



Case Study 5: Bow Valley Waste Management Commission ~ Waste or Resource?

The Organization

The Bow Valley Waste Management Commission (BVWMC) was founded in 1998 in the wake of a waste management study commissioned by a joint committee of Bow Valley recycling societies. On the strength of the study's recommendations, the Municipal District (MD) of Bighorn, the Town of Banff, and the Town of Canmore created a cross-jurisdictional body to provide comprehensive solid waste management services to the Bow Valley Region. The primary rationale was to organize regionally to expand programs, pursue an economy of scale and reduce duplication of services in order to save costs. The Commission is governed by a board of directors comprising an elected official from each of the three municipalities.

Among a long and growing list of successes, the flagship result of the Commission's work in its last five years has been the purchase and development of a 80-acre Regional Class III Landfill and the increase in construction recycling from less than 14% to over 60% diversion. The site provides a location for collective dry waste management with recycling for

asphalt, concrete, tires, scrap metal, scrap vehicles, kiln dried lumber, scrub and brush, leaves and grass and Freon fridges. Subsequently the Commission won the Alberta Rs of Excellence award for municipal recycling programming in 2005.

After purchasing the original site in 1999, the Commission hired a full-time manager in March 2000. With degrees in both biological and environmental engineering, Al Tinholt, the person hired, has a long history of environmental care. In his undergraduate days at the University of Guelph, he participated in a dumpster diving project in which dumpster contents were analyzed and evaluated for their recycling potential. This headfirst plunge into the world of waste prompted the City of Guelph to establish the first blue box recycling program in North America.

After graduation, Al worked a variety of engineering jobs in a variety of countries and gained a number of accolades along the way. He eventually returned to Western Canada to work as an environmental consultant, specializing in "bio-remediation in hazardous industrial sites." Unfortunately, he recalls, this too often translated into "taxing his mind to



help business to do the least they could to meet the reporting requirements” of waste management regulations. Somewhat disillusioned, he left the field completely and began working as a youth counselor and mountain guide.

When the BVWMC manager’s position was advertised in 2000, Al had had a long hiatus, acquired a young family, and was ready to return to the environmental engineering fold. The job, he says, “was a perfect fit with my interests and skills,” and he took it on.

Al’s work with the Bow Valley Waste Management Commission over the past five years has made it a vital part of the valley’s environmental operations. Aside from establishing the BVWMC as an independent corporation and working with its board to develop a progressive and innovative strategic plan for the Commission, he has administrated over \$4 million in grants, overseen the development and subsequent expansion of a Regional Class III Landfill; completion of the East Regional Transfer Station and Material Reduction Facility in Banff; Regional Municipal Solid Waste Long Haul contracts that save communities substantial dollars; facilitated equipment like Canmore’s new cardboard baler and community recycling trailer and the MD of Bighorn residential recycling bins, initiated research into regional organics recycling and created a large volunteer base that

works on valley waste and litter clean-ups.

The Natural Step to a Sustainable Canmore

As with many of the Early Adopters, the concept of sustainable development was not new to Al. Nor was The Natural Step, which he learned of when presenting at a Solid Waste Association of North America conference. At the conference, he shared a table with Brian Nattrass, one of the consultants to Whistler’s engagement with The Natural Step. Having learned of the program through Nattrass, Al recalls that “hearing the Natural Step was coming to the Bow Valley was really affirming,” and he made a request through the Town of Canmore to be involved. He was initially invited to participate as an “observer,” but was subsequently asked to become a full Early Adopter on the strength of both the work he was doing with the BVWMC and the contributions and insights he brought to the training workshops.

Baseline Evaluation, Sustainable Practices

Waste management, as a child of the production-consumption cycle, lends itself particularly well to on-ground, in depth analysis, and Al found that in performing the baseline evaluation, he “really got in touch with the reasons” he was doing the



things he was doing” as manager of BVWMC.

