Applying Systems Thinking To Understanding Canadian Sport

Consultant Rose Mercier begins the ninth issue of the *Journal* by describing the all-too-common bewilderment faced by newcomers to Canadian sport as they struggle with a sea of acronyms, sort out bureaucratic layers, puzzle over overlaps, and, particularly for women coaches, navigate barriers.

Rising to the challenge of explaining the complexity that typifies Canadian sport today, a far cry from the system's simple beginnings in the early 1970s, Rose draws on her years of experience with systems thinking to untangle the knot.

Using the lack of women coaches on Canada Games teams as her example, she begins by posing a set of questions designed to produce a list of contributory factors. She then develops the responses into charts that clearly illustrate the situation. This exercise lays the groundwork, she explains, for developing strategies that can make it possible to change the "system." It is a methodology that she believes can be applied to virtually all of the problems women coaches face as participants in Canadian sport. Rose demonstrates that this can be done by following six practical steps to putting system thinking into practice.

While change takes time - and infinite patience - *Applying Systems Thinking* provides an excellent starting point. - Sheila Robertson

Applying Systems Thinking To Understanding Canadian Sport

By Rose Mercier

I was sitting with two young women during a plenary session at the Coaching Association of Canada's Sport Leadership conference. It was the morning of the last day and the presentation was a status report on initiatives related to the long-awaited development of a Canadian sport policy. A speaker used an acronym and one of the young women leaned over and asked if I knew what it stood for. I quickly gave her the answer - acronyms are a second language in which I am well versed. She asked me a couple of other questions; again, the answers quickly tripped off my tongue.

"How did you learn all this?" she asked in genuine curiosity. "How long does it take to figure out how everything fits together in Canadian sport? How long did it take you learn all of this?" I reflected momentarily. I had never really thought about it. My answer was probably not very encouraging - though I have offered to be "on-call" to respond to future questions.

I believe my answer will interest *Journal* readers, but first some history.

As I was finishing my undergraduate degree in physical education at the University of Alberta, the recommendations from the 1969 Task Force Report commissioned by John Munro, minister of National Health and Welfare, were being implemented. With the Canadian sport system in its infancy, there were less than a handful of acronyms - CAC, NSRC, SIRC, and CAHPER come to mind.[1]

By the time I moved to Ottawa in 1975 and began what is now a 26-year career in sport, a few more organizations and accompanying acronyms had appeared. Nevertheless, it was still relatively easy to figure out the pieces and how they were intended to fit together. Every year since, as organizations, agencies, federations, coalitions, and working groups come and go, and programs and services are introduced and then cancelled, I simply tuck this information into the giant map in the section of my brain reserved for the Canadian sport system. Because I only had to learn a small piece at a time, it was easy to fit each component into the larger picture. Still, while I understood the pieces and knew many of the players, I was less than able to explain how everything fit together when asked to do so by that young woman. I wished my quarter century of life in Canadian sport yielded a brilliant answer. Unfortunately, it didn't. I am, however, beginning to develop a more satisfying approach to explaining how the various pieces of the Canadian system fit together and how they contribute to many of the persistent problems we face, including the continuing shortage of women coaches. Through this process, I believe it is possible to identify strategies that promise real change.

This short conversation at Sport Leadership 2001 was playing over in my head as I struggled, as I do with each *Journal* article, to tame the creative meandering that eventually results in an approach to the assigned topic – in this case, to explain the Canadian sport system.

As I recall from the editorial meeting where the *Journal* concept evolved nearly two years ago, this article would address how the sport system contributes to challenges and issues facing women coaches. It would also suggest strategies for change that would allow them to flourish. At the time, we were discussing the importance of women coaches understanding the "larger picture" in order to better appreciate and tap into possibilities for developing as a coach. We mused that as more and more women came to understand the system, it would be easier to improve the environment for women coaches. We also thought that explaining the system would make it easier to "work" it.

As I sat at my desk, facing a blank screen, neither approach was inspiring a catchy sentence or two, much less an outline. What to do, I wondered, as the deadline for submitting the draft loomed. This was no time for writer's block. Finally, thankfully, I identified the crux of my block.

