

Solid Waste Management Plan



Prepared for
Alberni Clayoquot Regional District

Submitted by
Gartner Lee Limited

November 2007

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Reference: **GLL 60717**

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1 Gartner Lee Limited





Gartner Lee Limited



November 8, 2007

Drew Hadfield, Manager of Environmental Services
Alberni Clayoquot Regional District
3008-5th Ave
Port Alberni, BC V9Y 2E3

Dear Drew:

Re: 60717 –Solid Waste Management Plan

We are pleased to submit the Alberni Clayoquot Regional District Solid Waste Management Plan, which is an update to replace the 1996 Plan. The draft Plan was subject to public consultation in October 2007 and generally received very positive feedback. Consequently, there have been no significant changes to the Plan from the draft version dated October 7, 2007.

The process to update the Plan began in September 2006. Associated with the planning process was a rigorous consultation program. A report on the consultation activities that were undertaken during the planning process has been provided under separate cover.

It has been a pleasure to work with the ACRD and the Advisory Committees over the past year. We wish the ACRD success in the Plan's implementation.

Yours very truly,
GARTNER LEE LIMITED

Maura Walker
Senior Environmental Planner

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Acknowledgements

Gartner Lee Ltd and ACRD staff would like to acknowledge the contribution of time, expertise and patience of those individuals that participated on the two Advisory Committees. It is their representation of their communities and vision of the future in the ACRD that will ensure that the unparalleled environment that we live in is sustained.

Our thanks go to:

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Patty Edwards	Reg. Dir. Electoral Area E
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1. Background

In British Columbia, Regional Districts are mandated by the Provincial *Environmental Management Act* to develop Solid Waste Management Plans that are long term visions of how each regional district would like to manage their solid wastes, including waste diversion and disposal activities. These Plans are updated on a regular basis to ensure that the Plan reflects the current needs of the regional district, as well as current market conditions, technologies and regulations.

The Alberni-Clayoquot Regional District (ACRD) has undertaken a review of the 1996 Regional Solid Waste Management Plan to ensure that the new plan reflects current public and political direction. This document outlines the status of solid waste operations in 2006, and presents an updated plan for solid waste management in the ACRD. The Plan includes programs, policies and infrastructure to meet the objectives of:

- Reducing the amount of waste requiring disposal;
- Increasing the level of recycling activity throughout the regional district; and
- Ensuring that any residual waste is disposed of in a manner that protects environmental and social well-being.

Additionally, the Plan outlines how the ACRD will comply with all relevant provincial legislation, regulations and landfill operational certificates.

1.1 Guiding Principles

The guiding principles for the Solid Waste Management Plan are:

1. The consumption of material and energy resources is set at a level that is ecologically sustainable.
2. The regional solid waste stream is reduced to the greatest extent possible, in accordance with the hierarchy of reduce, reuse, and recycle, and consistent with local resources and the nature of the regional solid waste stream.
3. The goal of environmental policy is zero pollution and the strategies for achieving that goal are in accordance with the precautionary principle.
4. Individuals and firms are enabled to make environmentally sound choices about consumption of resources and generation of waste through provision of appropriate information, including user-pay and market-based incentives, wherever possible.

5. Reduction policies and strategies are developed through public consultation and are socially acceptable and cost-effective, based on full accounting of costs and benefits, both monetary and non-monetary.

2. The Planning Process

The process to update the plan was conducted in three phases. The first phase was a review of the current solid waste management system and a report on the implementation status of the 1996 Plan. This phase included open houses in Port Alberni, Tofino, Ucluelet and Bamfield to solicit the community's thoughts on the current waste management system and what they would like to see in the future. There was also an on-line survey for people who could not attend the open houses.

The second phase was a review of options to address the region's future solid waste management needs and the selection of preferred options. This phase included an open house and presentation in Port Alberni and participation in a community meeting in Bamfield to solicit community input into the specific options being considered in these communities. The conclusion of this phase was the preparation of the draft Solid Waste Management Plan.

The final phase will be a community consultation process to obtain input into the draft Plan. After consultation, the Plan will be finalized and submitted to the BC Minister of the Environment for approval, accompanied by a report detailing the consultation process.

Throughout the process, two advisory committees – one for the catchment area of the Alberni Landfill and another for the West Coast Landfill catchment – were involved in reviewing consultant's reports and providing feedback to the ACRD on the Plan's development.

2.1 Participants in the Planning Process

Many groups participated in the planning process; these were:

- BC Ministry of Environment provided advice and direction to the ACRD in regard to the planning process and the plan's options.
- ACRD staff coordinated the planning process, participated directly in the development of technical reports and conducted the consultation processes.
- Consultants undertook technical studies, advised ACRD staff and participated in the consultation processes.
- Two Advisory Committees comprised of stakeholders from as broad a range of interests as possible (including environmental groups, local businesses, local government and waste management companies) were responsible for reviewing information associated with solid waste management and the planning process, and provided input to staff and the Board. Committee members also assisted by informing their constituents about the planning process and the implications of decisions made during the process.

- The general public provided input to the Board and the project team through community consultation activities.
- Regional Board reviewed, commented and approved staff reports, consultation plans and the draft and final Solid Waste Management Plan.

3. Plan Area

The Solid Waste Management Plan encompasses the entire ACRD, which covers 7,440 km². The electoral boundaries are shown on Figure 3-1 and include the City of Port Alberni, the District of Ucluelet, the District of Tofino and Electoral Areas 'A' Bamfield, 'B' Beaufort, 'C' Long Beach, 'D' Sproat Lake, 'E' Beaver Creek, and 'F' Cherry Creek. In addition there are 17 Indian Reserves and the Pacific Rim National Park Reserve.

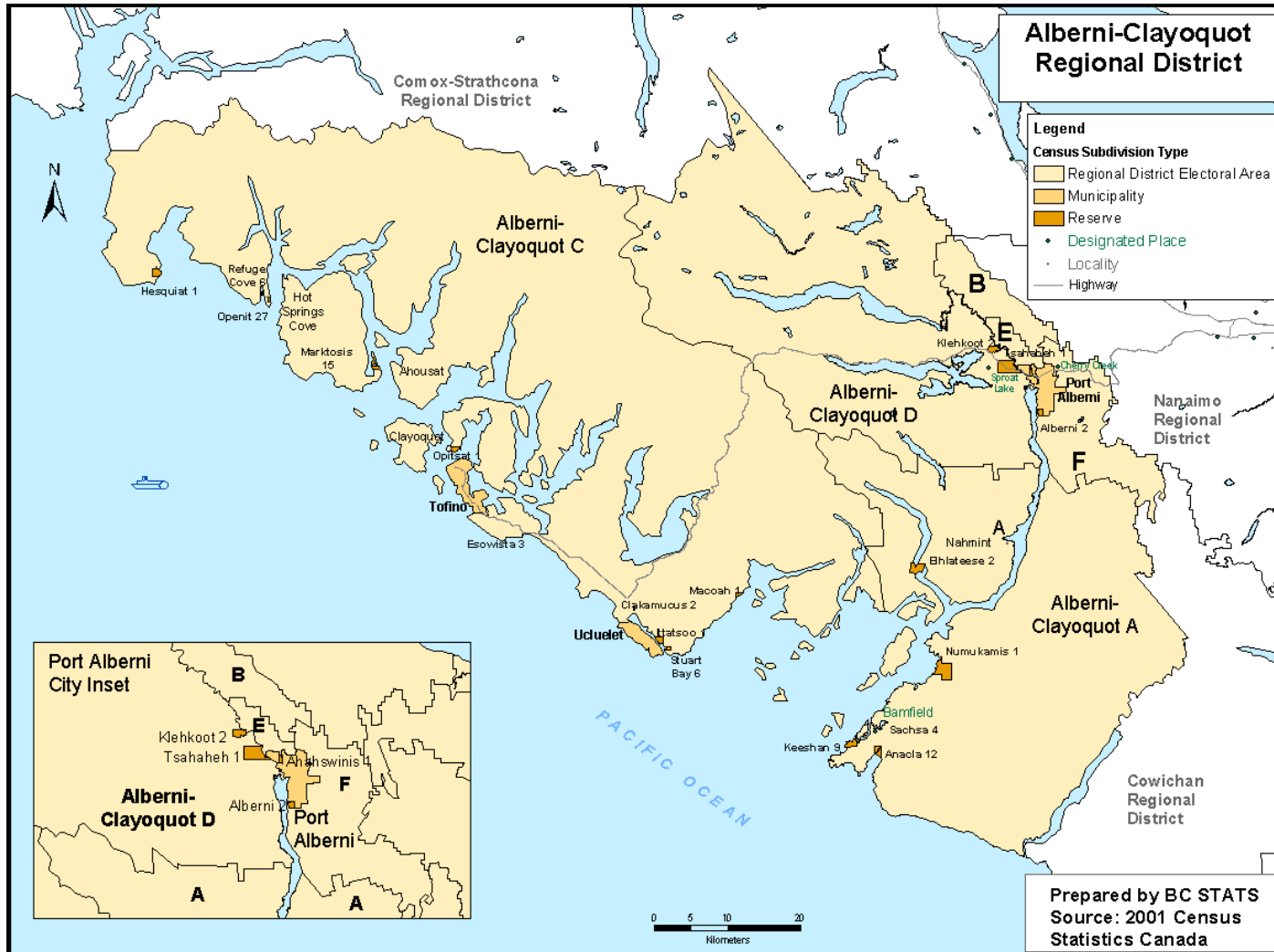
A significant portion of the ACRD is rugged coastal mountains with limited access. It is bound on the north by the Forbidden Plateau, on the east by the Beaufort Range and Mount Arrowsmith, on the south by the Nitnat River and Lake, and on the west by the Pacific Ocean.

The ACRD experiences a predominantly maritime climate with heavy rainfall on the West Coast due to the prevailing weather systems that are forced to rise over the mountain ranges.

In 2000, Clayoquot Sound became a UNESCO Biosphere Reserve. Approximately half of the ACRD is in the Reserve area including the Pacific Rim National Park Reserve and the coastal area north west of the Park. Biosphere reserves are areas promoting sustainable use of the land to ensure conservation of biodiversity. They are internationally recognized, nominated by national governments and remain under jurisdiction of the Province. The Clayoquot Biosphere Trust provides funds to local research, education, and training projects that meet the objectives of conservation and sustainable development.

The Pacific Rim National Park Reserve is located on the West Coast and attracts a growing number of visitors each year (estimated to be roughly 778,000 per year, at present). The park contains cultural history and a range of ecosystems that supports wildlife species such as black bears and cougars.

Figure 3-1. Map of Alberni-Clayoquot Regional District



3.1 Population

As shown in Table 3-1, the population estimate for the region in 2006 is 30,664¹, including Municipalities, Electoral Areas and Indian Reserves.

The population has grown 1.1% since 2001, but BC Statistics predicts a gradual decline in permanent population over the next twenty-five years².

The region attracts an increasing number of visitors annually. In 2005 Parks Canada indicated that there were 778,266 different visitors to the Long Beach unit of the Pacific Rim National Park Reserve, which impacts the resource and infrastructure requirements for the region. Additionally, First Nations communities make up 7% of the total population of the ACRD. Although Indian Reserves are independently governed, many of these communities currently use ACRD waste disposal facilities and others expect to use them once their current landfills are full.

3.2 Economic Data

In 2006, there were 14,333 households in ACRD, of which 90% were occupied by their “usual residents”³.

According to BC Statistics’ 2001 census data, the main industries (by labour force) for the region are manufacturing, retail, agricultural forestry/fishing/hunting, and accommodation/food services.⁴

¹ *Statistics Canada (2006 Census Data)*

² *Population estimates (1986-2005) and projections (2006-2031) by BC STATS, Service BC, BC Ministry of Labour and Citizens’ Services, September 2006.*

³ *Statistics Canada (2006 Census Data)*

⁴ *Updated census data on the Canadian economy is expected to be released in 2008.*

Table 3-1. Population By Area

Community	Population		
	2006	2001	Growth Since 2001
Port Alberni	17,548	17,748	-1.1
Tofino	1,655	1,466	12.9
Ucluelet	1,487	1,559	-4.6
Alberni-Clayoquot A	303	285	6.3
Alberni-Clayoquot B	476	502	-5.2
Alberni-Clayoquot C	401	369	8.7
Alberni-Clayoquot D	2,027	2,016	0.5
Alberni-Clayoquot E	2,822	2,779	1.5
Alberni-Clayoquot F	1,882	1,892	-0.5
<i>Subtotal ACRD</i>	<i>28,601</i>	<i>28,616</i>	
Indian Reserves			
Ahahswinis 1	148	117	26.5
Alberni 2	5	10	-50
Anacla 12	95	84	13.1
Clakamucus 2	5	5	0
Elhlateese 2	27	21	28.6
Esowista 3	160	140	14.3
Hesquiat 1	10	5	100
Iltatsoo 1	200	208	-3.8
Keeshan 9	0	0	... 0
Klehkoot 2	10	10	0
Macoah 1	19	10	90
Marktosis 15	661	557	18.7
Numukamis 1	5	5	0
Openit 27	0	0	... 0
Opitsat 1	174	148	17.6
Refuge Cove 6	103	77	33.8
Sachsa 4	0	10	-100
Stuart Bay 6	0	0	... 0
Tin Wis 11	16	0	... 0
Tsahaheh 1	425	322	32
<i>Subtotal Indian Reserves</i>	<i>2,063</i>	<i>1,729</i>	
Total Population in Area	30,664	30,345	1.1

4. Waste Stream Characterization

This section provides a general description of the solid waste generated in the ACRD, including the composition of the waste stream and how much waste is disposed in landfill and recycled. This information, along with the system description in Section 5, provides the baseline for the solid waste management planning process.

4.1 Composition of Waste Disposed

There has not been a waste composition study done specifically for the ACRD; however waste composition can be estimated using data from other BC communities with similar characteristics. The Resort Municipality of Whistler conducted a waste composition study at their landfill in June 2004 that can provide a rough estimate of the composition of waste disposed in the West Coast Landfill. The composition data, shown as Figure 4-1, is considered relevant to the West Coast due to the similar waste service characteristics shared with Whistler: Whistler's recycling services are primarily depot based, there are no disposal bans in place (other than for gypsum) and there is a strong influence of tourism on the characteristics waste stream, in addition to significant construction activity in the past 5-10 years.