The Waste Management Studies done in the 1990’s, similar in nature to baseline analysis, were important tools in developing the commission’s first actions plans. Since the year 2000 the Commission has met and produced an annual strategic plan, which is in essence a perpetual base line analysis and action plan for the commission. The 2004 strategic plan highlights the pro-sustainability work being done by the Commission prior to its involvement with The Natural Step to a Sustainable Canmore. Contributions include:

- improving existing facilities and programs while creating new ones to divert waste from landfill to recycling and composting facilities;
- strengthening the Bow Valley’s community network by facilitating the integration of municipal waste management services into a larger regional service;
- encouraging citizen ownership of waste management through litter clean ups, educational tours of the landfill, recycling and composting facilities and educational outreach in schools and community organizations; and

- networking with the greater waste management community to advocate for continued waste reduction and recycling opportunities and for information sharing in regard to technological advances and solutions.

AI sees the last bullet, identified as Regional Leadership and Advocacy in the strategic plan, as vital to the success of the BVWMC efforts. Through experience, he says, he has learned that to accomplish the BVWMC goals, the Commission must have a strong voice at the provincial level, where regulations are set and market demand is recognized and acted on.

Baseline Evaluation, Non-sustainable Practices

The baseline evaluation (Appendix A) revealed several violations of The Natural Step System conditions.

1) Contributions to systematic increases of substances taken from the earth’s crust

As with most Early Adopter organizations, AI found the greatest violation to the first system condition stems from fossil fuel consumption. BVWMC uses heavy equipment and vehicles daily to move waste. The manufacture of the equipment is also resource intensive, made from mined metals and manufactured in facilities powered by fossil fuels. BVWMC



also uses computers and instrumentation that contain metals, plastics and trace minerals that are either taken from the earth's crust or derived from non-renewable resources.

2) Contributions to systematic increases in concentrations of substances created by society

While the BVWMC has been very successful in redirecting ever higher percentages of the Bow Valley to recycling and composting facilities, there are still areas of the waste stream that need attention. AI particularly identified Household Hazardous Waste (HHW) as a problem, and its presence as the greatest violation of System Condition Two. The HHW stream comprises paints, stains and varnishes; cleaners and polishes; automotive products; pesticides and fertilizers; and electronics. When HHW is disposed of in the trash it can contaminate landfills and subsequently groundwater. When indiscriminately dumped on the ground or into the storm sewers it contaminates surface water. Although four annual HHW regional collection events are scheduled, there is currently no year round program in the valley. The challenge, says AI, is promoting the available services to residents and businesses so that the products do not end up in the convenient neighbourhood dumpsters and subsequently in the landfills. This has been recognized as a priority in the strategic plan. Provincially

a HHW and Paint stewardship program are being designed.

3) Contributions to the degradation of nature

Owing to space limitations and appropriate processing facilities, as well as the potential for creating problem wildlife, little of the municipal solid waste created in the valley actually remains in the valley. The bulk is transported to other landfills and recycling facilities in Alberta. Whether in the valley or elsewhere, however, the facilities take up space and potentially produce leachates – liquids containing minerals, organic matter and other contaminants – that percolate through waste piles. As well, the biodegradation of organic materials produces methane gas once a sanitary landfill is covered over. Given the sheer volume of matter that is generated by the residents and visitors in the Bow Valley, the impact on nature is considerable, and puts the onus to recycle and divert waste responsibly back on the valley residents.

4) Contributions to conditions that undermine people's ability to meet their needs.

The Commission contributes relatively little to the creation of social problems when compared to the work it accomplishes in improving the quality of peoples' lives through the provision of



employment, community waste removal, and environmental health.

Sustainability Vision

As noted above, BVWMC reviews and updates its strategic plan annual. "The plan is very much Natural Step compatible," says AI. Accordingly, there have been only minor changes made to it thus far as a result of The Natural Step training.

As AI notes, the BVWMC vision includes a number of statements that resonate well with The Natural Step philosophy. The visioning homework in The Natural Step to a Sustainable Canmore allowed him to see clearly the connection between the two, and he has committed to incorporating The Natural Step Framework directly into the plan in future years with the blessing of his Board.