The use of the word "system" has come to trouble me as my knowledge of systems theory has grown. I've come to understand a system as a perceived whole whose elements "hang together" because they continually affect each other over time and operate toward a common purpose. The elements in what we affectionately call "the Canadian sport system" certainly affect each other over time - but do they "hang together"? In *Coaches Report* (Summer 2001),[2] two authors suggest that a number of elements are out of step or missing altogether. Is there really a common purpose that influences the whole of the system? I think not. Perhaps those currently crafting a new Canadian sport policy will be able to articulate a compelling vision that is shared by all, thereby ensuring the pieces will work with increasing synergy in the future.

Sometimes this analysis seems altogether too theoretical. Other times, however, I have found the application of systems thinking to be tremendously informative in the search for strategies to solve complex issues.

Searching For Answers

I have been fortunate in the seven years since I was a full-time employee in the Canadian sport system to earn my living as a self-employed consultant. Many of my clients are national and provincial sport organizations and, given my affiliation with the women and sport movement over the years, I am often asked to facilitate sessions to produce plans for addressing the lack of women coaches. As does any consultant, I look for ways to enable clients to engage in productive activity. In this area, it is easy to get bogged down in a litany of situations and circumstances that work against increasing the number of women coaches, particularly those coaching at the national level.

I long ago abandoned the approach of listing all of the factors associated with an issue, creating categories to be listed in the left-hand column and then identifying solutions in the right-hand column. Listing categories of problems contributing to the lack of women coaches as separate elements leads to two types of problems. First, this approach perpetuates a false security in cause and effect. If we identify a way to address each problem on our list, we assume that implementing a strategy will affect the corresponding problem. Sometimes it will; more likely it won't, and in addition, listing creates a compounding problem. Sometimes the problem we list is not a problem at all, but a symptom. And this is the source of the second problem. In this parallel-list approach, we may have a list of symptoms. Finding appropriate strategies requires us to first find root causes of problems.

It's tempting in a planning process like the one I just described to treat each element of a problem as separate and distinct. We assume that, like a machine, if a part isn't working as well as we'd like, we have only to take it out and study how to improve it, then put it back, and everything will be working better. Unfortunately, this linear approach to problem solving doesn't always produce the results we had hoped for. The changes we make in response to a problem will have an impact on everything else that's related in some way. We may not see the effect right away, and if we don't look closely at the pattern of relationships, we don't always make the connection between what we see and past solutions that have been applied. While the elements of a problem may be described separately, they are, in fact, interrelated components of a dynamic and living system.

"System" - there's that word again! Let me explain how I am going to use the word through the remainder of this article.

Defining Our Terms

Let's agree that a system is a perceived whole whose elements "hang together" because they continually affect each other over time and operate toward a common purpose. The origins of the word "system" are from the Greek verb *sunistánai*, which originally meant "to cause to stand together." As this origin suggests, the structure of a system includes the quality of perception with which you, the observer, cause it to stand together.[3]

If you think of Canadian sport as a living system, you will have a better understanding of its "structure" because you will look for the pattern of interrelationships among key components. These components might include staff or volunteer hierarchies, athlete

development models, coach education programs, and selection processes, but they also include *attitudes*, *perceptions*, the *quality* of programs and services, the *ways in which decisions are made*, and hundreds of other factors. Thinking about the Canadian sport system in this way will give you a different picture. Thinking like this in my consultant's world is called "systems thinking." It is a powerful tool, not only in understanding the status quo, but also in identifying what strategies are likely to have the most impact.

Solutions are elusive and more often than not are directed at the symptoms of a problem. Quick fixes may soothe irritating symptoms; however, sustainable change requires more fundamental solutions - changes that are made closer to the roots of the problem. The challenge, of course, is to deepen our understanding of a problem to the degree that the roots become more apparent.

The process of understanding such a situation starts with creating the story that underlies the situation under study. The story that evolves is a theory or hypothesis that makes sense, is logically consistent, and could - if accurate - explain why the pattern of relationships we identify is perpetuating the status quo.

At the heart of the art of systems storytelling is one question: How were the circumstances (good and bad) we face now created? How do the ways in which decisions are made, the quality of products, policies, processes, procedures, practices, attitudes, and perceptions contribute or sustain the status quo?

In systems thinking, every picture tells a story. To create a picture, you need to select one variable; it doesn't matter where you start - you will be able to identify a link that represents influence on another variable. Links don't exist in isolation. There is always a circle of causality, in which every element is both "cause" and "effect," influenced by some variables, and influencing others. Sooner or later, the pattern of relationship among the variables in the story emerges. Figuring out how variables link takes some practice, but it is worth the effort.

