

Massasauga Recovery Team. 2006. Third International Symposium and Workshop on Conservation of the Eastern Massasauga, *Sistrurus catenatus*: Population Viability and Outreach. 2005 October 12-14, Toronto Zoo, Ontario, Canada.

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Evaluation of the Eastern Massasauga Rattlesnake: Public Education and Outreach Program in the Bruce Peninsula and Eastern Georgian Bay Region

**EVALUATION OF THE EASTERN MASSASAUGA RATTLESNAKE
PUBLIC EDUCATION AND OUTREACH PROGRAM IN THE
BRUCE PENINSULA AND EASTERN GEORGIAN BAY REGION**

October 14, 2005



Goals of the Program

- To increase the knowledge about the Eastern Massasauga Rattlesnake and what to do if you see one;
- To change people's attitudes towards the Eastern Massasauga Rattlesnake;
- To change people's behaviours towards Eastern Massasauga Rattlesnake; and
- To maintain and, where necessary, restore viable populations of the Eastern Massasauga Rattlesnake.

Purpose of the Evaluation

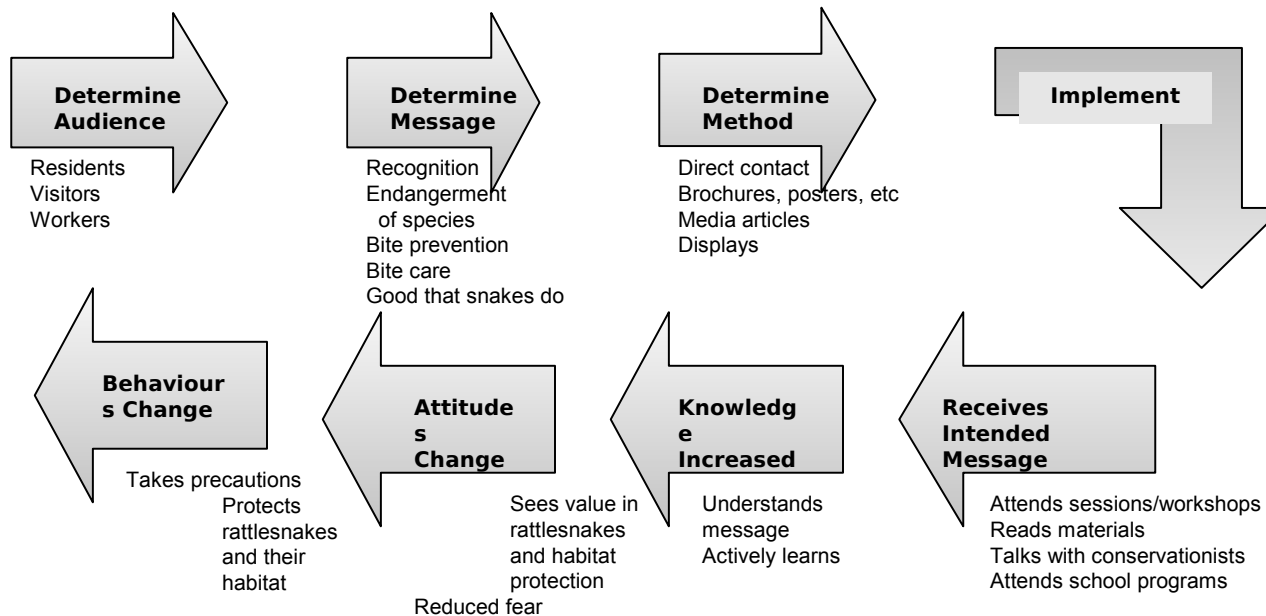
- Create a baseline of the current level of knowledge about the Eastern Massasauga Rattlesnake among permanent and seasonal landowners in the Georgian Bay and Bruce Peninsula areas;
- Create a baseline of current attitudes towards the Eastern Massasauga Rattlesnake among permanent and seasonal landowners in the Georgian Bay and Bruce Peninsula areas;
- Determine which education and communication methods have been most effective in informing permanent and seasonal landowners in the Georgian Bay and Bruce Peninsula areas about the Eastern Massasauga Rattlesnake.
- Develop a framework for conducting an impact assessment to evaluate the success at changing behaviours.