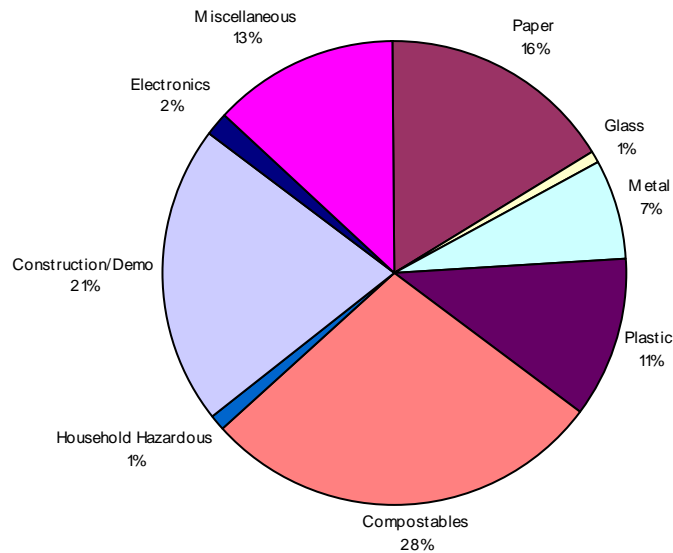


Figure 4-1. Estimated Composition of West Coast Waste Disposed

For the Alberni Valley, an estimate of the waste composition was done using the results a 2004 waste composition study done for the Regional District of Nanaimo (RDN). The results of this study were adjusted to reflect the lesser amount of waste diversion activities in the Alberni Valley in comparison to the RDN. The estimated waste composition for the waste disposed at the Alberni Valley Landfill is shown in Figure 4-2.

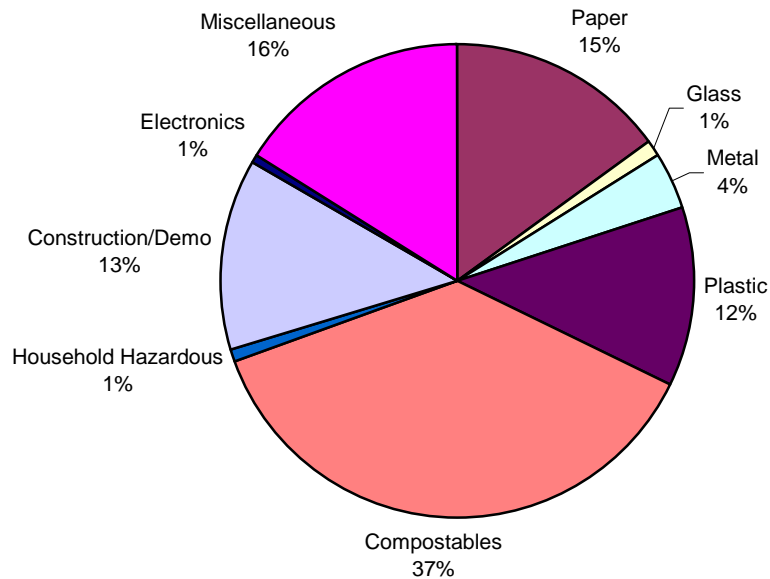
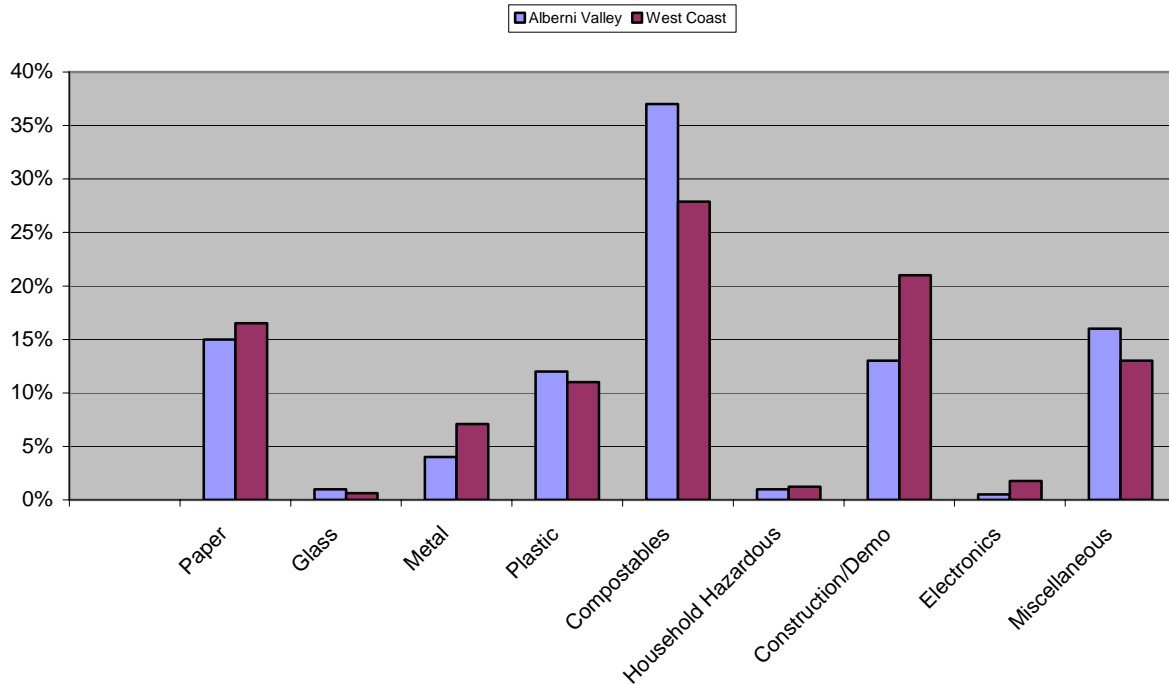


Figure 4-2 Estimated Composition of Alberni Valley Waste Disposed

The variation in the estimated waste composition between the West Coast and Alberni Valley is shown in Figure 4-3. The main variations are:

- Significantly higher percentage of construction and demolition waste on the west coast, reflective of the construction boom in that area; and
- Higher percentage of compostable waste in the Alberni Valley, possibly reflective of the larger amount of yard waste generated, but also reflective of the lower percentage of construction waste in the waste stream.

Figure 4-3. Comparison of Alberni Valley and West Coast Waste Compositions



4.2 Disposal and Diversion

Table 4-1 outlines the main activities that contribute to the ACRD’s disposal and diversion rates. The contributing population to the landfills in the ACRD was assumed to be 30,664 based on 2006 census data. A description of the disposal facilities and the recycling activities in the ACRD is provided in Section 5.

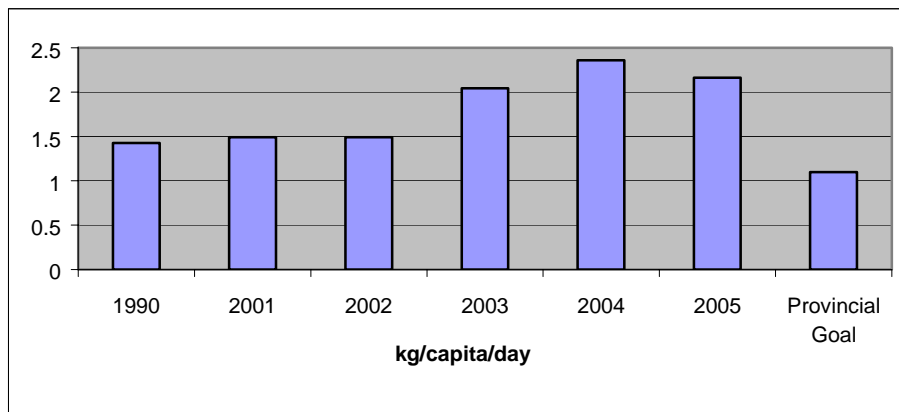
In 2005, the ACRD disposed of 24,248 tonnes (based on scale house records) and recycled an estimated 4,321 tonnes of material, resulting in a recycling rate of 15%. The average recycling rate for BC Regional Districts is 32% and the Canadian and Provincial goal for waste diversion is 50%.

Table 4-1 2005 Disposal and Diversion Estimates

	Tonnes	%
DISPOSAL		
Alberni Valley Landfill	19,390	85%
West Coast Landfill	4,858	
Total Disposal	24,248	
DIVERSION		
Port Alberni Recycling Depot	1,027	15%
Alberni Valley Landfill Recycling	1,083	
Sunbird Recycling Collection Service	576	
Waste Services Inc. Cardboard Collection Service (estimated) ⁵	284	
Tofino Recycling Depot ⁶	175	
Ucluelet Recycling Depot ⁷	43	
West Coast Landfill Recycling	201	
Encorp Bottle Depots (estimated) ⁸	500	
Miscellaneous Private Recycling Initiatives (estimated)	432	
Total Diversion	4,321	

The per capita disposal rate in the ACRD in 2005 was 0.79 tonnes or 2.16 kg/capita per day. Figure 4-4 shows the per capita disposal rate in the ACRD for 1990 and 2001 to 2005, as well as the provincial goal of 1.1 kg/capita/day.

Figure 4-4 Per Capita Disposal Rate 1990 & 2001-2005



⁵ Based on one 40yd³ container of compacted cardboard per week reported by WSI. Weight based on US EPA standard volume to weight conversion ratios.

⁶ Based on Vancouver Island Recycling Centre Data Oct 2005-Dec 2006

⁷ Based on 2005 data from Ukee Recycles/Rainforest Regional Recycling

⁸ Based on a reported ACRD container return rate of 220 per capita and an estimate of 10 containers/lb.

4.3 Waste Generators

The Alberni Valley Landfill receives 50% of its waste from the single-family residences and 50% of its waste from industrial, commercial and institutional (ICI) sources (including multi-family residential buildings)⁹. In contrast, the West Coast Landfill receives only 13% of its waste from single-family residences and 87% from ICI sources.¹⁰

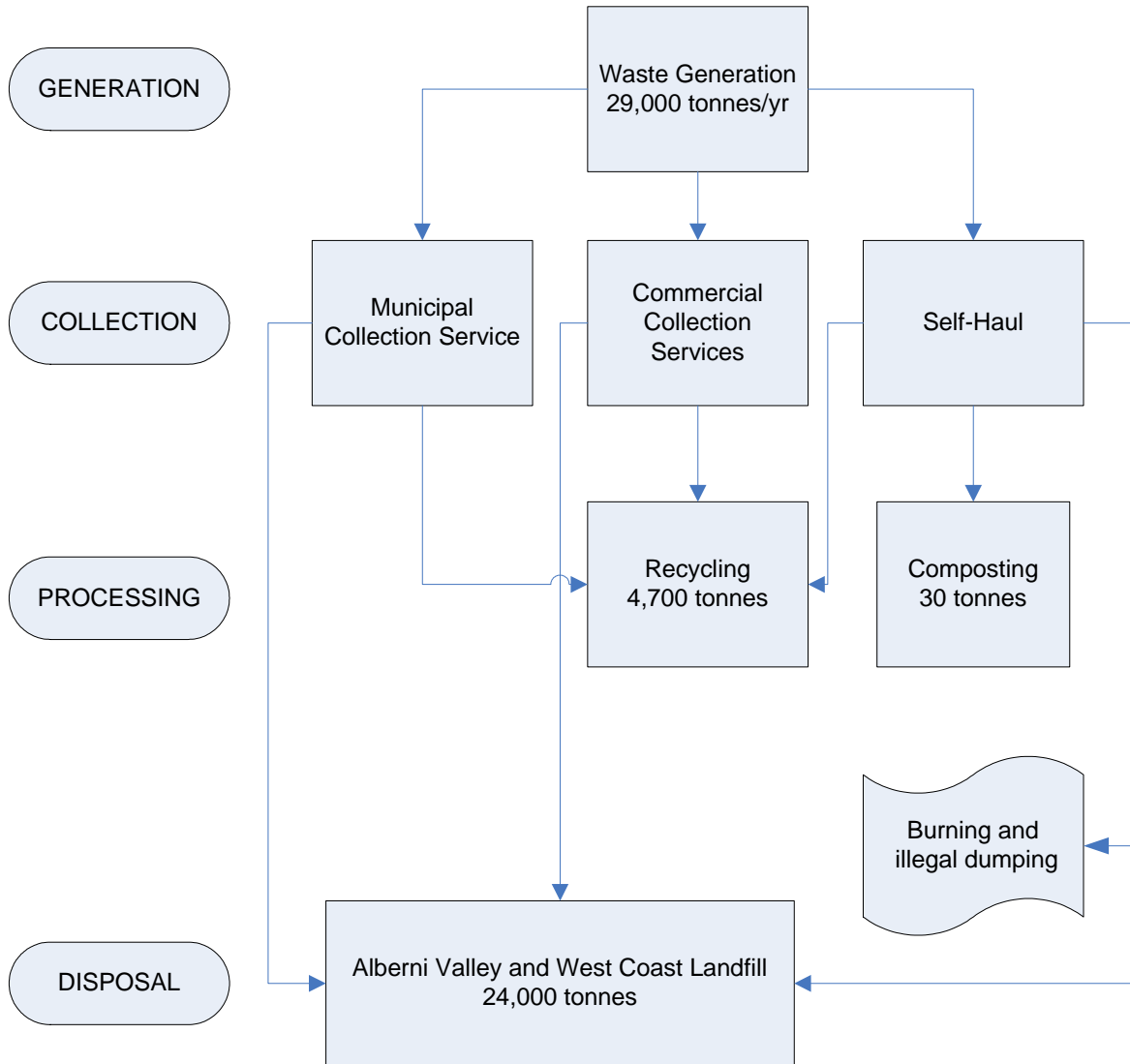
4.4 Waste Flows

Figure 4-5 shows the flow of solid waste from the point of generation through the various waste management activities in the ACRD.

⁹Based on 2003 data

¹⁰ Based on 2005/06 scale house data

Figure 4-5 ACRD Waste Flows in 2005



5. Existing Solid Waste Management System

This section describes the major infrastructure, services, programs and policies in place in the ACRD that contribute to the management of solid waste.