Vision Statement for 2006 - 2011

- The Bow Valley Waste Management Commission considers waste to be a valuable resource and encourages a "Zero Waste" philosophy.
- The Commission practices leadership and advocacy in waste reduction, reuse and recycling at all three political levels.
- The Commission thinks globally and acts locally, advocating responsibility for our waste resources within the Region.
- The Commission acts proactively within its municipal partnerships to employ sustainable improvements in reduction, reuse, composting and recycling and aids the member municipalities in achieving waste reduction objectives.
- Our integrated waste management system is becoming recognized for its implementation of innovative and practical end user friendly solutions in the area of waste resource management.
- The Commission maintains strong education programs with the public to ensure responsiveness of its program.
- The continued success of the Commission is a result of cooperation at all political and operating levels.
- A Landfill annual diversion goal of 70% by weight by 2010 for the overall waste resource stream is promoted to our Member communities.
- A Class III annual Landfill diversion goal of 80% by weight by 2010 for Construction waste resources is mandated.



Action Plan

The Strategic Plan lays out a comprehensive and multifaceted action plan that is grouped by “strategic areas.” Further, every action is to be carried out using the following guiding principles:

- The Bow Valley Waste Management Commission is committed to the following guiding principles when making decisions, interacting with others and conducting business.
- We will demonstrate leadership and environmental stewardship in thinking globally and acting locally.
- We will facilitate administrative cooperation and participation in seeking out solutions to our common operating challenges.
- We will develop and implement user friendly and innovative regional recycling and waste management strategies that fully take into account the unique challenges of our local environment and are responsive to needs.
- We will provide a practical and affordable framework for long-term recycling and waste management that is responsible to the ratepayers of the member municipalities.

- We will operate as an independent organization in serving the needs of the entire valley.
- We believe in continuous sustainable improvement.

Implementation

The BVWMC is currently implementing a number of the actions listed in its plan. The following are some of the highlights:

- Residential leaf, grass and scrub composting program. Banff and Canmore both have collection bins for yard waste that are taken to the regional landfill for composting at the facility built in 2004. In 2006, the Commission will begin selling the screened top soil produced from the yard waste. It has also indicated its willingness to provide the top soil to a community garden group should they request it. The composting program not only provides a useful end product, but also acts as a great demonstration project: a locally developed, closed-loop recycling solution that produces a locally used commodity and reduces the amount of topsoil brought into the valley from outside.
- Staff training. The regional landfill staff attended the annual Recycling Council of Alberta Conference in the fall of 2005, where they learned about



the Natural Step and a number of initiatives being implemented nationwide. They left the conference with a sense that what they were doing “wasn’t out in left field” and how their actions were part of a much larger and very important picture.

- School recycling program. When the local school board announced in 2005 that they would no longer pay for recycling at the local schools, the Commission worked with the schools and Town to come up with a quick community-based solution. A mobile recycling trailer is now stationed at a different school each day of the week. The trailer does double duty by providing recycling for both the school and neighbouring residents.
- A regional compost demonstration project. After completing a study and having its recommendations approved in principle by the member councils, a regional compost demonstration project has been initiated in Banff in 2006. The compost project holds the promise of becoming the best regional solution for the Bow Valley. The current phase of the project involves experimenting with various methods of delivering food waste from hotels to the existing in vessel composting facility in Banff. A Canmore facility – the subject of one of the Early Adopter green infrastructure recommendations – is on hold until a

suitable site can be agreed upon by the Town Council.

- Cardboard baling. Cardboard that was previously carted to Calgary for baling before being shipped to Vancouver for recycling is now being baled in Canmore and sent directly to Vancouver.
- E-waste collection. The e-waste collection program, started in 2005 with a collection site for old computer equipment, has recently been expanded to include televisions, stereos, DVD’s, VCR’s, telephones, faxes cell phones and pagers.
- Recycling Education: A regional recycling coordinator is expected to start in July 2006 to increase public awareness and education of the Commission’s work, and to inform local businesses and contractors on current waste reduction services and facilities. Al believes that the Commission’s involvement with The Natural Step to a Sustainable Canmore played a significant role in the staffing proposal’s approval.



Last Words

Reflecting on his years of international involvement in making the planet a more sustainable place, AI observes that, “The truth in North America is that all our space and resources have given us the luxury of being rather oblivious to our environmental impact. Yet the more we are made aware of global issues – like the way this mild past winter caused some pause for thought about how civilization as a whole is impacting the earth through climate change – the more it becomes obvious we should be more conscious of our individual actions. Locally, The Natural Step to a Sustainable Canmore has been a good ripple in the pond – one that has allowed us to gain some momentum and begin to accomplish something that could be significant in terms of sustainable development.”

