# 2003 COMMUNITY AND ENVIRONMENTAL REPORT





Serving our community by building outstanding airports





Vancouver Administration International de l'aéroport Airport international de Authority Vancouver

## **Our Mission** To serve our community by building outstanding airports

## Our Vision

YVR: A Premier Global Gateway The Airport Authority: Local Champion, Global Operator

> Vancouver International Airport Authority is a community-based, not-for-profit organization that manages and operates the Vancouver International Airport (YVR). Since assuming management and operation of the airport from Transport Canada in 1992, the Airport Authority has operated YVR under the provisions of a long-term ground lease with the Government of Canada. The Airport Authority has no shareholders and receives no government funding or subsidies. All earnings are reinvested in airport development and service improvements.

> The Airport Authority's Board is comprised of representatives of 10 nominating entities with key ties into the local community, including the Association of Professional Engineers and Geoscientists of BC, the Cities of Richmond and Vancouver, the Government of Canada, the Greater Vancouver Regional District, the Institute of Chartered Accountants of BC, the Law Society of BC and the Vancouver Board of Trade. Up to five remaining directors are appointed by the Board from the community at large.

> YVR is a major economic generator, with an annual economic impact in the Province of BC exceeding \$5 billion. Collectively, the Airport Authority and approximately 400 businesses and organizations on Sea Island employ 26,000 people, which in turn produce thousands of indirect and induced jobs.

YVR is Canada's second busiest airport, providing service to more than 90 destinations in Canada, the United States and overseas.

#### Operating Highlights (YVR) Revenue Operating Expenditures Ground Revenue Excess of Expenditures Capital Expenditures Concession Revenue VVR VVR Aircraft VVR Cargo Handled 274.5 176.8 66.3 23.5 540.4 60.8 56.1 14.3 250.4 215.8 (millions) (millions) (millions) (millions) (millions) (millions) (millions) (millions)

#### Financial Highlights (consolidated) Operating Highlights (YVR)

## Message from the President and CEO

We care about our community and the quality of the environment. We envision a sustainable future for Vancouver International Airport (YVR) and will advance this vision by increasing its contribution to the economic, social and environmental well-being of the Fraser River Estuary, British Columbia and Canada. The Airport Authority is committed to sustainability and embraces this opportunity to encourage multidisciplinary and multigenerational thinking among its management and staff.

The Airport Authority operates YVR in a manner that minimizes its impact on the surrounding environment, both natural and human. We are committed to open, honest and timely communication with our community. We believe that our foundation to being a local champion is our employees and that is why we are proud to include in this report information about our health and safety and employment programs.

In 2003, the Airport Authority was awarded the BC Aviation Council's inaugural Acres International Environment Trophy for outstanding stewardship and responsible practices. We are pleased to have received this recognition.

This document reports on our environmental and community performance for 2003. We recognize that we have more work to do to refine our performance indicators. For example, specific timelines and efficiency measures are still being developed in many areas. We are committed to working with key stakeholders to develop measures and targets that will drive continual improvement in environmental performance.

The Airport Authority welcomes any comments or suggestions for improving our communications or our environmental practices.

Larry Berg President and CEO







## Strategic Objectives

- 1. Keep excellence in safety, security and environmental performance as our first priority.
- 2. Be a model of financial viability and economic stimulation.
- 3. Maintain a strong, flexible and capable team of professionals.
- 4. Continue to excel in open relationships with our stakeholders.
- 5. Become the best in airport processes.
- 6. Enhance revenues and provide value for money.
- 7. Build the Pacific Gateway of choice.
- 8. Become the best in customer service.



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For more details on the information contained within this report, visit www.yvr.ca. Comments on this report can be directed to environment@yvr.ca or mailed to the address on the back cover.

## Introduction: 2003 Community and Environment Report



Welcome to Vancouver International Airport Authority's 2003 Community and Environment Report. The report highlights some of the achievements the Airport Authority made in its community and environmental performance over the past year.