5.1 Education and Promotion

There are a number of small-scale awareness initiatives in the ACRD:

- Schools undertake curriculum linked classroom activities in addition to recycling used beverage containers;
- The Bear Aware campaign encourages residents to dispose of waste in wildlife proof containers and to put their garbage out on the morning of collection. The Bear Aware campaign includes a website, brochures and a support officer based in Ucluelet;
- Signage at recycling depots and landfill sites; and
- Recycling and disposal facility times are listed on municipal websites.

5.2 Reduction and Reuse Programs

There are minimal waste reduction programs or reuse services in place in the ACRD. The primary waste reduction driver in place is the various “user pay” cost charges for disposal. The City of Port Alberni, District of Ucluelet & District of Tofino have “can limit” bylaws that restrict the amount of waste placed out for residential curbside collection to two containers per week. An excess of two standard bins/bags is charged at a rate of \$2 per bag. A sticker is purchased from the relevant authority and placed on the additional container. For commercial waste generators, the landfill tipping fees of \$65 per tonne is a form of user pay. Bamfield also has a user pay system.

Backyard composting is another means of waste reduction that is used by many communities to reduce the quantity of organic waste disposed. Over a two-year period, the City of Port Alberni promoted backyard composting by offering subsidized compost bins. Approximately 1,000 composters were distributed through this initiative. When bin sales declined, it was believed that the local market for the bins was saturated and the program was discontinued. Composters are now available in hardware and garden stores in Port Alberni, though promotion of backyard composting has been discontinued.

5.3 Recycling

5.3.1 Residential Recycling

Residential recycling opportunities in the ACRD are generally in the form of recycling depots. There are three depots, one in each of Port Alberni, Tofino and Ucluelet. The Ucluelet depot was not operating at the time this Plan was prepared.

The Port Alberni depot is a service funded by the City of Port Alberni and ACRD. The depot is located on municipal property close to the city centre and the operation of the site is contracted out. The site is fenced but not staffed. There is no charge to use this site.

The Tofino Recycling Yard (TRY) is located outside the main village at the Public Works Yard. The depot is owned and operated by the District of Tofino. In addition to collecting recyclable materials, the site also acts as a Product Care depot for the return of waste paint. The depot has a baler, a small bobcat and a covered area for material storage. There is no charge to use this site.

In Ucluelet, the recycling depot is also located outside the main village at the Public Works Yard. A local volunteer-run group, Ukee Recycles, operates the depot. The depot has a small baler and a small covered storage area. In 2005, the depot recycled 43 tonnes of material. The depot recently closed operation due to the small group of volunteers being overburdened by the growing volume of materials and no additional volunteer support from the community.

Both the Alberni Valley and the West Coast landfills receive scrap metal, including appliances, for recycling. Used tires are also received at the sites and are being stockpiled with the intention of shipping them to tire processors in the future. Coolant in scrapped appliances such as refrigerators and air conditioners is removed by a contractor and recycled. Lead-acid (automotive) batteries are also collected for recycling. At the Alberni Valley Landfill, used motor oil is collected for recycling. Tipping fees apply to tires, refrigerators and freezers.

In Port Alberni, Sunbird Disposal and Recycling offers a curbside residential collection services to residents. The subscription-based service uses clear blue bags for the collection of mixed recyclable materials. There are no other curbside residential recycling services in the ACRD.

Bottle depots are located in Port Alberni and Ucluelet. The Port Alberni bottle depot also accepts Product Care materials.

There are no residential recycling services in Bamfield.

5.3.2 Industrial, Commercial and Institutional (ICI) Recycling

In Port Alberni, Sunbird Disposal & Recycling and Waste Services Inc. (WSI) offer commercial collection of recyclables. Sunbird offers multi-material collection and WSI offers cardboard collection. Sunbird operates the only commercial material recovery facility (MRF) in the ACRD.

In Tofino, there is one company called the Green Team that provides multi-material collection of recyclables to ICI locations. Much of the material collected by the Green Team is taken to the Tofino recycling depot. There are no collection services for recycling in Ucluelet.

There are no ICI recycling services in Bamfield and Ucluelet.

Small ICI waste generators can use the recycling depots or the recycling facilities offered at the landfills (for scrap metal and tires). Some large generators of recyclable materials, such as the Co-op in Ucluelet, haul their own recyclable materials directly to a recycling processor or to a central warehouse.

5.3.3 Centralized Composting

There are three composting operations in the Regional District: McCoy Lake Composting, Earth, Land and Sea Composting and the Alberni Valley Landfill. All of these facilities are in the Alberni Valley.

Yard waste is composted at the Alberni Valley Landfill. McCoy Lake Excavators process organics from their existing clients. Earth, Land and Sea Composting currently composts saw dust and fish waste that do not generally enter the municipal waste stream.

In 2005, the Alberni Valley landfill composted 32 tonnes of yard waste. The quantity of organic material diverted from disposal by the other composting facilities is unknown.

5.4 Residual Waste Management

5.4.1 Collection Services

5.4.1.1 Bamfield

All of the land-based waste collection services provided in Bamfield and vicinity are privately contracted. On the east side of Bamfield, garbage is collected in commercial containers. A Waste Services Inc. truck empties the containers every-other-week. On the west side of Bamfield where road-based collection is not available, the waste collection containers are located on the wharf and picked up by the MV Lady Rose and brought to Port Alberni then the Alberni Valley Landfill for

disposal. Users of this service pay by-the-bag into a “honesty box” on the wharf. These monies are given to the ACRD who pays the MV Lady Rose for the transport of waste.

Most medium and large commercial and institutional establishments on the east side have contracted with WSI for waste collection services. Most small businesses and residents bring their waste to the bin on the wharf and pay based on the size of bag into a lock box. These fees are collected by the Wharfinger to pay for the collection services. Tourists and boaters also use this bin for waste disposal.

On the west side, businesses and residents that use the waste container on the wharf also pay into a lock box based on the size of bag. Fees are collected by the general store and remitted to the Wharfinger. The Wharfinger reports that in the winter season the fees collected do not cover the cost of waste collection, even though the bins are full of garbage. This suggests that some users of the wharf bins are not paying an appropriate amount for the waste they dispose.

Several residents and businesses in the Bamfield area burn their waste in open piles or burn barrels. Smoke and the odour of burning plastic as a result of garbage burning are a daily condition in the community.

There is no service for removal of bulky items such as large appliances and furniture. This also contributes to the open burning of waste, as well as illegal dumping on the road in the Bamfield vicinity.

5.4.1.2 West Coast

In the Districts of Tofino and Ucluelet, single-family residential waste is collected as a municipal service. Both municipalities contract out weekly collection to Sonbird Refuse and Recycling Ltd. (*Note: Sonbird Refuse and Recycling operates on the west coast and is a different company to Sunbird Recycling & Disposal which operates in the Alberni Valley.*) Each household is allowed to set out 2 containers of waste per week. The fee charged to each residence for this service is \$108 per year in Ucluelet and \$136 per year in Tofino. Extra containers are allowed but each one must have a \$2 tag. Ucluelet has an active “Bear Aware” program and resident must abide by a bylaw that aims to reduce bear incidents in the community. For example, residents are not permitted to put garbage outside until the morning of collection day. Tofino has also launched a “Bear Aware” education campaign.

Residents outside the municipal boundaries must contract directly with Sonbird or self-haul their waste to the West Coast Landfill.

Collection from all commercial establishments, institutions (such as schools) and multi-family buildings is done through a direct contract with the local waste collector or self-hauled to the landfill.

5.4.1.3 Alberni Valley

In the City of Port Alberni, weekly curbside collection of single-family residential waste is as a municipal service that is done by City staff. Like Tofino and Ucluelet, only two containers of waste are allowed per week. The cost per residence for this service is \$95 per year. Extra containers can be set out with a \$2 tag on each container. Outside the City, single-family residents can contract with a local waste hauler or self-haul their waste to the Alberni Valley landfill.

The City of Port Alberni collects waste from institutions (such as schools) and offers collection services to commercial establishments and multi-family buildings. Commercial establishments and multi-family buildings in the City and the valley can contract with the City, private waste collection companies or self-haul their waste to the landfill.

5.4.2 Landfills

5.4.2.1 West Coast Landfill

The West Coast Landfill is located adjacent to Pacific Rim National Park Reserve, between the Districts of Tofino and Ucluelet. The site is owned by ACRD and the operation is contracted out. Features of this site include:

- The site is open daily.
- Leachate generation is large in this area due to annual precipitation of roughly four metres. The leachate is collected in perimeter ditches and sprayed upon forested lands within the property boundary.
- There is no active landfill gas collection system and no known gas management issues.
- The site is fully bear-fenced.
- All material entering/leaving the site is weighed at the scale house.
- Nearby to the scale house, a drop-box area is available for use by small vehicles (cars and pick up trucks) to deposit garbage. The container will be transferred to the active filling area of the landfill when full.
- Large commercial waste collection containers unload their waste directly at the active face of the landfill.
- Tires are stockpiled at the site for future recycling.
- Scrap metal and lead-acid batteries are stockpiled for recycling.

5.4.2.2 Alberni Valley Landfill

The Alberni Valley Landfill is located on land leased by the ACRD from the Crown. The operation of the site is contracted out. Features of this site include:

- The landfill is open daily.
- Leachate is collected from the site and piped to the City of Port Alberni's wastewater treatment plant.

- Landfill gas is not actively collected. There are no known gas management issues.
- The site is bear-fenced.
- All material entering/leaving the site is weighed at the scale house.
- Nearby to the scale house is a drop-off area facility has an area for small vehicles (cars and pick up trucks) to deposit garbage, recyclable materials and yard waste.
- Large commercial waste collection containers unload their waste at the active face of the landfill.
- The active face is covered at the end of each day with a metal cover.
- Yard waste is composted at the site in static piles.
- Tires are stockpiled at the site for future recycling.
- Scrap metal, lead-acid batteries, metal appliances and used motor oil are collected and sent for recycling.

The contributing permanent population to this landfill is estimated to be 29,059, including First Nations communities that send their waste to the landfill.

5.4.2.3 *Closed Landfills*

There are three known closed sites that were used as municipal dumpsites in the past. The locations of these sites are:

- Anderson Avenue and Ship Creek Road in Port Alberni;
- Off the end of Broughton Street, near Johnston Road in Port Alberni; and
- 4.31 km south of the Tofino-Ucluelet junction, on the west side of the highway.

Owners of these properties will be encouraged to put restrictive covenants on title, or to register the sites on the provincial Contaminated Site Registry.

5.4.3 First Nations Waste Disposal

The status of the waste management systems for each of the First Nations communities in the ACRD is shown in Table 5-1.

INAC reports that issues arising from waste management on some of the communities in the area include:

- Waste management plans are needed for each of the communities to identify infrastructure and collection systems requirements
- The need to manage the existing dumping grounds to ensure they are safe.
- The need to manage bulk waste such as cars and appliances which are currently being dumped in and around some communities
- Lack of collection systems for hazardous wastes such as batteries and oil, which are also being dumped.

- The need for a more effective system of clearing dumped waste to prevent it from continuing.

Table 5-1. Status of Waste Management Facilities on First Nations Reserves¹¹

Community	Population	Current Waste Management Status
Nuu-chah-nulth First Nation		
Ahousaht	641	Unmanaged dumping ground (ocean litter and safety concerns)
Hesquiaht	185	Unknown
Tla-o-qui-aht	328	Unknown
Tseshah	405	Disposed at Alberni Valley Landfill
Hupaçasath	124	Unknown
Maa-nulth First Nation		
Huu-ay-aht	114	Unknown
Toquaht	13	Had an incinerator, currently transported by car to Ucluelet/West Coast landfill.
Uchucklesaht	25	Garbage transported on MV Lady Rose (disposed at Alberni Valley Landfill)
Ucluelet	210	Agreement with Sonbird for waste collection (disposed at West Coast Landfill)
Total	2,045	

5.4.4 Hazardous Waste Management

Hazardous wastes are prohibited from disposal at the ACRD's solid waste landfills.

For proper disposal of household hazardous waste (HHW), there are two Product Care depots in the ACRD. The one located at the Bottle Depot in Port Alberni is a "Paint Plus" depot that takes back waste paint, solvents, pesticides and fuels. The other, located at the Tofino recycling depot, takes back only waste paint. The Encorp bottle depot in Ucluelet receives electronic waste covered under the BC Electronic Stewardship regulation.

There are other HHW stewardship programs in BC, including one for pharmaceuticals and one for rechargeable batteries, that require residents to return spent products to participating retailers.

For commercial-scale generators of hazardous waste, proper disposal is the responsibility of the generators who must contract with a licensed operator to transport and disposal of the materials.

¹¹ Department of Indian Affairs and Northern Development - First Nations Profiles website: http://sdiprod2.inac.gc.ca/FNProfiles/FNProfiles_home.htm

5.5 Demolition, Land Clearing and Construction Waste

Construction and demolition debris is accepted at both landfills in the ACRD. Construction and demolition waste received at municipal solid waste landfills consists of primarily of wood and to a lesser extent, roofing materials, plastic and cardboard and other construction/renovation related materials. Metal is usually removed for recycling by the contractor. Concrete and pavement are often recycled or used as fill material, and consequently do not usually end up in municipal solid waste landfills.

On the West Coast, the District of Tofino has a site for disposal of stumps at a location called the Six Mile Stump Dump. This facility is open to the public to dump woody debris at the site for a charge of \$40 per truckload. A private contractor operates the site. Stumps are also received at the West Coast Landfill and by a private wood waste chipping operation located at the highway junction.

There are no known facilities for managing land clearing waste in the Alberni Valley.

5.6 Illegal Dumping

Illegal dumping of waste is a common affliction of rural areas in the ACRD and throughout British Columbia. In the ACRD, the problem is probably most pronounced in around the community of Bamfield where there is no readily available means of dealing with bulky wastes such as furniture and mattresses. The local logging roads have become a common destination for these items.

In urban and suburban areas of the ACRD, dumping of yard waste into empty lots, ditches and ravines is reportedly a common way to deal with an excess of organic waste. The problems with this practice are that dumping of yard waste frequently paves the way for others waste materials to become abandoned; and further, yard waste in ditches and ravines can choke riparian habitat or introduce pesticides and fertilizers into surface watercourses.

