newspaper ad  
 flyer     radio     Master Gardeners     poster     friend     nursery  
 web site     other \_\_\_\_\_

2. Have you ever attended the Garden Rhapsodies garden tour before?  
 Yes     No

3. If yes, which year(s) did you attended the tour? 2001    2002     2003  
2004    2005    2006    2007    2008    2009

4. Check any of the garden practices that you use at home:

GARDEN PRACTICE	
Compost yard waste	
Compost kitchen waste	
Leave grass clippings on lawn	
Choose plants adapted to our area	
Keep or plant native plants	
Soaker hoses or drip irrigation	
Use close plant spacing to reduce weeds and watering	
Use mulch to reduce weeds and save water	
Use chemical pesticides	
Encourage beneficial insects	
Use least-toxic pest control	
Use least-toxic disease control	
Use chemical fertilizers	
Use slow-release, organic fertilizers	

# 2009 Garden Rhapsodies Tour Evaluation # \_\_\_\_\_

After visiting your last garden of the day, please take a moment to fill out this survey. Please return it to a volunteer or mail it to us. Thanks for your time!

1. Check any of the garden practices you plan to use at home:

GARDEN PRACTICE	
Compost yard waste	<input type="checkbox"/>
Compost kitchen waste	<input type="checkbox"/>
Leave grass clippings on lawn	<input type="checkbox"/>
Choose plants adapted to our area	<input type="checkbox"/>
Keep or plant native plants	<input type="checkbox"/>
Install soaker hoses or drip irrigation	<input type="checkbox"/>
Use close plant spacing to reduce weeds and watering	<input type="checkbox"/>
Use mulch to reduce weeds and save water	<input type="checkbox"/>
Use chemical pesticides	<input type="checkbox"/>
Encourage beneficial insects	<input type="checkbox"/>
Choose least-toxic pest control	<input type="checkbox"/>
Choose least-toxic disease control	<input type="checkbox"/>
Use chemical fertilizers	<input type="checkbox"/>
Use slow-release, organic fertilizers	<input type="checkbox"/>

2. Rate the tour (1 = excellent; 2 = very good; 3 = average; OR 4 = poor)

3. Which garden was your favorite? Why was this your favorite garden?

GARDEN 1 (Nancy Mills)

GARDEN 2 (Sam and Christine Garst)

GARDEN 3 (Tali Waterman)

GARDEN 4 (Lloyd and Lane Moody)

4. Did you take the shuttle this year?  Yes  No

5. Rate the shuttle (1 = excellent; 2 = very good; 3 = average; OR 4 = poor)

6. Comments or suggestions:

7. Please list any earth-friendly gardens you suggest for next year's tour. **Please list name of gardener, phone number and address, if possible.**