Data Sources

- 14 interviews with individuals directly involved with public education and outreach
- Review of program and promotional documents
- Review of local and national newspapers
- A telephone survey directed at 305 residents in the Bruce Peninsula and Georgian Bay area, with 114 completed
- An email survey to members of the Georgian Bay Association, with 12 completed.
- One focus group

Theory of Change

Public Education and Outreach Flow Chart



How Key Informants Feels Public Can Be Reached

Effective Ways of Reaching the Public

Mechanism	# who believe it is effective*
One-on-one	6 (43%)
Direct exposure/experiential	4 (29%)
TV/media	3 (21%)
Venues drawing people	2 (14%)
Direct presentations	2 (14%)
Cottage assn. meetings	1 (7%)

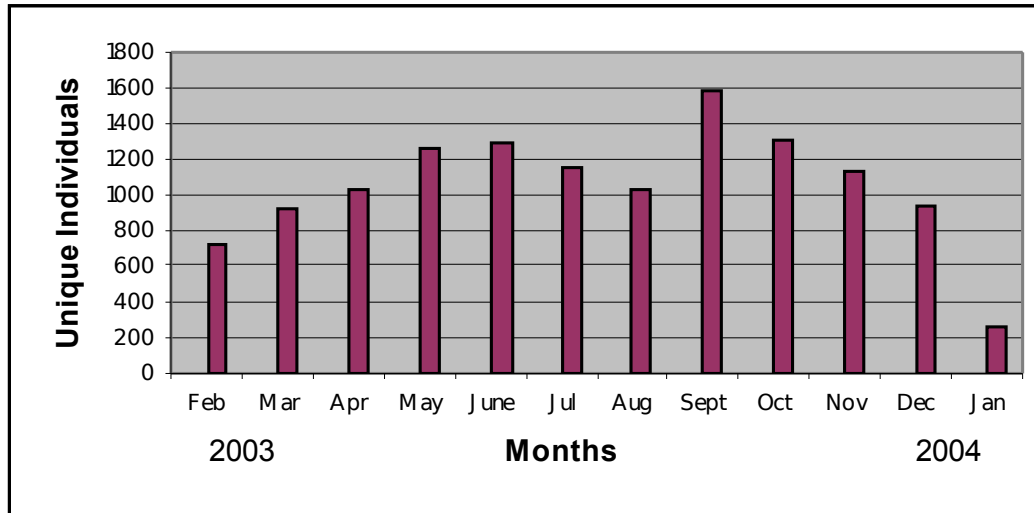
*Total is greater than 100% because people provided more than one response

Messages from Key Informants

- Concern that the message is not getting to where it is most needed;
- The public education and outreach strategy needs to continue to be an integral part of the overall recovery program;
- That the message of preservation of habitat as set out in the stewardship guide is extremely important and needs to be emphasized more;
- That the effort to date has taken a prolonged strategic approach and this needs to be continued; and
- That a three-pronged approach that includes education, advocacy and enforcement is required.

Use of GBRAP Website

Number of Unique Individuals Visiting the GGRAP Website



Results from 2002 Public Opinion Poll

Attitudes About the Natural Environment

Attitude	Strongly Agree	
	Bruce ^[1]	Georgian Bay ^[2]
I am currently upset about threats to Canada's natural environment.	48%	51%
Issues about the natural environment do not affect the quality of my day-to-day life	6%	6%
Learning about Canada's natural environment has a positive impact on my life	58%	50%
Canada's natural environment does not need more protection than it already has today	58%	5%

^[1] Parks Canada. 2002 Public Opinion Poll: Bruce Peninsula National Park and Fathom Five National Marine Park Sub-sample, OSC Social Science Research and Application, April, 2003.

^[2] Parks Canada. 2002 Public Opinion Poll: Georgian Bay Islands National Park Sub-sample, OSC Social Science Research and Application, May, 2003.