The Regional District has conducted clean-ups of illegal dumping sites in past years on an as-requested basis, on approval of the Regional Board.

5.7 Regulation and Policies

Regional District of Alberni- Clayoquot

West Coast Landfill Tipping Fee and Regulation Bylaw No R1009-01.

This bylaw outlines the charges and material restrictions at the West Coast Landfill. It also specifies controlled waste costs, hazardous/special waste considerations, inspection and weighing of materials and penalties for violations.

Alberni Valley Landfill Tipping Fee and Regulation Bylaw no R1013, 2003

This bylaw outlines the charges and material restrictions at the Alberni Valley Landfill. It also specifies controlled waste costs, hazardous/special waste considerations, inspection and weighing of materials and penalties for violations.

5.7.1 City of Port Alberni

Solid Waste Collection and Disposal Bylaw 4392

This bylaw outlines minimum specifications, accessibility, weight and placement of collection containers, including set-out times, fees and material restrictions. It also outlines the roles and responsibilities of property owners and the City to minimize risks, maximize safety and efficiency in waste collection.

Solid Waste Collection and Disposal Bylaw Amendment No 2 (Multiple Residential and Commercial Bin Rates) Bylaw 4485

This amendment outlines a slight increase in commercial and multi-family residential collection charges including additional 4yd³ collection containers.

5.7.2 District Of Tofino

Bylaw 857 District of Tofino Garbage Collection Regulation Bylaw No 857, 2000

This bylaw outlines collection times, fees and material restrictions for garbage collection. It outlines roles and responsibilities of property owners in managing their waste and maintaining their bin.

5.7.3 District of Ucluelet

Bylaw 960, 2004 District of Ucluelet Garbage Collection and Regulation Bylaw

This bylaw outlines collection times, fees and material restrictions for garbage collection. It outlines roles and responsibilities of property owners in managing their waste and maintaining their bin. It contains a list of fines and penalties for breaching the Bylaw and includes consideration for wildlife protection.

5.8 External Programs and Policies

The BC Environmental Management Act (EMA) was enacted in 2004 and is administered by the Ministry of Environment. It combined the Waste Management Act and the Environment Management Act to create a single statute governing environmental protection and management in British Columbia. The new act includes these regulatory regimes that impact upon solid waste management systems:

- *Hazardous Waste Regulation*, which sets out requirements for the storage, treatment and recycling of hazardous wastes.
- *Waste Discharge Regulation*, which defines which industries and facilities must comply with discharge requirements. Landfill operating certificates fall under this regulation.
- *Contaminated Site Regulation*, which defines and regulates uses for contaminated sites, including the use of closed landfills.
- *Organic Matter Recycling Regulation*, which sets out requirements for composting activities and facilities, as well as the sale of composted organic waste.
- *Recycling Regulation*, which defines the requirements of existing product stewardship programs and provides a legal framework for establishing new product stewardship programs.

The following are descriptions of the existing product stewardship programs established under Recycling Regulation.

5.8.1 Beverage Container Stewardship Program Regulation

BC was the first province to establish a mandatory deposit-refund system for soft drink and beer containers through the Litter Act in 1970. In 1997 the Beverage Container Stewardship Program Regulation replaced the outdated *Litter Act* to increase the range of materials regulated. It required all beverage brand-owners of ready-to-drink beverages — with the exception of milk, milk substitutes, liquid-meal replacements and infant formula — to establish a province-wide return collection system for beverage containers, under a deposit-refund system. The regulation established the goal of a minimum 85 percent recovery rate and requires that redeemed containers be either refilled or recycled.

This Beverage Container Stewardship program is now regulated by the Recycling Regulation. The Ministry of Environment is currently reviewing this program.

There are three main stewardship agencies, Encorp Pacific Canada who are responsible for non-alcoholic beverage containers (57.2% of beverage containers sold), Liquor Distribution Branch is responsible for wine, spirits, non-refillable beer, cider and cooler containers (9.6% of beverage containers sold) and Brewer's Distributed Limited is responsible for refillable glass bottles and aluminium cans for domestic beers, ciders and coolers (33.3% of beverage containers sold).

In ACRD the Encorp depots collecting these materials are in Port Alberni and Ucluelet. In addition most stores that sell liquor, beer and wine take back empty alcoholic beverage containers.

5.8.2 BC Lead Acid Battery Collection Program

In 1991 the Ministry of Environment implemented the BC Used Lead-Acid Battery Collection Program, the only initiative of its type in Canada. The battery program provides Transportation Incentive Payments (TIPS) as a form of funding assistance to ensure safe collection and transportation of end-of-life batteries from generators to an approved broker or processing facility. For Vancouver Island the transport incentive is 0.035 cents/lb. The objectives of the program are to recover at least 98% of all end-of-life vehicle batteries generated annually in BC, to ensure that end-of-life batteries generated anywhere in BC can be economically transported to a processor. Under the program, virtually 100% of the end-of-life lead-acid batteries generated annually in the province are recovered.

In addition, a \$5 environmental levy applies to purchases of new lead-acid batteries weighing two kilograms or more. The levy does not apply to rebuilt or reconditioned batteries, or new lead-acid batteries purchased solely to power an electric wheelchair or a three wheeled motorized device designed for the transportation of a person with a physical impairment.

In ACRD, lead acid batteries are currently being collected at the landfill sites and sold to scrap metal dealers.

5.8.3 Tire Stewardship BC

In response to the *Recycling Regulation*, in 2007 a not for profit organization called Tire Stewardship BC was formed to manage the scrap tire recycling program on behalf of tire retailers in the province. Effective January 01, 2007 new advance disposal fees are in effect and tire retailers are required to remit fees to Tire Stewardship BC to fund the collection and recycling of scrap tires in the Province.

5.8.4 Paints, Solvents/ Flammable Liquids, Gasoline & Pesticides (Product Care)

Product Care is a non-profit association established in response to the Recycling Regulation requiring brand owners of paint, solvents/flammable liquids, gasoline and pesticides to establish a

collection program for consumers to return leftover products. This Regulation is intended to provide consumers with a safe and convenient method to manage household hazardous waste (HHW) and reduce improper disposal.

There is one full Product Care Depot in ACRD, the Port Alberni Bottle Depot, which collects all the materials under this program. There is no charge to drop off program products. The collected material is reused, recycled or used for its energy value. Product Care's web site, www.productcare.org, contains information on the types of products accepted through the program. The Tofino Recycling Depot is a "Paint Only" Product Care depot, taking back waste paint, which is generally the largest component of HHW by volume.

5.8.5 Tree-Marking-Paint Stewardship Association

The Tree-Marking-Paint Stewardship Association was formed by brand owners and distributors of industrial aerosol paint to manage industrial aerosol containers. Industrial aerosol paint is sold primarily in bulk to the forest industry or surveyors for the marking of trees, roads and other surfaces. The collection facility in Port Alberni is Cokely Wire and Rope Ltd. There is currently a consultation paper reviewing the existing program (www.treepaint.ca).

5.8.6 Used Lubricating Oils, Filters and Containers Program

Since 2003 the British Columbia Used Oil Management Association (BCUOMA), a not-for-profit industry association, that administers the used oil, filter and container stewardship program, as a requirement of the Recycling Regulation. Used oil is collected at 7 locations in the Alberni Valley, including 6 automotive supply stores and the landfill; at First Choice Automotive in Ucluelet; and at Method Marine Supply and the Tofino Harbour Authority in Tofino.

5.8.7 Medications Return Program

Pharmaceuticals are a small but very important component of the waste stream affecting every household in British Columbia. Unused pharmaceuticals pose a significant health, safety and environmental hazard when improperly stored or disposed to the environment. In response to this concern, the pharmaceutical industry voluntarily established the Medications Return Program in 1996. Pharmaceutical producers are currently regulated under the Recycling Regulation and their program allows consumers to return (at no charge) their residual medications to most pharmacies in the province. As of 2004, over 90 per cent of pharmacies in the province participate in the return program.

The Residuals Management Group Ltd., through funding by the Post-Consumer Pharmaceutical Stewardship Association, administers the Medications Return Program.

In the ACRD there are 8 locations registered to accept used pharmaceuticals for safe disposal. In Port Alberni the drop off locations includes two Drugstore Pharmacy outlets, Pharmasave,

Shopper's Drug Mart, Safeway Pharmacy, Zellers Pharmacy & Clinic Pharmacy. Barry's Drugs Ltd in Ucluelet is the only registered location for the west coast.

5.8.8 Electronics Product Stewardship

The Recycling Regulation required the electrical and electronic industry to implement a product stewardship program. In response to this the Electronics Product Stewardship Canada (EPSC), a not-for-profit organization representing industry producers for electrical and electronic products, developed program that was implemented in August 2007 and delivered in partnership with Encorp Pacific Canada. Through this program, a depot has been set up in Ucluelet but at the time of preparing this report, in no other areas of the ACRD

The environmental handling fee is specific to product type. Fees and categories for British Columbia are: televisions – from \$15 to \$45 depending on size, computers - \$10, printers/scanners - \$8, laptop/notebooks - \$5, computer monitors- \$12.

5.9 Summary of Issues

During stakeholder interviews and site visits conducted during this planning process, several issues with current system were identified. These issues are list below and were considered in the development of options for the future ACRD waste management system.

Education and Promotion

- Lack of education and promotion programs in all aspects of waste management.

Reduction & Reuse

- No active programs to reduce the volume of waste generated (backyard composting, promotion of reuse ideas, etc.).

Recycling

- Lack of convenient recycling opportunities throughout the ACRD;
- Lack of coordination between recycling operations for material transportation and processing;
- Transportation costs;
- Minimal capital and operating support for recycling;
- Limited recycling facilities in Pacific Rim National Park Reserve;
- Minimal commercial recycling collection services on the West Coast;
- Lack of recycling services for businesses in Alberni valley;
- Dependence on volunteers to operate Ucluelet recycling system;
- Closure of the Ucluelet depot due to volunteer burn-out;
- No recycling services in Bamfield;
- Contamination of recyclables due to lack of education and unstaffed depots;
- Commercial users of recycling depots on the West Coast (due to lack of other infrastructure) results in too much material for small depots to handle;

- Lack of effective storage space on the West Coast for recyclables (to make shipping more cost effective); and
- Schools want to be able to recycle.

Composting

- No composting activities on the West Coast, but a strong interest in a community composting facility; and
- No active yard waste collection program in the Alberni Valley despite available composting facilities.

Waste Collection

- Improved roads needed to make transport of waste and recyclables more feasible;
- Lack of recycling system;
- Open burning of waste;
- Need commercial bins on West Coast to be wildlife proof (consistent with Bear Aware);
- Lack of an effective waste collection system in Bamfield (financially sustainable, discourages burning and illegal dumping);
- No large/bulky item disposal option in Bamfield; and
- No program to tackle illegal dumping and litter.

Landfills

- No disposal bans to encourage source-separation and recycling.

Hazardous waste

- Lack of awareness of hazardous waste management options for householders; and
- Inadequate infrastructure to manage non-stewardship hazardous materials.

Demolition, Land Clearing & Construction Waste

- No recycling/reuse infrastructure for construction, demolition and renovation wastes; and
- No effective means of dealing with land clearing waste on West Coast.

External Programs and Policies

- Provincial tire program not effectively dealing with tires brought to ACRD landfills;
- Lack of a full-service Product Care depot on West Coast; and
- No promotion/awareness campaign to promote use of stewardship programs, particularly those for household hazardous wastes.

Other

- Lack of regular, on-going tracking and reporting of disposal and diversion data.

6. 1996 Solid Waste Management Plan Implementation Status

In general, many of the 1996 Solid Waste Management Plan initiatives were implemented or are in the process of being implemented. Using the categories in the 1996 Plan, the following is an assessment of each category's implementation:

- **Education Strategies:** Not implemented
- **Fee structure (User Pay):** Fully implemented
- **Yard waste composting facilities in Alberni Valley:** Partially implemented. There are two known private composting contractors and an informal yard waste composting operation at the Alberni Valley Landfill. Source-separated yard waste can be dropped off at the Alberni Valley landfill.
- **Implement Product Stewardship Initiatives:** Implemented
- **Recycling:** Partially implemented, a broader range of materials accepted at depots since 1996 but there are no new depots and no promotion of recycling
- **West Coast Waste Reduction:** Partially implemented, a broader range of materials accepted at depots since 1996 but there are no new depots and no promotion of recycling or waste reduction education. Increased tipping fees are an incentive for businesses to recycle. No backyard composting program.
- **Bamfield:** Partially implemented, ACRD has acquired a site for a transfer station and recycling depot.
- **Alberni Valley:** Partially implemented, upgrades to landfill fully installed but no rural recycling depots put in place.
- **West Coast:** Implemented, significant upgrades to the West Coast Landfill
- **Plan Monitoring:** Partially implemented, all materials entering landfills are weighed, Plan Monitoring Committee was set up, but no system in place to track the amount of recycling and disposal in ACRD.

7. Future Solid Waste Management System

This section describes each component of the future solid waste management system for the ACRD. The components are organized into the following sections:

1. Reduction and Reuse;
2. Residential Recycling;
3. Industrial, Commercial and Institutional (ICI) Recycling;
4. Organic Waste Diversion;
5. Residual Waste Management;
6. Construction and Demolition Waste;
7. Land Clearing Waste;
8. Promotion and Education;
9. Bear and Wildlife Awareness;
10. Illegal Dumping Prevention;
11. Product Stewardship;
12. Land Use Planning; and
13. First Nations Linkages.

Because there are a number of sub-regional waste collection systems within the ACRD, where appropriate, the above listed sections are divided by location:

- City of Port Alberni;
- Alberni Valley;
- Bamfield;
- West Coast; and
- Region-wide.

7.1 Reduction and Reuse

These programs focus on minimizing the quantity of materials that need to be recycled or disposed.

7.1.1 Backyard Composting Program

The backyard composting program to encourage residents to compost yard waste at home will include the distribution of up to 1,000 backyard composters every other year (as long as demand is sustained), educational material and a promotion campaign. Educational material will include how to compost in a manner that is “Bear Aware”.