Let's take a look at how this might work. I have chosen as an example a problem that faces many sports - the lack of women coaches available to be named as coaches of Canada Games teams. The first step in creating a systems analysis is an exercise called "the Five Whys,"[4] which is used to better understand the roots of the problem. By asking *why* there are so few women coaches of Canada Games teams, three answers might emerge:

- There are only a small number of women who have completed 3M NCCP Level 3.
- Not enough women have appropriate coaching experiences to get them onto the selection roster.
- Having a female manager satisfies the Canada Games equity policy.

Although we won't do it here, you would continue to ask *why* for each of these first-level answers and subsequently for each answer that emerged. Record your answers for each successive level of *why*. As the process moves through five levels of *why*, the answers will begin to converge. What becomes apparent is that many factors contribute to the lack of women coaches at the Canada Games. These factors become the basis of the story you want to tell.

If you had completed the Five Whys, I predict that you would come up with a list of factors similar to the following:
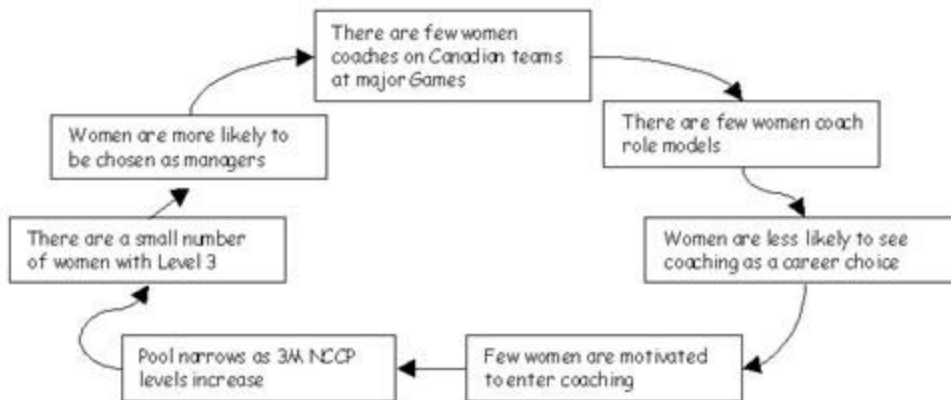
- the small number of women certified at 3M NCCP Level 3 who are eligible to be selected

- the lack of women role models
- the small number of women coaching
- an even smaller number who have appropriate experience
- the lack of recruitment of women into coaching
- the lack of incentives to continue coaching.
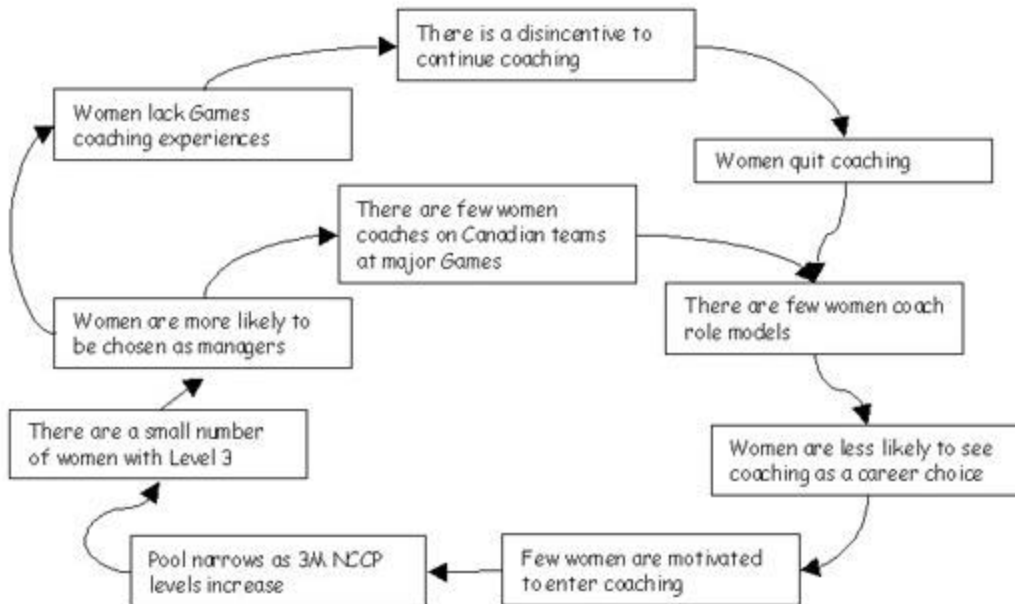
Telling the Story Behind the Status Quo

Now it's time to describe the main storyline among these factors. You might end up with the following.