What or Who Influences Opinion

Mechanism	Strongly Agree	
	Bruce	Georgian Bay
News/media	25%	28%
Personal experience	11%	9%
Television	6%	9%
Government/politicians	6%	3%
Surroundings	4%	3%
State of environment	3%	3%
Parents	3%	-
Specific organization	3%	2%
Their children	3%	2%
Library/books	3%	3%
Peers	2%	-
Family/relatives	2%	3%
Environmentalist/Naturalist/Ecologist	-	2%
Do not know	13%	11%

Results from 2002 Public Opinion Poll

What is Useful for Learning

Source	Strongly Agree	
	Bruce ^[1]	Georgian Bay ^[2]
TV/Video	67%	63%
Visiting historic or natural areas	62%	62%
Teachers/schools	56%	64%
Internet	51%	56%
Newspapers/magazines	48%	49%
Travelling exhibits	38%	52%

^[1] Parks Canada. 2002 Public Opinion Poll: Bruce Peninsula National Park and Fathom Five National Marine Park Sub-sample, OSC Social Science Research and Application, April, 2003.

^[2] Parks Canada. 2002 Public Opinion Poll: Georgian Bay Islands National Park Sub-sample, OSC Social Science Research and Application, May, 2003.

Education and Public Awareness Activities and Numbers – GGBRAP

GGBRAP Activities

Type of Activity	2001		2002		2003	
	Events	Attended	Events		Events	Attended
General Workshops	25	1200	29	1660	39	2283
School Groups			35	1360	73	1842
Rally for Reptiles Festival			9	1720	8	1487
Conference					1	55
Workshop for Volunteers					1	16
Booths at Existing Events			1	290	13	2400
Media releases			8		8	
Newsletters			2		2	450
Media interviews			8		4	
Total	25	1200	92	5030	137	9533

Bruce Peninsula Activities

Type of Activity	2001		2002		2003	
	Events	Attended	Events	Attended	Events	Attended
Interpretive Programs	9	238	11	729	11	1005
Guided Hike	9	238	9	405	9	574
Amphitheatre Program	-	-	-	-	-	-
Interpretive Stations	-	-	2	324	2	431
Outreach Programs	1	12	3	360	3	454
Guided Hike	-	-	-	-	-	-
Landowner Visits	-	-	1	224	1	250
Landowner Workshops	1	12	2	113	2	129
Outreach Station	-	-	-	-	-	-
Translocation Calls	-	-	-	-	-	-
Community Presentations	-	-	-	-	-	75
Business Contacts	-	-	-	23	-	-
School Programs		1016		420	6	865
TOTAL	10	1266	14	1509	20	2324

Summary of Promotional Material

Material	Highlights EMR info	Useful	Easy to Read	Pictures Provided	Consistent with EMR Recovery Goals
Stewardship Guide	✓	✓		✓	✓
Focus on Conservation Poster	✓	✓	✓	✓	✓
Toronto Zoo Snakes Poster (small)	✓	✓	✓	✓	✓
Video	✓	✓		✓	✓
Parks Canada Massasauga Rattlesnake Brochure	✓	✓	✓	✓	✓
Bruce Peninsula National Park Visitor's Guide			✓		
GGBRAP Newsletter		✓	✓		✓
Reptiles Need Your Help Brochure	✓	✓	✓	✓	✓
GGBRAP Booklet	✓	✓	✓	✓	✓
GGBRAP Poster		✓	✓	✓	✓

Tone and Accuracy of Newspaper Articles

Year	Total Articles	EMR Input	Tone				Accuracy		
			Positive	Mixed	Neutral	Negative	Very	Somewhat	Not
2001	10	No	5	-	-	3	5	3	-
		Yes	1	-	1		2	-	-
2002	33	No	5	2	2	19	6	21	1
		Yes	2	-	1	2	3	2	-
2003	8	No	3	-	-	1	3	1	-
		Yes	1	1	2	-	3	1	-
2004*	10	No	2	-	-	1	2	1	-
		Yes	4	-	3	-	7	-	-