One particular milestone in 2003 was the publication of the Airport Authority's new Environmental Management Plan in October. The plan contains a commitment to sustainability that embraces the opportunity to encourage multi-disciplinary and multi-generational thinking among its management and staff. In particular, the Airport Authority envisions a sustainable future for YVR and will advance this vision by increasing its contribution to the economic, social and environmental well-being of the Fraser River Estuary, BC and Canada.

## YVR In the Community: Being a Good Neighbour

## **Community Consultation and Involvement**

Keeping the Public Informed Since assuming the management, operation and development of the airport from Transport Canada in 1992, the Airport Authority has earned numerous industry awards for customer satisfaction, airport operations, retail innovation, emergency preparedness and safety. But perhaps the greatest accolade is the support and respect of the community we serve.

As a member of the community, we believe we have a responsibility to keep our neighbours informed about airport operations and activities that affect them. We do this in a variety of ways, including:

- Annual Public Meeting in May
- Annual Report
- Annual presentations to City Councils in Richmond, Vancouver, Burnaby, New Westminster, Delta and Surrey

- Annual presentations to provincial Deputy Ministers, and other business and community groups, including the organizations that nominate Airport Authority Board Members
- A Speakers' Bureau program, through which members of our management team speak at community functions
- Airport tours for various industry and community groups
- President's forum with Sea Island business leaders
- Public open houses on community issues and projects
- Advertisements and public notices regarding operational changes
- Community updates delivered to approximately 190,000 homes near YVR
- Skytalk, YVR's monthly newspaper distributed to all of Sea Island
- Terminal Talk, YVR's quarterly newsletter sent to all airport tenants
- The Airport Authority's website, www.yvr.ca, which features regularly updated information

#### **Community Consultation**

To ensure the opinions of people in nearby communities are heard on matters that affect them, the Airport Authority seeks input from a broad cross-section of stakeholders through several community forums that meet regularly to discuss issues and concerns, including the Aeronautical Noise Management Committee (see page 5), and the Environmental Advisory Committee, which provides input on the Airport Authority's Environmental Management Program (see page 15).

## Minimizing Aircraft Noise

The Airport Authority's objective of minimizing aircraft noise disturbance on the community is addressed by the Aeronautical Noise Management Program. The challenge inherent to the program is to balance the competing demands for safe and convenient 24-hour airport services with those for an enjoyable urban living environment. The Airport Authority achieves this balance by developing and recommending noise abatement procedures governing take-offs and landings, runway use, hours of operations and aircraft type, and by developing policies and procedures in consultation with community and industry through the Aeronautical Noise Management Committee.



## Aeronautical Noise Management Committee

The Aeronautical Noise Management Committee provides a forum for the discussion and consideration of all aeronautical noise management issues and practices at YVR. It is chaired by the Airport Authority's Vice-President, Community and Environmental Affairs, and meets on a quarterly basis. Membership on the committee is diverse and represents a wide variety of interests, each independently appointed by their respective stakeholders groups, including:

- Citizen Representatives (Richmond, Vancouver and Delta)
- City of Richmond (Planning)
- City of Vancouver (Vancouver Coastal Health Authority)
- Musqueam Indian Band
- Airlines (Air Canada, Air Canada Jazz)
- Air Transport Association of Canada
- Canadian Business Aircraft Association
- Nav Canada
- Transport Canada
- Vancouver International Airport Authority (Environment and Operations Departments)

"The Airport Authority and the committee take all environmental noise issues seriously. Stakeholders on the committee may not always hold the same perspective, but when dealing with the tradeoffs between increased activity and increased noise, thanks to the cooperation of our members, we've been able to develop and carry through on significant actions to the benefit of the travelling public and nearby communities."

 James Watson, Aeronautical Noise Management Committee Richmond Citizen Representative

### Noise Management Plan

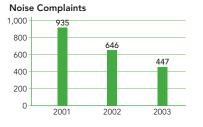
Balanced and sustainable noise management solutions are also achieved through the implementation of initiatives outlined in the Airport



Authority's five-year Noise Management Plan, developed in consultation with airport stakeholders.