DIAGRAM 1 - The main storyline

There are few women coaches on Canadian teams at major Games

There are few women coach role models

Women are less likely to see coaching as a career choice

Few women are motivated to enter coaching

Pool narrows as 3M NCCP levels increase

There are a small number of women with Level 3

Women are more likely to be chosen as managers

If you added additional factors that reinforced why women were not available to be selected for coaching roles with the Canada Games, you might have this next diagram.

DIAGRAM 2 - Adding an additional theme

There is a disincentive to continue coaching

Women lack Games coaching experiences

Women quit coaching

There are few women coaches on Canadian teams at major Games

There are few women coach role models

Women are more likely to be chosen as managers

There are a small number of women with Level 3

Women are less likely to see coaching as a career choice

Pool narrows as 3M NCCP levels increase

Few women are motivated to enter coaching

You might not yet have a complete story, so you add another reinforcing loop that shows that the small pool of women coaches causes the perception of their low interest in coaching, a factor that in turn results in the lack of programs recruiting women into coaching.

DIAGRAM 3 - Expanding the scenario
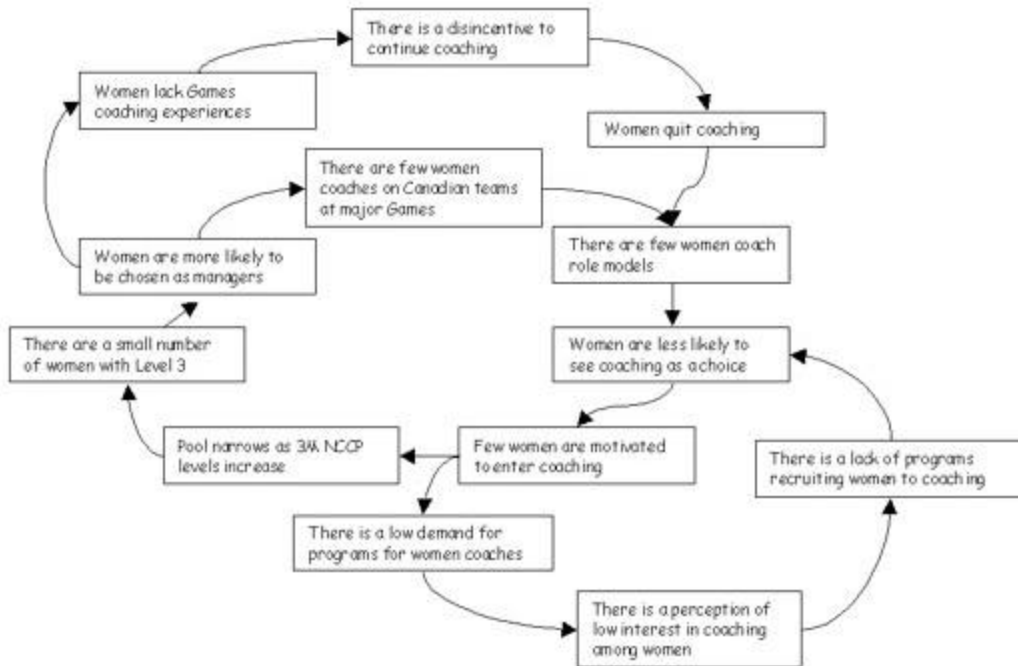
This is by no means a complete picture, but it shows how you might illustrate the relationship among the many factors that contribute to the current situation. Only once you have a story that you are satisfied incorporates all the significant factors is it time to think about identifying strategies for changing the "system."

You won't identify strategies for each variable, but you will be able to select the variables that have the highest leverage. This will take thoughtful analysis and often creates considerable discussion. The objective is to identify the factor that, if its direction is reversed, will have the most significant impact on changing the current situation.