*Up to September 30, 2004

Summary of Survey Findings

- 70% of the people interviewed had seen information on EMR.
- Bruce Peninsula residents (50%) have seen information on EMR. There is significant differences in the level of knowledge in different parts of the Bruce Peninsula:
 - In the Wiarton area 30.4% have heard or seen EMR information
 - In the Tobermory area 83.3% have heard or seen EMR information
 - In the Lionshead area 63.6% have heard or seen EMR information

Summary of Survey Findings

- The most frequent sources of information that respondents say they have seen are brochures, newsletters, television, posters and guided tours or workshops in that order.
- No one indicated that their attitude around the importance of protection of habitat had changed, but 5% of the respondents indicated that they have become more protective of the rattlesnakes habitat.
- Almost half of the telephone survey respondents indicated that the information had not changed their attitudes. At the same time, most respondents indicated that their attitude and behaviour have changed in some way over the past 10 years. It is likely that most people are not aware of what has changed their attitudes.
- Only one person reported becoming more fearful of being bitten

Summary of Survey Findings

- Most people gave correct response to most of the quiz questions:
 - 77% knew that the EMR was a threatened species
 - 80% knew that EMRs do not jump
 - 87% knew that EMRs are important to the eco-system
 - 70% knew that one should move quietly away
 - 95% knew the EMRs should be respected and not killed
 - Only 41.2% knew that anti-venom serum could not be carried with you
 - 64% were aware that the Recovery Team wants to hear about sightings

Summary of Survey Findings

- 72 (57%) of the respondents reported seeing a rattlesnake, 17 (13%) reported seeing one within the past six months
- Only 3 (2%) of respondents indicated they responded in a way that would harm the EMR. Two (1%) people reported trying to kill a rattlesnake; 5 (4%) respondents believe rattlesnakes should be killed
- The information regarding the best way to receive information was not definitive. Thirty-three (26%) respondents indicated newspapers are the best way to receive information. Twenty-six (21%) indicated a brochure delivered to the house is the best way.

Reaching the Appropriate Audience

The Recovery Team has been very successful in reaching the residents and in conveying the message of importance of preservation. The next challenge will be getting some of the same audience and a different audience to understand true stewardship.

Consistency of Messages

- The Recovery Team has provided a number of consistent messages:
 - EMRs are shy timid animals;
 - EMRs are not dangerous if properly respected;
 - The dangers associated with EMRs can be readily addressed through appropriate clothing and behaviour
 - EMRs should not be killed
 - EMRs should not be moved long distances
 - Residents should strive to preserve the natural habitat of EMRs
- While there are not conflicting messages, the emphasis placed on the importance of preserving the natural habitat is inconsistent. The messages in the Stewardship Guide need to be re-enforced in the brochures, newsletters and on posters.

Differences in Knowledge, Attitudes and Behaviours

- Knowledge, attitudes and behaviours have changed.
- It is hard to make direct links to the Recovery Team work
- While residents may not attribute the change in knowledge, attitudes and behaviours to the work of the Recovery Team, there is no other impetus for change in the area.
- It is highly likely that it is the work of the Recovery Team that has resulted in the positive changes that have occurred.

Ongoing Monitoring

- **Track Changes in Knowledge, Attitudes and Behaviours through a survey**
- **Assess change in knowledge through pre-post tests during formal activities**
- **Annual media scan using the framework developed for this evaluation will provide a long-term view of whether the attitudes and knowledge are improving.**
- **Monitor rattlers**
- **Monitor habitat**

Recommendations

1. That the Recovery Team establish a three-pronged approach that integrates the public education and outreach strategy with advocacy and enforcement.
2. That the advocacy efforts be aimed at decreasing the habitat loss rate by educating those involved in the development process including developers, land use planners, elected officials and other appropriate government officials.
3. That the enforcement efforts are highlighted in the education and outreach activities in order to provide a message that will reach the residents who fear and want to kill rattlesnakes.
4. That the Recovery Team establish a media strategy that supports provision of a consistent message to the media, encourages articles about EMRs and other threatened species and educates the media.
5. That the Recovery Team establish a monitoring system that includes continuing to track activities, a periodic survey to assess changes in knowledge, attitudes and behaviours, pre- and post- tests for all formal education events, an annual media review, monitoring EMRs if possible and monitoring habitat.