Implementation by: ACRD
 New Diversion Potential: <1% (25 tonnes/year for every 1,000 composters distributed)
 Start Up: 2008
 Staffing Implications: 3 weeks of a full-time equivalent staff (FTE) for one distribution
 Costs (for each distribution)

Backyard Composting Program		Start Up Cost	Operating
Composters	Purchased for \$40 each	\$40,000	
Composter Sales	Sold for \$30 each	-\$30,000	
Distribution	Done by distributor		\$0
Education Materials	Development and printing		\$600
Promotion			\$500
Total		\$10,000	\$1,100

7.1.2 Reuse Centre

A Reuse Centre operated by a local non-for-profit group is planned in the City of Port Alberni on City-owned property (next to the existing recycling depot). In support of the reuse centre, the City is providing the land and the ACRD will provide on-going operational funding as part of a contract to operate the adjacent recycling depot.

Implementation by: Local Non Profit Group, ACRD and City of Port Alberni
 New Diversion Potential: <1% (5-10 tonnes/year)
 Start Up: Dependent on not-for-profit group's timeline
 Staffing Implications: Three weeks of a FTE in first year. One week in subsequent years.
 Costs: Capital and operating costs incorporated into costs for recycling depot (see Section 7.2.1)

7.1.3 Share Sheds

Storage sheds at ACRD landfills and transfer sites will be established for site users to place reusable goods that can be taken by others at no cost.

Implementation by: ACRD
 New Diversion Potential: <1% (5-10 tonnes/year)
 Start Up: 2008 at the Bamfield Transfer Site, 2009 at the WCLF, 2011 at the AVLF
 Staffing Implications: 1-2 weeks of an FTE for the set up of each Share Shed
 No staffing implications once operational. Any operational costs would be included under the landfill/transfer station operating costs.

Costs:

		Start Up Cost	Operating
Bamfield	Modifications to existing building & signage	\$1,500	\$0
WCLF	Construction of share shed & signage	\$10,000	\$0
AVLF	Purchase of existing shed & signage	\$5,000	\$0

7.1.4 Reduced Can Limits

Where residential curbside collection of garbage is provided as a local government service, the weekly can limit will be reduced to one can per week. Additional cans will require that a tag be purchased. This reduction in the can limit provides a financial incentive to backyard compost, recycle and engage in waste reduction behaviours. This new can limit will be introduced at the same time as curbside recycling services are introduced.

Implementation by: City of Port Alberni and ACRD (on West Coast)
 New Diversion Potential: Supports residential recycling programs
 Start Up: 2008
 Staffing Implications: 2 weeks
 Costs: Associated promotion and education costs incorporated into the cost of the new curbside recycling programs

7.2 Residential Recycling

7.2.1 Curbside Recycling in the Alberni Valley

Curbside recycling services shall be provided to the residents of the City of Port Alberni and may be considered in the built up areas of the Alberni Valley. The cost of this service will be billed only to residences in the service area and participation in the service will be mandatory. There will be administrative costs associated with the utility billing of these new services. The service area may expand or be modified in the future based on demand.

The recycling program will be supported by promotion and education activities, reducing the weekly can limit to one can per week, and by a collection ban¹² on materials accepted in the recycling program (residents that put recyclable materials in their garbage will receive an infraction notice and may have their garbage left behind).

Implementation by: ACRD
 New Diversion Potential: 5%

¹² Collection bans are enforced at the point where waste is picked up by the collector. In the City of Port Alberni, the collection ban would be enforced by City garbage collection staff.

Start Up: 2008
 Staffing Implications: 0.5 FTE (for all ACRD residential recycling programs in the ACRD)
 Costs:

Residential Curbside Recycling in the Alberni Valley		Start Up Costs	Operating
Collection/processing contract	\$22 per household per year for 6,000 homes		\$132,000
Collection containers	Blue box and two reusable plastic bags	\$60,000	
Promotion and Education	Start up Information kits @ \$3/household	\$18,000	
Distribution of containers and kits	Based on 2 min per household and \$30 per hour delivery service	\$8,000	
Total for Curbside Recycling		\$86,000	\$132,000

7.2.2 Recycling Depots in the Alberni Valley

In the Alberni Valley, there will be staffed recycling depots at the landfill and on 4th Street in Port Alberni. The existing recycling depot on 4th Street, located on City of Port Alberni property, will be enhanced and become part of a local “eco-centre”, with a reuse centre adjacent and a privately-owned and operated bottle and Product Care depot located across the road.

Unstaffed recycling drop-off centres will be located in Sproat Lake and Beaver Creek. An additional drop-off centre will be sited in the Johnson Street corridor in Port Alberni in the future.

The collection, processing and marketing of the recyclables materials from the depots will also be contracted out.

Implementation by: ACRD
 New Diversion Potential: 1.5 % (370 tonnes/year)
 Start Up: 2008
 Staffing Implications: Included under 7.2.1
 Costs:

Alberni Valley Recycling Depots		Start Up Costs	Operating
4th St Depot			
Fencing, signage, lighting, site improvements		\$30,000	
Contracts for site operation and recycling collection/processing			\$100,000
Recycling Drop-Off Centres			
Site preparation for drop-off centres (Sproat Lake and Beaver Creek)		\$6,000	
Signage for both sites (Sproat Lake and Beaver Creek)		\$2,000	
Servicing contract (\$500/centre/month for Sproat Lake and Beaver Creek and Landfill)			\$18,000
Site Preparation, Signage and Collection for Johnson St depot (future)		\$4,000	\$6,000
Total		\$42,000	\$124,000

7.2.3 Bamfield

As part of the Waste Management Centre that will be developed on the east side of Bamfield (see Section 7.5.3), a recycling depot will be set up to receive household and commercial recyclables (cardboard, paper, and plastics), scrap metal and large appliances. The operation of this facility will be contracted out.

On the west side of Bamfield (water access only), recycling bins will be set up on the wharf. A contractor will transfer materials from the wharf to the Waste Management Centre.

Implementation by:	ACRD
New Diversion Potential:	<1 % (roughly 21 tonnes/year)
Start Up:	2008
Staffing Implications:	One month of an FTE in 2008 and one week per year in subsequent years
Costs:	See Section 7.5.3 - Bamfield Garbage Collection

7.2.4 West Coast

The ACRD will provide curbside recycling collection to all households on the West Coast, including Tofino, Ucluelet, Millstream and Port Albion. This collection service area may expand or be modified in the future based on demand. The service will be in conjunction with the curbside garbage collection program, which will also be managed by the ACRD¹³. The cost of this service will be billed only to residences¹⁴ in the service area and participation in the service will be mandatory. There will be administrative costs associated with the utility billing of these new services.

Recycling depots will be set up at the Tofino and Ucluelet public works yards, unless preferable sites are identified. Capital costs and the collection of materials from these depots will be the responsibility of the ACRD.

The curbside collection service, the supply of drop-off bins at the recycling depot and the collection of materials from the recycling depots will be contracted out. It is expected that all recyclable materials will be delivered to the West Coast Landfill, where they will be stored for shipping to a processing facility, unless a preferable alternative is identified

¹³ The ACRD will takeover the provision of residential garbage and recycling collection services once the current contracts with Districts of Ucluelet and Tofino expire.

¹⁴ Small businesses may also be included in the service area, but on a voluntary basis. If they opt for the curbside service, they would be billed accordingly for the level of service received.

Participation in the recycling program will be encouraged through promotion and education activities, a one-can limit on garbage (weekly), and a collection ban on recyclable materials in the residential garbage.

Implementation by: ACRD
 New Diversion Potential: 1.5% (8% from West Coast Landfill) – roughly 390 tonnes per year
 Start Up: 2008
 Staffing Implications: 3 months of an FTE in first year, 1 month/year in subsequent years

Costs

West Coast Recycling		Start Up Costs	Operating
Curbside recycling	Collection @ \$24/household for 1,625 homes.		\$39,000
	Blue box and two reusable plastic bags (\$10 per household)	\$16,000	
Depots	Bin rental (1 bin per site)		\$12,000
	Signage/site prep	\$3,000	
	Haulage – 70 hauls/yr, 3 hrs to service both sites, \$100/hr		\$21,000
Total		\$19,000	\$72,000

7.3 Industrial, Commercial and Institutional (ICI) Recycling

7.3.1 Disposal Bans

To encourage recycling by the ICI sector, disposal bans on recyclable materials such as cardboard, paper, metal, yard waste, and products covered under a product stewardship programs (e.g., paint, motor oil, pesticides, beverage containers, lead-acid batteries) will be implemented. As local diversion opportunities for additional materials are identified, banning those materials from disposal will also be considered. Implementation of bans will be based on the stability and capacity of the diversion option. Other potential disposal bans include wood waste and commercially generated food waste.

Enforcement of the bans would be phased in starting with advanced notice of upcoming bans, then notices (rather than financial penalties) for the first months of the ban’s implementation, and eventually implementing full-scale financial penalties (e.g. full scale penalties that could be double the tipping fees for loads containing banned materials)¹⁵.

Implementation by: ACRD
 New Diversion Potential: 15%
 Start Up: 2009

¹⁵ Double tipping fees are applied to loads containing banned materials at Regional District of Nanaimo and Cowichan Valley Regional District disposal facilities. Following the same protocol in the ACRD would provide greater consistency in waste management policies the central island area.

Staffing Implications: 2 months of an FTE in 2009. One month per year in subsequent years

Costs:

Disposal Bans		Start Up Costs	Operating
Stakeholder Meetings and Staff Training	(\$100 each for refreshments)	\$800	
Promotion and Education	Mailer to generators	\$1,500	
	Newspaper advertising	\$2,000	
	Media materials (press release, briefing kit, web notice)	\$700	
	Flyers for retailers & ACRD solid waste facilities	\$500	
	On-going printing of promotional materials		\$500
	Stakeholder Support Materials (e.g., bin stickers)	\$1,000	
Infraction Notices	Printing	\$800	\$200
Equipment (e.g. digital cameras)		\$1,000	
Total		\$8,300	\$700

7.3.2 Tourism Campaign

Due to the large volume of visitors to the region, promotion and education materials directed towards informing and encouraging proper waste management behaviours by visitors will be developed in consultation with the tourism associations. These materials would be intended for use in hotels, bed and breakfasts, campgrounds and other tourist accommodations.

Implementation by: ACRD/Tourism Associations
 New Diversion Potential: Supports ICI waste diversion
 Start Up: 2009
 Staffing Implications: One month of an FTE in 2009. One week per year in subsequent years

Costs:

Tourism Campaign	Start Up Costs	Operating
Development of Campaign Materials	\$7,000	
On-going revisions/printing		\$1,000

7.3.3 Green Business Campaign

The Green Business campaign will identify and recognize local businesses involved in recycling and other environmental initiatives. The campaign will aim to encourage residents, businesses and visitors to support those companies that have “gone green”. This campaign will be designed and implemented in cooperation with local business associations and Chambers of Commerce.

Implementation by: ACRD/Business Associations
 New Diversion Potential: Supports ICI waste diversion
 Start Up: 2009
 Staffing Implications: Three months of an FTE in 2009. One month per year in subsequent years

Costs:

Green Business Campaign	Start Up Costs	Operating
Development of Campaign Components	\$10,000	
On-going program maintenance		\$3,000

7.3.4 Small Business Curbside Collection on the West Coast

The curbside recycling collection service provided to residents on the West Coast will be available to small businesses whose recycling requirements are similar to a single-family home. Participation in the service will be voluntary and will require that the business be on established collection routes. Costs for the service would be the same as for households on the service. This service is intended to allow small businesses to comply with the disposal bans in a convenient and affordable manner.

Implementation by: ACRD
 New Diversion Potential: Included in diversion estimates for disposal bans
 Start Up: 2008
 Staffing Implications: One month of an FTE in 2008.
 Costs: \$24 per year per business for the equivalent recycling requirements of a household.

7.4 Organic Waste Diversion

7.4.1 City of Port Alberni and the Alberni Valley Yard Waste Depot

A seasonal yard waste depot will be set up on City of Port Alberni property to receive yard waste from residents. City staff and equipment will be used to load vehicles transferring the yard waste from the depot to the composting facility at the Alberni Valley Landfill or other available composting

facility. Residents can also drop off yard waste at the Alberni Valley Landfill. Commercial loads of yard waste will have to be delivered directly to the yard waste composting facility.

Yard waste collection will be supported by a ban on the collection of yard waste in residential garbage and a disposal ban at the landfill.

Implementation by: ACRD and City of Port Alberni
 New Diversion Potential: 4% (based on 50% of residential yard waste being captured in depot program)
 Start Up: 2008
 Staffing Implications: 4 weeks in 2008, 2 weeks per year of an FTE in subsequent years
 Costs:

Yard Waste Depot	Start Up Costs	Operating
Signage and site prep	\$2,500	
Loading (70 loads @ \$50 each)		\$3,500
Hauling (70 hauls @ \$150 each)		\$10,500
Promotion		\$1,000
Total	\$2,500	\$15,000

7.4.2 Composting Facility at the Alberni Valley Landfill

Yard waste collected at the Yard Waste Depot in Port Alberni or delivered directly to the landfill will be ground and composted at the landfill site. Alternative composting locations will be considered as long as these locations meet local and provincial bylaws and regulations. This facility will be operated in compliance with the BC Organic Matter Recycling Regulation.

Implementation by: ACRD
 New Diversion Potential: Included in the diversion estimates for the yard waste depots and disposal bans
 Start Up: 2008
 Staffing Implications: One month of an FTE in 2008. One week per year in subsequent years.
 Costs:

Composting Facility at the AVLFL	Start Up Costs	Operating
Grinding Contract		\$20,000
Equipment time		\$8,000
Operator Training	\$2,500	
Total	\$2,500	\$28,000

7.4.3 West Coast Yard Waste Composting

A yard waste composting facility will be set up at the West Coast Landfill. The facility will be supported by a ban on the collection of yard waste in residential garbage and a disposal ban at the landfill. This facility will be operated in compliance with the provincial Organic Matter Recycling Regulation. Alternative locations for composting will be considered as long as these locations meet local and provincial bylaws and regulations.