In 2003, the Aeronautical Noise Management Committee and Airport Authority staff worked to create the new 2004-2008 Noise Management Plan, the third plan since the Airport Authority assumed management of YVR from Transport Canada in 1992. This new plan contains 17 initiatives that will shape noise management activities at the airport over the next five years. The members of the committee consulted their respective organizations or municipalities to develop the initiatives for the plan. Work arising from the 2004-2008 Noise Management Plan includes:

- Hosting a series of community open houses in preparation for South Airfield construction projects
- Working with the City of Richmond to develop guidelines on compatible land uses in the vicinity of the airport
- Evaluating the use of new noise metrics for urban planning
- Producing public information communications materials



#### **Responding to Public Concerns**

Providing communities with relevant and timely information about noise-related airport activities or operational changes is a key element of the Airport Authority's Aeronautical Noise Program. We do this in a variety of ways, including:

- A 24-hour Noise Information Line, which provides users with access to noise management professionals or Airport Operations Officers capable of answering immediate concerns or inquiries
- The YVR website, which contains aeronautical noise management information as well as contact information for airport personnel
- Tours to the public, students, or other interested groups by noise management staff
- Community mailers and newspaper ads to inform local citizens and stakeholders of specific achievements, activities or operations changes which may impact or benefit local communities

#### **Tracking Issues**

Concerns and complaints regarding noise are treated confidentially and responded to on an individual basis if so requested. All complaints are logged into a database and then analyzed to identify trends in specific areas. This enables the Airport Authority to better understand activities of concern as well as the community response to both regular and irregular airport operations. At each of its meetings, the Aeronautical Noise Management Committee is presented with a report summarizing the activities from each quarter and the Airport Authority's staff evaluate safe and sustainable abatement options and recommend, where possible, changes to minimize disturbances to the community.

In early 2003, for example, the combined effects of SARS, the war in Iraq and a struggling airline industry resulted in lighter, emptier aircraft, which upon departure reached an "en route" altitude sooner than usual. Consequently, flight patterns over certain areas unexpectedly changed resulting in a response from the community. By analyzing the complaints received, Airport Authority staff were able to quickly identify the cause and work with Air Traffic Control to implement procedures to maintain the "usual" flight patterns without compromising flight safety or efficiency.

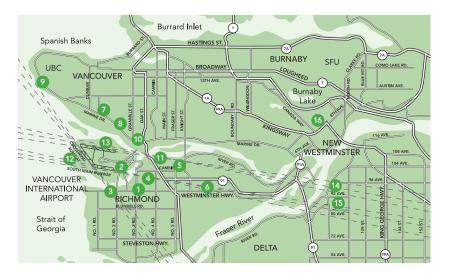
The total number of noise complaints continues to decrease since a peak of approximately 7,200 complaints in 1997, after the opening of the North Runway. For more information, visit www.yvr.ca.

#### Noise Lawsuit

In 2003, the Supreme Court of Canada refused to hear an appeal from the 2002 decision by the BC Court of Appeal, which ruled unanimously that the residents of Bridgeport in Richmond were not entitled to any award of money (damages) because of noise from aircraft landing on the north runway. This ruling in favour of the Airport Authority and the federal government is the first such high level court direction ever given in Canada on this important issue for airports and their immediate neighbours.

#### Airport Noise Monitoring System and Flight Tracking System

Noise monitoring and assessment is a major component of the Airport Authority's Aeronautical Noise Management Program. The Airport Authority uses a network of Noise Monitoring Terminals (NMTs) located throughout the community to continuously measure noise and correlate it with aircraft activity. By integrating a number of analytical tools (noise monitoring, aircraft flight track investigations, statistical analysis, weather analysis, complaint investigation, mapping, and reporting), the system provides a scientific understanding of aeronautical noise and allows for the objective evaluation and comparison of proposed changes to airport operations.