In planning to bring about change, you may create a strategy that is based on a combination of factors – some that will bring about positive change in the short term and others that will take much longer to create an impact, but will more profoundly alter the current situation. Diagram 3, for example, omits certain factors that contribute to women leaving coaching or not seeing coaching as a career option. Among these are the lack of full-time positions, low salaries, lack of family support, and the androcentric coaching model. If you were in a position to develop a strategy for change, you might, in fact, identify one of these latter variables as ultimately having the most profound impact. You would, however, also identify other strategies that would have more short-term payoff.

Let's look again at the diagram, this time with two factors selected as the basis for developing a strategy for change.

DIAGRAM 4 - Deciding where to focus strategy
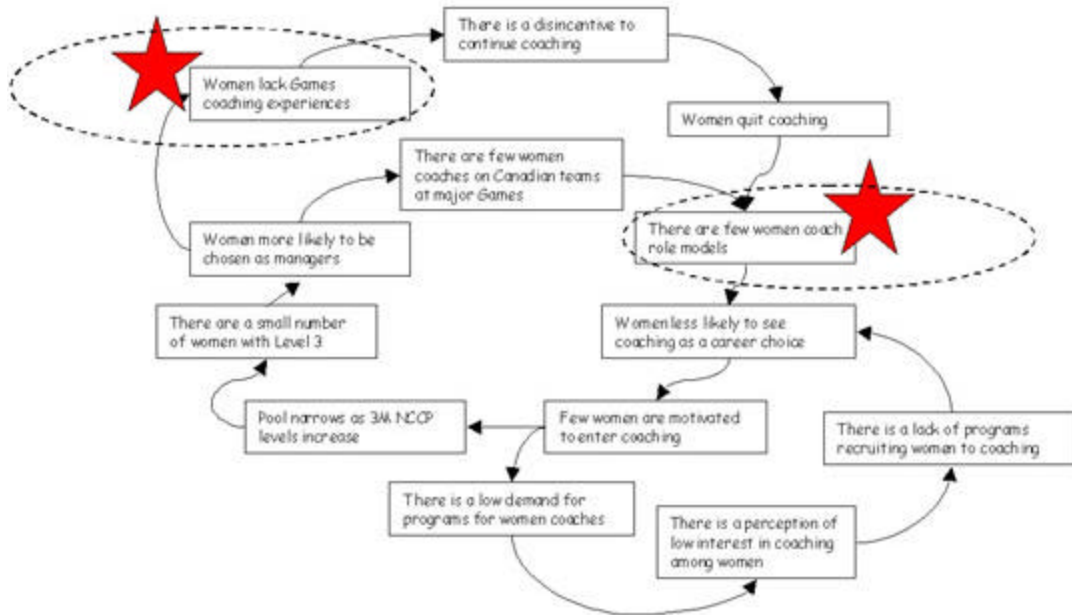
Once you've identified these factors as the target of your efforts, it is time to develop strategies and action plans. For the purpose of this example, we'll stop here. It is important to note that this has been an example developed specifically for the *Journal* and is by no means comprehensive. Its purpose is to illustrate how important it is to understand the system that sustains the status quo.

Getting To the Root of a Problem

By looking for the root causes of problems and thinking about how they are interrelated, it is possible to uncover the "stories" that underlie the problem. Through this system analysis, it is possible to explain why this pattern of relationships perpetuates the status quo of women coaches. I sometimes refer to these diagrams as "root systems" because they are often the hidden structure that supports the visible problem. Just as a tree is supported by an invisible and tangled network of roots, so, too, are problems supported by many interrelated, and sometimes invisible, factors. Only by understanding the root system of a problem is there a sound basis for making sustainable and long-term systemic change. It's quite surprising how easily strategies emerge once this analysis has been completed.

While I've used the example of the lack of women coaches at the Canada Games, the same analysis might apply to many other major Games coaching situations. In fact, this type of analysis is a strong reinforcement of the apprenticeship programs that have been introduced by the CAC's Women in Coaching program. By providing coaching involvement at international competitions and major Games, women apprentices gain much-needed experience that better qualifies them for future major Games coaching assignments and acts as an incentive to continue in coaching.

Putting Systems Thinking Into Practice

On a practical level, there are several ways you can use this information.