Implementation by: ACRD
 New Diversion Potential: 1% (based on 50% of available residential yard waste captured)
 Start Up: 2009
 Staffing Implications: 4 weeks in the first year and 2 weeks in subsequent years.
 Costs:

West Coast Yard Waste Composting	Start Up Costs	Operating
Site preparation	\$10,000	
Grinding (done in conjunction with wood waste grinding contract)		\$5,000
Operation (included in landfill operating contract costs)	\$0	\$0
Total	\$10,000	\$5,000

7.4.4 Composting Feasibility Study

A feasibility study done by consultants for the composting of food waste will be undertaken to assess:

- costs;
- diversion potential;
- community support (including willingness of the business sector to participate in source-separation);
- opportunities to link with other sources of compostable materials such as biosolids from wastewater treatment plants;
- infrastructure and space requirements; and
- local market potential for compost.

Implementation by: ACRD
 New Diversion Potential: 0
 Start Up: 2009
 Staffing Implications: 2 weeks by an FTE
 Costs: \$45,000

7.5 Residual Waste Management

7.5.1 Residential Garbage Collection

7.5.1.1 City of Port Alberni

The City of Port Alberni will continue to provide curbside garbage collection with City staff and vehicles. The weekly can limit will be reduced to one per week once the curbside recycling program is implemented. Additionally, materials included in the recycling program and yard waste will be banned from collection as garbage. City collection staff will be responsible for enforcing the can limit and the collection bans.

Implementation by:	City of Port Alberni
Start Up:	2008
Staffing Implications:	None for ACRD
Costs:	\$587,000 per year (based on \$97.75 per household) ¹⁶

7.5.1.2 Alberni Valley

No municipally provided curbside garbage collection is proposed for the remainder of the Alberni Valley; residential collection of garbage will remain self-haul except for individually-contracted private services. Residents and collection service providers will be expected to respect disposal bans on recyclable materials and yard waste. There are no cost or staffing implications for the ACRD associated with residential garbage collection services in the Alberni Valley.

7.5.1.3 West Coast

This service will be provided by the ACRD and contracted out to a private collection company beginning in 2008. The collection service area will expand beyond the municipalities of Tofino and Ucluelet to include households in Millstream and Port Albion. The service area boundaries may be modify in the future, based on service demand.

Implementation by:	ACRD
Start Up:	2008
Staffing Implications:	Included under West Coast Recycling Program
Costs:	\$241,000 per year (based on \$130 per household)

7.5.2 ICI Garbage Collection

As is currently the practice, all garbage and recycling collection services provided to the ICI and multi-family sector would continue to be handled by a privately contracted collection service or self-

¹⁶ This is a City of Port Alberni expenditure and is not included in the ACRD's waste management budget.

hauled by the generator. There are no cost or staff implications for the ACRD for the provision of ICI garbage collection services.

7.5.3 Bamfield Garbage Depots

The waste management infrastructure in Bamfield will consist of two drop off points:

1. A Waste Management Centre (to be constructed) on the east side of Bamfield which will act as a recycling depot, bulky item drop-off depot, reuse centre and solid waste transfer station.
2. A Waste Collection Area on the West Side Wharf where garbage and recycling containers will be available for use by residents, local businesses and visitors.

The operation of the Waste Management Centre will be contracted out. Waste collected at the Centre will be transferred to the Alberni Valley Landfill. Recyclable waste will be hauled to a recycling processor on Vancouver Island or to the recycling area of the Alberni Landfill for subsequent transfer to a recycling processor.

A marine service will transport garbage collected on the West Side Wharf to Port Alberni for disposal at the Alberni Valley Landfill. This transfer operation will continue until a less expensive/more efficient means of transfer can be identified. A contractor will transfer recyclables collected on the West Side Wharf to the Waste Management Centre or to Port Alberni.

Implementation by: ACRD
 Start Up: 2008 (East Side Transfer Station)
 Staffing Implications: One month of an FTE in 2008 and one week per year in subsequent years

Costs:

Bamfield Garbage Depots	Start Up Costs	Operating
West side		
Garbage removal		\$26,000
Recycling removal		\$3,400
East Side		
Site preparation	\$20,000	
Garbage removal - summer		\$5,400
Garbage removal - rest of year		\$9,600
Recycling removal		\$8,000
Large item removal		\$1,600
Staff		\$9,360
Education		\$600
Total	\$20,000	\$64,000

7.5.4 Alberni Valley Landfill

The Alberni Valley Landfill will continue to receive waste from City of Port Alberni, Electoral Areas A, B, D, E and F and First Nation communities in the area.

At the current fill rate (based on 2006 space consumption), the landfill is expected to reach capacity in 2096. However, it is anticipated that the future annual consumption of space will be less than what was experienced in 2006 due to increased waste diversion activities and projected population decreases¹⁷ and consequently the lifespan of the site should extend beyond 2096.

The landfill will operate in accordance with the *BC Landfill Criteria for Municipal Solid Waste* and the *Guidelines for Environmental Monitoring at Municipal Solid Waste Landfills*. A operating and closure plan for the landfill will be prepared and submitted to the Ministry in 2008. Further, operations personnel at the landfill will be required to have adequate training in landfill operations.

The Alberni Valley Landfill will not accept waste from outside the Regional District.

Implementation by: ACRD
 Start Up: On-going operation
 Staffing Implications: 8 weeks of an FTE per year
 Costs:

Alberni Valley Landfill (2008)	Capital	Operating
Operating Costs		\$953,000
<i>Operating Contract</i>		\$725,000
<i>Cover Material</i>		\$15,000
<i>Water Monitoring</i>		\$40,000
<i>Wood Waste Grinding</i>		\$15,000
<i>Other Operating Costs</i>		\$158,000
Capital Works Fund Contribution	\$400,000	
Operations and Closure Plan	\$20,000	
Closure and Post Closure Fund Contribution		\$100,000
Administration Charge		\$60,000
Total	\$420,000	\$1,113,000

7.5.5 West Coast Landfill

The West Coast Landfill (WCLF) will continue to receive waste from Tofino, Ucluelet, Electoral Area C and Indian Reserves in the area. At the current fill rate (based on 2006 space consumption), the landfill is expected to reach capacity in 2095.

¹⁷ Population projections for the ACRD (2006-2031) by BC STATS, Service BC, BC Ministry of Labour and Citizens' Services.

At present (2007), the WCLF is considered by the BC Ministry of the Environment to be out of compliance with its provincial operational certificate in the following regards:

- Leachate quality at the property boundary has had occurrences of exceeding water quality criteria; and
- A site development, operating and closure plan has not been submitted to Ministry

To come into compliance with its provincial operational certificate and to ensure that the landfill is operating in accordance with the *BC Landfill Criteria for Municipal Solid Waste*, the following tasks will be undertaken:

- An assessment of the leachate collection treatment system in 2008 and 2009 to determine what infrastructure is required to ensure no off-site impacts associated with landfill leachate.
- Once the costs of upgrading the leachate collection treatment system are known, an assessment of the long-term costs of operating the landfill will be compared to closing the landfill and transferring the residual waste to the Alberni Valley Landfill. This cost comparison will include total costs for capital, operating, maintenance, monitoring, closure and post-closure costs, as well as contingency for possible future requirements. This assessment will also consider social and environmental factors. This assessment will be undertaken in 2009.
- If the WCLF is to be maintained:
 - The ACRD will undertake upgrades to the leachate collection system in 2010 to meet or exceed Ministry requirements and guidelines;
 - The ACRD will prepare a operations and closure plan for the site and any other required plans (as required by the Ministry) and submit it to the Ministry of Environment in 2010;
 - The landfill will operate in accordance with the *BC Landfill Criteria for Municipal Solid Waste* and the *Guidelines for Environmental Monitoring at Municipal Solid Waste Landfills*; and
 - Operations personnel at the landfill will be required to have adequate training in landfill operations.

The above tasks will be done in consultation with the ACRD's Plan Monitoring Advisory Committee (Section 10.3.1), the Ministry of the Environment and the Regional Board.

Implementation by:	ACRD
Start Up:	On-going operation
Staffing Implications:	12 weeks of an FTE in 2008, 9 weeks per year in subsequent years
Costs:	See table on next page

West Coast Landfill	Capital	Operating
Operating Costs		\$612,000
<i>Operating Contract</i>		\$500,000
<i>Cover Material</i>		\$0
<i>Water Monitoring</i>		\$50,000
<i>Wood Waste Grinding</i>		\$15,000
<i>Other Operating Costs</i>		\$47,000
Capital Costs		
<i>Wood Waste Storage Pad</i>	\$150,000	
Capital Works Fund Contribution	\$20,000	
Closure and Post Closure Fund Contribution		\$20,000
Administration		\$30,000
Studies – Leachate Management and Cost Comparison of Future Alternatives	\$20,000	
Operations and Closure Plan	\$25,000	
Total	\$215,000	\$662,000

7.5.6 Landfill Gas

A provincial regulation that addresses the management of landfill gas is anticipated in the near future. The ACRD is committed to minimizing the impact of landfill gas due to its implications as a greenhouse gas and will aim to comply with the requirements of the new regulation.

7.5.7 Disposal of Nuisance Waste

Hazardous waste is not accepted at any ACRD solid waste facility, unless authorized by the BC Hazardous Waste Regulation and ACRD bylaw.

As per ACRD bylaws, the ACRD landfills will continue to receive the following waste materials from generators within the ACRD, provided that the waste generator provides appropriate notice and permits (as required):

- Asbestos,
- Animal carcasses (small quantities); and
- Hydrocarbon contaminated soils.

The landfills will not receive for disposal any liquid or odorous wastes such as fish/aquaculture mortalities, septage or waste oils. These materials must be sent to a recycling or composting facility, or other disposal facility permitted to receive these materials.

Biosolids and sewage sludge from wastewater treatment plants in the ACRD can be received at the ACRD landfills with advanced approval from the Regional District. If a composting facility or other preferable option is available in the ACRD, it is expected that biosolids will be managed through these options rather than disposed at the landfill. A local composting operation may require additional biosolids from outside the ACRD in order to be viable. Import of biosolids for composting or other treatment options will be considered by the ACRD on a case-by-case basis.

7.5.8 Burning Restrictions

Due to human health and fire risks associated with open burning of waste materials, the ACRD aims to minimize the amount of this practice.

Burning of Garbage

A region-wide bylaw that prohibits the open burning of municipal solid waste (garbage) will be developed.

Burning of Yard Waste

Once yard waste collection and composting facilities are in place, the ACRD will work with member municipalities to encourage a ban on open burning of yard waste within municipal boundaries. Burning of yard waste in electoral areas must be conducted in compliance with the BC Open Burning Smoke Control Regulation.

Implementation by:	ACRD
Start Up:	2008
Staffing Implications:	4 weeks in 2008, and 1 week of an FTE (bylaw enforcement) per year once bylaws enacted
Costs:	\$0

7.6 Construction and Demolition (C&D) Waste

The ACRD will work with municipalities to identify acceptable methods to encourage deconstruction, C&D waste recycling and LEED-oriented construction projects. Methods may include:

- variable permit fees (deconstruction vs. demolition permits);
- reduced fees for LEED-certified¹⁸ or other design-for-environment construction projects;
- mandatory solid waste management plans for new construction of a minimum size; and
- set tipping fees to encourage source separation of recyclable materials.

A recycling system for clean wood waste that involves chipping wood waste for use as chip base or hog (boiler) fuel will be developed at both landfills. Source-separation of wood waste will be encouraged through variable tipping fees, and eventually through a disposal ban.

¹⁸ *Leadership in Energy and Environmental Design (LEED) Green Building Rating System*

Implementation by:	ACRD and Municipalities
New Diversion Potential:	7% (based on 50% diversion of C&D waste). Depends on which initiatives are implemented
Start Up:	2011
Staffing Implications:	Nine weeks of an FTE to develop and implement strategy
Costs:	Depends on which initiatives are implemented

7.7 Land Clearing Waste

Land clearing waste will be managed in one of the following manners:

- Chipped and left on site;
- Burned in compliance with the BC Open Burning Smoke Control Regulation and municipal bylaws; or
- Brought to a chipping/grinding operation or a permitted disposal facility.

There is a land clearing waste disposal facility in Tofino, which is owned by the District of Tofino. The District of Tofino has prepared a closure plan for this site and anticipates closure between 2012 and 2014.

Implementation by:	ACRD and Municipalities
Start Up:	2008
Staffing Implications:	One week of an FTE
Costs:	\$0

7.8 Promotion and Education

Education and promotion are key to supporting implementation and maintenance of successful waste management programs. In addition to program-specific information included within many of the components presented above (e.g., in support of residential recycling, yard waste collection, disposal bans, etc.), this section outlines additional promotional and education components of the Plan.

7.8.1 Web Directory

Establish a web-based directory for reuse and recycling opportunities in the ACRD on ACRD's web site. Data to be updated through an annual review of the listings.

Implementation by:	ACRD
New Diversion Potential:	Support mechanism for waste diversion activities

Start Up:	2008
Staffing Implications:	5 weeks for initial development, one week for annual maintenance thereafter
Capital Costs:	\$0 (assumes ACRD staff develop web pages and content)
Annual Operating Costs:	\$0

7.8.2 Recycling Hotline

Provide funding to the Recycling Council of BC for operation of the hotline. Promote the hotline to ACRD residents and businesses.

Implementation by:	ACRD
New Diversion Potential:	Support mechanism for waste diversion activities
Start Up:	On-going program
Staffing Implications:	None
Annual Costs:	\$1,000 (contribution to RCBC)

7.8.3 School Program

The ACRD will deliver “zero waste” education workshops to schools. The program materials developed by other BC local governments will be used as the basis for the program.

Implementation by:	ACRD
New Diversion Potential:	Support mechanism for waste diversion activities
Start Up:	2009
Staffing Implications	10 weeks of a FTE in first year, 6 weeks in subsequent years
Costs:	\$5,000 for production of educational materials

7.9 Bear-Human Conflict Management

The ACRD is home to a large population of black bears that are integral to the local ecosystem. Developing and maintaining a bear-proof solid waste management system will enhance public safety and prevent the unnecessary destruction of bears. The following policies and practices will be enacted by the ACRD and local municipalities:

Waste Management Facility Requirements

All government-owned waste management facilities that handle putrescible solid waste, including transfer stations, landfills, recycling facilities and composting facilities, located in areas that are accessible to, or frequented by bears, are bear-proofed. Landfills in particular have a properly designed, constructed and operated electric fence.