#### Engine Run-up Area

An engine run-up area is used for the stationary running of one or more engines to ensure all components are functioning properly and safely. In 1999, the Aeronautical Noise Management Committee identified the need for a new aircraft engine run-up area to reduce the noise impact of engine run-ups for people living near YVR. Following a study commissioned and sponsored by the Airport Authority, \$5 million was committed for the construction of a new run-up area on the western edge of Sea Island that will be completed Fall 2004. In 2003, the Airport Authority, in collaboration with its stakeholders, successfully fulfilled 21 of the 22 noise management initiatives contained in the 1999-2003 Noise Management Plan. Notable accomplishments included:

- Supporting and funding of Active Noise Control research at UBC
- Starting construction of an engine run-up area
- Installing and operating an automated Reverse Thrust Monitoring System on the North Runway
- Expanding the network of Noise Monitoring Terminals to Burnaby and North Delta
- Developing night-time departure procedures for Asia bound aircraft off runway 08R
- Phasing out of ICAO Annex 16 Chapter 2 Noise Certified Aircraft over 34,000kg operating at YVR
- Developing the new Noise Management Plan

With the approval of the community-based Aeronautical Noise Management Committee, one initiative was carried forward into the 2004-2008 Noise Management Plan.

Detailed information on the results of the 2003 Aeronautical Noise Management Program is contained in the Annual Aeronautical Noise Management Report, which is available on the Airport Authority's website, www.yvr.ca.

## **Community Support**

The Airport Authority is proud to take an active role in the communities it serves. We do this a number of ways:

- Supporting charitable causes and community events
- Serving on a broad spectrum of community and industry boards, task forces and committees
- Supporting the volunteer efforts of employees, many of whom are coaches, canvassers and fundraisers in the community
- Talking to various groups and organizations about our programs and initiatives

#### **Charitable Campaigns**

Each year, we demonstrate our volunteerism and commitment to the community in support of numerous charitable initiatives. Among the many initiatives Airport Authority employees supported in 2003 were the United Way, Winter Wonderland (a Richmond Sunset Rotary Club initiative benefiting local performers and community groups), the YVR Golf-for-Kids Golf Tournament and Gala Dinner benefiting Canuck Place, the CKNW Orphan's Fund (local schools decorated Christmas trees at YVR, which passengers and public voted on by donation), the Lion's Society of BC and CANstruction (an innovative fundraiser which resulted in 4,000 tins of food for the Richmond Food Bank).

#### **Contributing Our Expertise**

The Airport Authority is committed to serving our community. In 2003, Airport Authority senior executives and management employees served on dozens of community and industry boards, technology and transportation task forces and committees such as:

- Airports Council International
- BC and Canadian Chambers of Commerce
- Fraser Basin Council
- Greater Vancouver Gateway Council
- Urban Development Institute
- Vancouver Board of Trade
- VGH/UBC Hospital Foundation





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### The YVR Experience

Airports are about more than just terminals, runways and airplanes. For millions of passengers, arriving at YVR is their first contact with Canada, British Columbia and our Lower Mainland communities.

We're always looking for new ways to improve customer service. Our Customer Action Tracking System tracks comments, suggestions and queries from airport customers directed to YVR staff. In 2003, more than 76,000 entries were logged and analyzed to develop new initiatives to further enhance customer service.

In 2003, passengers surveyed for the International Air Transport Association's (IATA) global survey rated Vancouver International Airport the No. 1 airport in North America for customer satisfaction and No. 8 in the world. It was the fifth consecutive year that YVR has rated among the world's top 10 airports. Condé Nast Traveller Magazine's Annual Readers' Choice Awards rated YVR No. 3 airport in the world. YVR is the only Canadian airport in the top 10 in both surveys.

In a global survey of international passengers by SkyTrax Research, an independent UK firm, YVR was rated No. 1 in North America for customer service and No. 8 in the world.

#### **Green Coat Volunteers**

Another reason for the airport's outstanding reputation for customer service is the award-winning Green Coat volunteers program. Since 1989, these goodwill ambassadors have made it easier for passengers and visitors to navigate YVR by providing directions, information and translation services in 26 languages. Today, nearly 250 Green Coats contribute 36,000 hours of volunteer service each year, and in 2003, they were awarded the Parliament of Canada's Certificate of Appreciation for "outstanding contributions to the community" for the second consecutive year.

#### Art at YVR

For generations, Sea Island and areas along the Fraser River have been home to the Musqueam Indian Band. Today, Musqueam and other First Nations' rich artistic heritage is showcased throughout YVR in sculptures, murals, carvings, tapestry and numerous other art forms. The Airport Authority's support of established and emerging BC artists is further enhanced through the YVR Art Foundation, which fosters the development of Northwest Coast native art, broadens its markets and encourages its display in public buildings.