1. One of the best ways to understand the present is to understand the past. Some of the individuals I most admire talk about the need for leaders to be in the present by having one foot in the past and the other foot in the future. This provides the wisdom of hindsight to inform today's vision for the future. When you plan your coaching career, study the history of your sport and read any material that will provide you with a sense of history about the sport in Canada. Don't limit yourself to reading, however. How the present came to be will not necessarily be recorded; many things that influence us today are the result of relationships or actions that go unrecorded. Ask questions of anyone whom you know was involved. Find out how various organizations and alliances were formed. The best solutions in any situation are those that are based on a thorough understanding of what lies underneath the problem. Your understanding of situations in Canadian sport will be enhanced if you continually add to your knowledge. The more you know, the more complete will be the picture of any problem you are trying to solve.

2. The full power of systems thinking is demonstrated when applied to persistent problems. For example, women swimming coaches assembled at a national forum last spring to consider why so few women coach their sport at a national level. They used systems thinking as one of the primary means to analyze the status quo and then identified a series of strategies based on their analysis of the key places to act on the system.

3. Try using systems thinking as a first step in planning how to improve the situation for women in your sport. This process will make it more likely that you will consider the majority of the factors that contribute to the problem and increases the likelihood of selecting appropriate strategies.

   ❑ Start by clearly stating the problem you are trying to solve. Then apply the Five Whys process.

      • Ask the primary question and record each answer. For each answer, ask *why* again. Record the answers and then ask *why* for the third time. Repeat this until you have asked *why* five times.
      • You will have some overlap among your answers, so eliminate the duplicates and combine similar answers.

   ❑ Try to create a relationship among all of your answers so that you have a diagram similar to those in this article. Don't be frustrated if it takes you a while to figure out the interconnections. This is challenging, but absolutely essential.

   ❑ Then and only then is it time to identify the key elements of the problem. Which factors - if they were changed - would have the power to positively impact the status quo for women coaches?

   ❑ And once these factors are identified, you can use the more common tools of brainstorming and selecting the most promising strategies.

4. While systems thinking is a powerful tool for examining problems within an organization, it is also useful for considering your own career. It is a practical way to make sure you

are considering all aspects of any situation you are facing and gives you insight into where to focus your efforts. Follow the same steps as above.

5. Resist being overwhelmed by the number of factors to consider. Use the knowledge you generate through this approach as a source of power - power to select strategies that have real payoff. We all have limited time and resources, whether acting individually or in a group. Why not ensure that we have been thorough in our analysis? Why not present these stories in a strong visual format? It can be truly enlightening to tell your story in this fashion.

6. To learn more, read about the uses of systems thinking in *The Fifth Discipline Fieldbook* (Doubleday 1994).

Our analysis of the problems facing women in coaching is more compelling and our strategies hold more promise when we work to understand all the pieces that make up the Canadian sport system - and the pieces that are missing. Sometimes this takes time and it helps to know who to ask, but understanding the root system of difficult issues is most assuredly important in devising ways to increase the number of women coaches.

And if I am ever asked again how long it has taken me to understand the Canadian sport system, my reply will be: "I will let you know if I ever do."

Until then, I shall continue to search for a deeper understanding in the interest of making positive changes.

References

1. CAC: Coaching Association of Canada, NSRC: National Sport and Recreation Centre, SIRC: Sport Information Resource Centre, CAHPER: Canadian Association for Health, Physical Education and Recreation

2. Dennis Whitby in The application of systems concepts to elite athlete development and Istvan Balyi in Sport system building and long-term athlete development in Canada. 2001. Coaches Report 8(1): 18-23 and 25-28.

3. Art Kleiner in The Fifth Discipline Fieldbook by Peter Senge, Richard Ross, Bryan Smith, Charlotte Roberts, and Art Kleiner. Currency Doubleday 1994 p. 90.

4. Adapted from The Five Whys by Richard Ross in The Fifth Discipline Fieldbook by Peter Senge et al. Currency Doubleday 1994.

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Rose Mercier established her independent consulting business after a 20-year career in the management and leadership of sport. An experienced facilitator in leadership and organizational development, she works with a wide variety of organizations within and outside sport. Her clients include Speed Skating Canada, Volleyball Canada, the Canadian Freestyle Ski Association, the Aboriginal Sport Circle, the Canadian Paralympic Committee, Swimming/Natation Canada, Water Polo Canada, the Canadian Child Care Federation, the Coaching Association of Canada, and Sport Canada. Rose has served on various national committees and boards and is currently a member of the board of the Social Planning Council of Kingston.