Public Waste Receptacles

Litter and recycling receptacles in public areas such as ballparks, parks, trailheads and municipal roadways are approved bear proof containers.

Waste Collection Bylaws

Waste collection bylaws contain requirements that minimize the opportunities for bears and other wildlife to access waste. Such requirements will include:

- Bear-proof garbage storage of residential waste prior to collection;
- Specific time for residential curbside set out of waste on day of pick-up;
- Mandatory use of approved containers by residents and criteria for approved residential containers; and
- Mandatory use of approved bear proof collection containers by commercial waste generators that set out putrescible waste for collection and criteria for approved bear-proof commercial collection containers.

Awareness and Education

On-going awareness and education campaign for waste generators that addresses “bear awareness”. Backyard composting education materials will address how to compost in a manner that does not attract wildlife into residential areas.

Implementation by:	ACRD, Municipalities, Local Bear Aware Groups
Start Up:	On-going
Staffing Implications:	2 weeks per year for an FTE
Costs:	\$500 per year for education materials

7.10 Illegal Dumping Prevention

Illegal dumping of waste is a common affliction of rural areas in the ACRD and throughout British Columbia. In the ACRD, the problem is probably most pronounced in around the community of Bamfield where there is no readily available means of dealing with bulky wastes such as furniture and mattresses. The local logging roads have become a common destination for these items.

Specific initiatives to reduce illegal dumping include:

- Waive tipping fee policy for organizations cleaning up illegal dumping sites;
- Develop a fund for clean-ups by community groups; and
- Implement an anti-dumping bylaw (in 2009).

Implementation by:	ACRD
Start Up:	2008
Staffing Implications:	One week per year
Costs:	\$15,000 for community clean-up fund

7.11 Product Stewardship

The BC Ministry of Environment administers the Environmental Management Act (EMA) that includes a Recycling Regulation. The Recycling Regulation mandates several product stewardship programs and provides a legal framework for establishing new programs. As described in Section 5.8, the following programs are currently implemented under the Recycling Regulation:

- Beverage Container Stewardship Program Regulation;
- BC Lead Acid Battery Collection, Transportation Incentive Payments;
- Tire Stewardship BC;
- Paints, Solvents/ Flammable Liquids, Gasoline & Pesticides (Product Care);
- Tree-Marking-Paint Stewardship Association;
- Used Lubricating Oils, Filters and Containers Program;
- Medications Return Program; and
- Electronics Product Stewardship.

Initiatives to encourage and support Product Stewardship in the ACRD to be implemented include:

- Continued participation on the Local Government Stewardship Council to encourage expansion of stewardship initiatives in BC and Canada;
- Encourage all product stewardship programs to be available in the ACRD; and
- Promote stewardship programs and opportunities to ACRD residents and visitors.

Implementation by:	ACRD
New Diversion Potential:	<1% (by weight) – though any stewardship program focus on waste products that have a high level of toxicity if released into the environment
Start Up:	2008
Staffing Implications:	Two weeks per year for an FTE
Costs:	\$0

7.12 Land Use Planning

Many waste management companies have difficulty in siting their operation due to lack of appropriately zoned land. As a result, facilities that provide additional diversion opportunities, such as composting facilities cannot be sited. ACRD waste management staff will work with regional and municipal planners to increase recognition of this dilemma, work on appropriate zoning and identify land for waste management facilities to ensure that appropriate land with adequate buffers is available for waste management operations.

Implementation by:	ACRD
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Start Up: 2008
Staffing Implications: One week per year
Costs: \$0

7.13 First Nations Linkages

To ensure proper and cost-effective management of municipal solid waste generated in First Nations communities within the ACRD, the ACRD will liaise on an on-going basis with local First Nations to:

- identify future disposal requirements at ACRD facilities;
- identify opportunities to work together for waste management servicing (e.g., recycling collection); and
- develop service agreements.

Implementation by: ACRD
Start Up: On-going
Staffing Implications: 2 weeks per year for an FTE
Costs: \$0

8. Summary of Plan Components

8.1 Diversion

Table 8-1 presents the estimated new diversion from each of the Plan components that can be achieved upon full implementation. The current waste diversion rate is 15%; with the implementation of this plan, the diversion from landfill is expected to increase by 39% for an overall diversion rate of 54%.

Table 8-1. Estimated Diversion

Plan Component	Estimated New Diversion
	%
Reduction & Reuse	
Backyard Composting Program	<1%
Re-Use Centre	<1%
Share Sheds	<1%
Reduced Can Limits	Supports residential recycling and composting
Residential Recycling	
City of Port Alberni	5%
Alberni Valley	1.50%
Bamfield	<1%
West Coast	1.50%
ICI Recycling	
Disposal Bans	15%
Tourism Campaign	Supports commercial recycling
Green Business Campaign	Supports commercial recycling
Small Business Collection on West Coast	Included under "Disposal Bans"
Organic Waste Diversion	
Port Alberni/Alberni Valley Yard Waste Collection	4%
Composting at the AVLF	Included under "Port Alberni/Alberni Valley Yard Waste Collection"
West Coast Yard Waste Collection & Composting	1%
West Coast Composting Feasibility Study	0%
Residual Waste Management	0%
Construction & Demo Waste Management	7%
Land Clearing Waste Management	1.50%
Promotion & Education	Supports all waste diversion programs
Bear Awareness	0%
Illegal Dumping Prevention	0%
Product Stewardship	<1%
Land Use Planning	0%
First Nations Linkages	Unknown
Total Estimated New Diversion	39.0%

8.2 Targets

The ACRD currently disposes of 790 kg per capita per year (2.16 kg per capita per day). With the implementation of this plan, the recycling rate is expected to increase and the disposal rate is expected to decrease. The targets for the ACRD are:

For the Alberni Valley Landfill catchment area, the targets are based on disposal rates as the ACRD provides the only disposal facility in the area. The targets for this catchment are:

- By 2009 – 700 kg/cap/yr or 1.9 kg/cap/day
- By 2011 – 600 kg/cap/yr or 1.6 kg/cap/day
- By 2013 – 500 kg/cap/yr or 1.3 kg/cap/day
- By 2015 – 400 kg/cap/yr or 1.1 kg/cap/day

For the West Coast Landfill catchment area, the targets are based on recycling rates, as the disposal rate may not be an accurate reflection of progress since is highly affected by the annual success of the tourism industry. It is anticipated that the West Coast Landfill will be the central delivery area for recyclables collected on the west coast, so that the recycling rate would be a better measure of progress towards the diversion targets. The targets for this catchment are:

- By 2009 – 20% recycling, 80% disposal
- By 2011 – 30% recycling, 70% disposal
- By 2015 – 50% recycling, 50% disposal

9. Implementation

Table 9-1 provides an implementation schedule for the components of the Plan for 2007 through to 2012. Implementation progress will be monitored by the Plan Monitoring Committee. If the ACRD has not or cannot implement a critical component of this Plan or meet the waste reduction targets, the Plan Monitoring Committee will be encouraged to make recommendations to the Board for remedial or alternate courses of action.

**ACRD Solid Waste
Management Plan**

Table 9-1 Implementation Schedule

Plan Component	2008	2009	2010	2011	2012	2013
Reduction & Reuse						
Backyard Composting Program	IMPLEMENTATION		IMPLEMENTATION		IMPLEMENTATION	
Reuse Centre						
Share Sheds						
<i>At Alberni Valley Landfill</i>				IMPLEMENTATION		
<i>At West Coast Landfill</i>		IMPLEMENTATION				
<i>At Bamfield Waste Management Centre</i>	IMPLEMENTATION					
Reduced Can Limits (Port Alberni and West Coast)	IMPLEMENTATION					
Residential Recycling						
City of Port Alberni						
<i>Curbside Recycling Depot</i>	IMPLEMENTATION					
Alberni Valley						
<i>Cherry Creek Curbside</i>	IMPLEMENTATION					
<i>Sproat Lake and Beaver Recycling Recycling Depots</i>	IMPLEMENTATION					
<i>Enhanced Recycling Services at AVLF</i>	IMPLEMENTATION					
Bamfield	IMPLEMENTATION					
West Coast						
<i>Depots</i>	IMPLEMENTATION					
<i>Curbside</i>	IMPLEMENTATION					
ICI Recycling						
Disposal Bans		IMPLEMENTATION				
Tourism Campaign			IMPLEMENTATION			
Green Business Campaign			IMPLEMENTATION			
Small Business Collection on West Coast	IMPLEMENTATION					
Organic Waste Diversion						
Port Alberni/Alberni Valley Yard Waste Collection	IMPLEMENTATION					
Composting at the AVLF	IMPLEMENTATION					
West Coast Yard Waste Collection & Composting		IMPLEMENTATION				
West Coast Composting Feasibility Study		FEASIBILITY STUDY				
Residual Waste Management						
City of Port Alberni Garbage Collection	ON-GOING SERVICE					
West Coast Garbage Collection (ACRD as service provider)	IMPLEMENTATION					
Bamfield Waste Management Centre - East Side Transfer Station	IMPLEMENTATION					
Bamfield West Wharf Garbage Collection	ON-GOING SERVICE					
Alberni Valley Landfill	ON-GOING SERVICE					
West Coast Landfill	ON-GOING SERVICE					
West Coast Landfill Operation and Closure Plan			PLAN PREPARED	IMPLEMENTATION		
Bans on Open Burning	IMPLEMENTATION					
Construction & Demo Waste Diversion Strategy				IMPLEMENTATION		
Land Clearing Waste Re-Use	IMPLEMENTATION					
Promotion & Education						
<i>Web-based Recycling and Reuse Directory</i>	IMPLEMENTATION					
<i>Recycling Hotline</i>	IMPLEMENTATION					
<i>School Program</i>		IMPLEMENTATION				
Bear Awareness	ON-GOING SERVICE					
Illegal Dumping Prevention	IMPLEMENTATION					
Product Stewardship	ON-GOING SERVICE					
Land Use Planning	IMPLEMENTATION					
First Nations Linkages	ON-GOING SERVICE					

10. Plan Financing and Staffing

10.1 Staffing

Table 10-1 outlines the staffing requirements to implement the Plan. As shown, from 2008 onwards, staffing requirements are estimated to range from 1.6 to 2.2 full-time equivalent employees (based on 48 weeks / 1800 hours per year for each FTE). Consequently the budget in Section 10.2 reflects the hiring of a Waste Reduction Coordinator to assist in the implementation of the Plan and the on-going operation of programs and infrastructure. Contract staff, co-op students and consultants will be hired as needed to meet additional staffing requirements.

10.2 Estimated Expenditures

Table 10-2 presents an estimate of the expenditures and revenues over a five-year period for implementation of the Plan. This spreadsheet is intended for direct application to the ACRD's budgeting process. Municipal service costs, such as the City of Port Alberni's residential garbage collection service, are not included in the table. In general, the costs presented are estimates based on current service pricing in the ACRD and surrounding regional districts. Actual costs will only be determined once products and services are solicited by the ACRD.

10.2.1 Cost Recovery Mechanisms

Cost recovery mechanisms that will be utilized to fund the Plan's implementation include:

- User fees;
- Tipping fees;
- Taxation;
- Product Sales
- Grants, and
- Sponsorships.

Reflecting the guiding principles of this Plan, user-pay and market-based incentives will be applied to the provision of solid waste services wherever appropriate. Opportunities for sponsorship and grants will be explored to assist in the funding of programs.

**ACRD Solid Waste
Management Plan**

Table 10-1 Staffing Implications

This table outlines the staff requirements, in weeks for one “full-time equivalent” staff person (FTE), for each component of the Plan. The use of “incl” in this table refers to the staffing requirement being included under a related Plan component.

Plan Component	2008	2009	2010	2011	2012	2013
Reduction & Reuse						
Backyard Composting Program	3		3		3	
Reuse Centre	3	1	1	1	1	1
Share Sheds						
<i>At Alberni Valley Landfill</i>				2		
<i>At West Coast Landfill</i>		2				
<i>At Bamfield Waste Management Centre</i>	2					
Reduced Can Limits (Port Alberni and West Coast)	2					
Residential Recycling	24	24	24	24	24	24
City of Port Alberni						
<i>Curbside</i>	incl	incl	incl	incl	incl	incl
<i>Recycling Depot</i>	incl	incl	incl	incl	incl	incl
Alberni Valley						
<i>Cherry Creek Curbside</i>	incl	incl	incl	incl	incl	incl
<i>Sproat Lake and Beaver Recycling Recycling Depots</i>	incl	incl	incl	incl	incl	incl
<i>Enhanced Recycling Services at AVLF</i>	2	incl	incl	incl	incl	incl
Bamfield	4	1	1	1	1	1
West Coast						
<i>Curbside</i>	incl	incl	incl	incl	incl	incl
<i>Depots</i>	2	incl	incl	incl	incl	incl
ICI Recycling						
Disposal Bans		9	4	4	4	4
Tourism Campaign		4	1	1	1	1
Green Business Campaign		15	4	4	4	4
Small Business Collection on West Coast	4	incl	incl	incl	incl	incl
Organic Waste Diversion						
Port Alberni/Alberni Valley Yard Waste Collection	4	2	2	2	2	2
Composting at the AVLF	4	1	1	1	1	1
West Coast Yard Waste Collection & Composting		4	2	2	2	2
West Coast Composting Feasibility Study		2				
Residual Waste Management						
City of Port Alberni Garbage Collection	0	0	0	0	0	0
West Coast Garbage Collection (ACRD as service provider)	incl	incl	incl	incl	incl	incl
Bamfield Waste Management Centre - East Side Transfer Station	4	1	1	1	1	1
Bamfield West Wharf Garbage Collection	2	1	1	1	1	1
Alberni Valley Landfill	8	8	8	8	8	8
West Coast Landfill	12	9	9	9	9	9
West Coast Landfill Operation and Closure Plan	incl	incl	incl	incl	incl	incl
Bans on Open Burning	4	1	1	1	1	1
Construction & Demo Waste Diversion Strategy				9	4	2
Land Clearing Waste Re-Use	2	2	1	1	1	1
Promotion & Education						
<i>Web-based Recycling and Reuse Directory</i>	5	1	1	1	1	1
<i>Recycling Hotline</i>	0	0	0	0	0	0
<i>School Program</i>		10	6	6	6	6
Bear Awareness	2	2	2	2	2	2
Illegal Dumping Prevention	1	1	1	1	1	1
Product Stewardship	2	2	2	2	2	2
Land Use Planning	1	1	1	1	1	1
First Nations Linkages	2	2	2	2	2	2
FTE weeks	99	106	79	87	83	78

Table 10-2 Estimated ACRD Expenditures

Region and Service					
Reduction and Reuse	2008	2009	2010	2011	2012
Backyard Composting Program					
Capital Costs	\$10,000	\$0	\$10,000	\$0	\$10,000
Operating Costs	\$1,100		\$1,100		\$1,100
Reuse Centre (included in Port Alberni recycling depot costs)					
Share Shed					
Capital Costs	\$1,500	\$10,000	\$0	\$5,000	\$0
Operating Costs	\$0	\$0	\$0	\$0	\$0
Reduce Can Limits (included in curbside recycling program costs)					
Residential Recycling					
Alberni Valley Curbside Recycling					
Capital Costs	\$86,000	\$0	\$0	\$0	\$0
Operating Costs	\$132,000	\$132,000	\$132,000	\$132,000	\$132,000
Alberni Valley Recycling Depots and Drop Off Centres					
Capital Costs	\$38,000	\$4,000	\$0	\$0	\$0
Operating Costs	\$118,000	\$124,000	\$124,000	\$124,000	\$124,000
Bamfield Recycling (included in Bamfield Waste Management Centre costs)					
West Coast Curbside Recycling					
Capital Costs	\$16,000	\$0	\$0	\$0	\$0
Operating Costs	\$39,000	\$39,000	\$39,000	\$39,000	\$39,000
West Coast Recycling Depots					
Capital Costs	\$3,000	\$0	\$0	\$0	\$0
Operating Costs	\$33,000	\$33,000	\$33,000	\$33,000	\$33,000
ICI Recycling					
Disposal Bans					
Capital Costs	\$0	\$8,300	\$0	\$0	\$0
Operating Costs	\$0	\$0	\$700	\$700	\$700
Tourism Campaign					
Capital Costs	\$0	\$7,000	\$0	\$0	\$0
Operating Costs	\$0	\$0	\$1,000	\$1,000	\$1,000
Green Business Campaign					
Capital Costs	\$0	\$10,000	\$0	\$0	\$0
Operating Costs	\$0	\$0	\$3,000	\$3,000	\$3,000
Organic Waste Diversion					
City of Port Alberni and Valley Yard Waste Collection					
Capital Costs	\$2,500	\$0	\$0	\$0	\$0
Operating Costs	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Composting Facility at AVLF					
Capital Costs	\$2,500	\$0	\$0	\$0	\$0
Operating Costs	\$28,000	\$28,000	\$28,000	\$28,000	\$28,000
West Coast Yard Waste Collection and Composting					
Capital Costs	\$0	\$10,000	\$0	\$0	\$0
Operating Costs	\$0	\$5,000	\$5,000	\$5,000	\$5,000
West Coast Composting Feasibility Study					
Capital Costs	\$0	\$0	\$0	\$0	\$0
Operating Costs	\$0	\$45,000	\$0	\$0	\$0

Table 10-2 Estimated ACRD Expenditures

Residual Waste Management					
Port Alberni Residential Garbage Collection (Service provided by the City)					
Alberni Valley Residential Garbage Collection (Privately managed)					
West Coast Residential Garbage Collection					
Capital Costs	\$0	\$0	\$0	\$0	\$0
Operating Costs	\$241,000	\$241,000	\$241,000	\$241,000	\$241,000
ICI Garbage Collection (Privately managed)					
Bamfield Garbage Collection					
Capital Costs	\$20,000	\$0	\$0	\$0	\$0
Operating Costs	\$64,000	\$64,000	\$64,000	\$64,000	\$64,000
Alberni Valley Landfill					
Capital Costs	\$420,000	\$400,000	\$400,000	\$400,000	\$400,000
Operating Costs	\$1,113,000	\$1,113,000	\$1,113,000	\$1,113,000	\$1,113,000
West Coast Landfill					
Capital Costs	\$40,000	\$170,000	\$45,000	\$20,000	\$20,000
Operating Costs	\$662,000	\$662,000	\$662,000	\$662,000	\$662,000
Promotion and Education					
Recycling Hotline					
Capital Costs	\$0	\$0	\$0	\$0	\$0
Operating Costs	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
School Program					
Capital Costs	\$0	\$5,000	\$500	\$500	\$500
Operating Costs	\$0	\$0	\$0	\$0	\$0
Bear Awareness Program					
Capital Costs	\$0	\$0	\$0	\$0	\$0
Operating Costs	\$500	\$500	\$500	\$500	\$500
Illegal Dumping Prevention Program					
Capital Costs	\$0	\$0	\$0	\$0	\$0
Operating Costs	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Staffing (Recycling/Waste Mangement Coordinator)	\$62,000	\$62,000	\$62,000	\$62,000	\$62,000
Total Costs					
Total Capital	\$639,500	\$624,300	\$455,500	\$425,500	\$430,500
Total Operating	\$3,164,100	\$3,203,800	\$2,995,800	\$2,964,700	\$2,970,800
Total Annual Cost	\$3,803,600	\$3,828,100	\$3,451,300	\$3,390,200	\$3,401,300

10.2.2 Regionalization of Waste Management Services

The ACRD's waste management services are presently operated by three service areas:

1. Alberni Valley Landfill Service Area
2. Bamfield Garbage Disposal Service Area
3. West Coast Landfill Service Area.

With the implementation of this Plan, all of the ACRD's solid waste management services will be operated as one regional service area. This approach will evenly distribute costs and revenues associated with solid waste programs and infrastructure.

10.3 Plan Monitoring And Evaluation

10.3.1 Plan Monitoring Advisory Committee

The Plan Monitoring Committee will be monitoring the implementation on the Plan and report directly to the Regional Board. Committee members will:

- Review and become familiar with the Solid Waste Management Plan;
- Review and become familiar with the existing solid waste management system in the ACRD;
- Identify methodologies to be employed in the monitoring and evaluation of the Plan's implementation;
- Monitor the implementation of the Plan and annually report on the effectiveness of the SWMP at achieving its objectives; and
- Make recommendations to increase the effectiveness of the Plan or the solid waste management system.

The committee membership will strive to have a broad representation of interests including local government, First Nations, the waste management industry, environmental organizations, the business sector, the residential sector and senior governments. Additionally, selection of members will attempt to create a committee with a balance of representation geographically, demographically, and with a variety of interests and perspectives. Representation of the Regional Board should be limited to no more than one member. This member would act as a liaison between the committee and the Board in an advisory capacity.

In general there will be 3 meetings per year of the committee with the provision for additional meetings, workshops or other presentations at the committee's discretion.

10.3.2 Plan Evaluation

On an annual basis, staff will compile data that reflects the status of the Plan's implementation and progress toward waste reduction targets. This data will be provided to the Plan Monitoring Committee and the regional office of the Ministry of the Environment.

10.3.3 Plan Updates

A review and update of the Solid Waste Management Plan will be undertaken every five years to ensure that it reflects the current needs of the Regional District.

10.4 Plan Flexibility

Costs provided in this plan are estimates and may not reflect actual costs at the time of implementation. As a result, programs and infrastructure may undergo further assessment, including an assessment of costs and continued community support, by the Plan Monitoring Committee prior to implementation.

The Plan implementation schedule will be flexible enough to reflect the variability in priorities and available funding of the ACRD and its member municipalities. The Plan is intended to be flexible when warranted to implement plan components, directly or through private firms and/or non-profit organizations. Adequate time will be allowed for a public proposal and/or tendering process, when required.

Notwithstanding the above, the contents of this Plan are subject to legal requirements, and as a result, guidance and the direction from the Ministry of the Environment will be sought in regards to the appropriate level of flexibility in a specific circumstance.

11. Approval by the Board

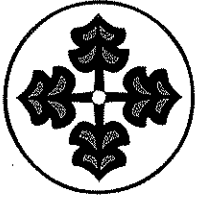
In October 2007, a draft of this Plan was subject to public consultation. Response from the public, in terms of feedback received at public meetings and from a questionnaire, indicated a high level of support for the Plan. Additionally, presentations on the Plan were made to the Port Alberni, Ucluelet and Tofino Municipal Councils resulting in all Councils endorsing the Plan through resolution. Letters were received from the municipalities and are provided in Appendix A.

On November 28, 2008 the ACRD Board of Directors approved this Plan by passing *Bylaw R1020, 2007*. A copy of this bylaw is included in Appendix B.

Appendix A

Letters from Municipal Councils

- City of Port Alberni
- District of Ucluelet
- District of Tofino



CITY OF PORT ALBERNI

City Hall
4850 Argyle Street,
Port Alberni, B.C. V9Y 1V8
Telephone: (250) 723-2146
www.portalberni.ca

Fax: (250) 723-1003

File #0470-30 (ACRD)

October 25, 2007

Drew Hadfield
Alberni-Clayoquot Regional District
3008 - 5th Avenue
Port Alberni BC V9Y 2E3

Dear Drew:

On behalf of the Mayor and Council, thank you for attending the October 22, 2007 regular meeting of Council and presenting the draft Solid Waste Management Plan.

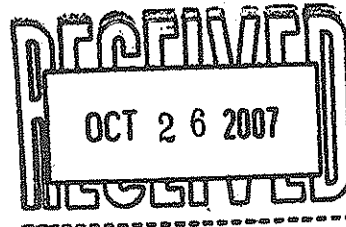
Council adopted a resolution of support in principle of the Plan. The City is encouraged by expanding opportunities for recycling within the Alberni Valley.

Good luck with your public consultation. We look forward to further consultations as the Plan is implemented.

Yours truly,
CITY OF PORT ALBERNI

A handwritten signature in black ink, appearing to read "Russell Dyson".

Russell Dyson
City Clerk



Enclosure

c: Ken Watson, City Manager
Guy Cicon, City Engineer
Councillor Jack McLeman



District of Ucluelet

P.O. Box 999, 200 Main Street, Ucluelet, B.C. V0R 3A0 • Phone (250) 726-7744 • Fax (250) 726-7335
<http://www.dist.ucluelet.bc.ca>

November 20, 2007

Board Chair and Directors
Alberni Clayoquot Regional District
3008 Fifth Avenue
Port Alberni, B.C. V9Y 2E3

Re: Solid Waste Management Plan

Mayor and Council at its November 13th, 2007 regular meeting passed a motion to forward a letter of support for the Alberni Clayoquot Regional District Solid Waste Management Plan.

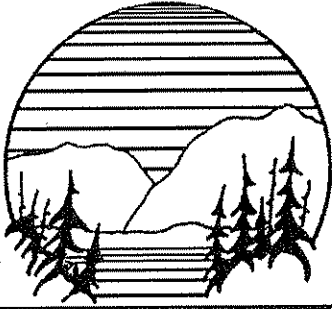
Mayor and Council greatly appreciated Mr. Hadfield's presentation on the Solid Waste Management Plan and the enormous effort that has taken place to bring this document to fruition. The District of Ucluelet looks forward to the implementation of the Solid Waste Management Plan that will allow the municipality to increase waste reduction and thus assist in alleviating environmental impacts and concerns. The District supports the hiring of staff to manage the plan and conduct education programs. Please let us know of any assistance that we may be able to offer.

Sincerely,

Saira Hull
Corporate Officer

cc: Drew Hadfield, Manager of Environmental Services

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DISTRICT OF TOFINO

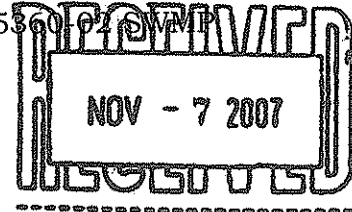
P.O. BOX 9
121 3RD STREET
TOFINO, B.C. V0R 2Z0

TELEPHONE
(250) 725-3229
FAX (250) 725-3775

DISTRICT OF TOFINO

November 2, 2007

File No. 5360 02 SWMP



Alberni-Clayoquot Regional District
3008 Fifth Avenue
Port Alberni, BC
V9Y 2E3

**Attention: Drew Hadfield, AScT
Manager of Environmental Services**

Dear Sir:

Re: 2007 Solid Waste Management Plan

The District of Tofino Council heard a presentation from Maura Walker, Senior Planner, Gartner Lee, regarding the Alberni Clayoquot Regional District 2007 Solid Waste Management Plan, at its meeting held October 22, 2007.

Tofino District Council passed a resolution at the meeting that a letter of endorsement be written to Alberni Clayoquot Regional District in support of the draft plan for the ACRD 2007 Solid Waste Management Plan

Yours truly,

DISTRICT OF TOFINO

per:

Leif Pedersen
Clerk/Administrator

LP:cg

Appendix B

Bylaw R1020, 2007

REGIONAL DISTRICT OF ALBERNI-CLAYOQUOT

BYLAW NO. R1020

A Bylaw to Adopt a Solid Waste Management Plan

WHEREAS the Regional District has prepared a Solid Waste Management Plan to replace the plan approved in 1996;

AND WHEREAS the Regional District has consulted extensively with the public while developing the Solid Waste Management Plan;

AND WHEREAS the vast majority of opinion expressed during the consultation process supports the Solid Waste Management Plan;

AND WHEREAS the Minister of Environment must approve a Solid Waste Management Plan before it has any effect;

NOW THEREFORE the Board of the Regional District of Alberni-Clayoquot, in open meeting assembled, enacts as follows:

1. The Regional District of Alberni-Clayoquot adopts the Solid Waste Management Plan attached to this bylaw as Schedule "A".
2. The Solid Waste Management Plan approved by the Regional District on August 28, 1996 is hereby repealed.
3. This Bylaw may be cited as the "Solid Waste Management Plan Bylaw No. R1020, 2007".

Read a first time this 28th day of November, 2007

Read a second time this 28th day of November, 2007

Read a third time this 28th day of November, 2007

Approved by the Minister of Environment this day of, 200

Adopted this day of, 200

Chairperson

Secretary

**Schedule "A" to Bylaw R1020 cited as
the "Solid Waste Management Plan
Bylaw No. R1020, 2007"**