"I am really pleased to have my work at the airport and would like to give special thanks to [YVR Art Foundation President] Frank O'Neill. He has done a lot for the Musqueam people and Musqueam artists, and provided us with a great deal of exposure." – Susan Point, Artist "YVRAA [Airport Authority] has been an important friend to people with disabilities in Vancouver. While other facilities stubbornly cling to meeting only minimum building code requirements, the Airport Authority understands that real accessibility is found in the details of the facility design, not the pages of the building code. YVRAA [Airport Authority] leads by example. Other airports need only to look to Vancouver to see how it's done right."

- Sharon Wagner, Chair, Canadian Council of the Blind

#### A Barrier Free Airport

The Airport Authority strives to create an accessible experience for all passengers. All new construction and retail renovations are reviewed for accessibility by an independent access consultant. Airport operations and service staff are receiving disability awareness training, so they can better understand the needs of passengers with disabilities.

For physically challenged passengers, specially designed washrooms are available with call buttons in case of emergency. Other considerations included low pile carpet to reduce resistance for wheelchairs, and check-in counters equipped with service and writing counters with toe clearances for passengers in wheelchairs.

Blind or visually impaired passengers can use tactile maps of terminal areas, available through local organizations or at our customer service counters. To further assist the visually impaired, distinct and consistent floor treatments are used to identify locations within the terminal.

YVR has visual pagers located throughout the terminals to provide messages for passengers who are deaf or hard of hearing. In case of emergencies, the Airport Authority uses visual fire alarm strobes in public areas and washroom facilities. Additional features for the hearing-impaired include TTY (text) phones and airline check-in counters with volume-controlled handset systems to help people hear airline ticket agents in noisy environments.

For passengers who experience a language barrier at YVR, customer service counters now feature one-touch access translation phones and dual handsets for three-way calls to access 125 different languages.

"YVRAA [Airport Authority] has shown a clear and consistent commitment to people with disabilities by providing a model of meaningful access here in Vancouver, while taking a leadership role in promoting accessible terminal facilities worldwide. Other business operators would do well in following YVR's example of treating outstanding access for people with disabilities as a fundamental part of good customer service."

 Paul Tubbe, Chair Advisory Committee on Disability Issues, City of Vancouver



## Working at the Airport Authority

## Investing in Our People

Our objective is to build a team of strong, capable and flexible professionals who will contribute to the achievement of the Airport Authority's strategic objectives.

#### Our People

The people who operate our airport are one of the Airport Authority's greatest assets. We recognize that the long-term strength of our operation depends on dedicated and skilled employees that are satisfied in their jobs and are treated with fairness and respect. In order to maintain a strong, flexible and capable team of professionals, and maintain our reputation as an employer of choice, the Airport Authority is committed to promoting flexibility, skills development, life-long learning, personal growth and professional development through:

- Climate surveys to collect employee feedback
- Employee growth and development programs
- Joint Union-Management committees
- Employee recognition programs
- Employee and Family Assistance Program
- Student and scholarship programs

#### Listening to Our People

The Airport Authority carried out its second climate survey to give employees an opportunity to provide feedback on workplace strengths and areas for improvement. More than 90 percent of employees completed the comprehensive survey. The information and data collected through the joint union-management initiative was used to implement new committees and programs and revitalize others.

#### **Reward and Recognition Programs**

Formal recognition of employee efforts is a key component of our workplace environment. In addition to our annual luncheon and awards that celebrate multiple years of service, the Snow Goose Awards recognize the exceptional efforts of select individuals or teams through nomination by their peers. As part of the STAR program (Suggestions That Achieve Results), employees are recognized for recommending improvements that result in savings, revenue generation or improved customer service.

#### **Continuing Education**

As part of our commitment to continuous learning and investing in career development, the Airport Authority offers the following programs to facilitate employee training and education:

- Educational leave of absence
- Salary deferral to ensure an income during educational leave
- On-site department-specific training
- Day course/conference attendance during normal work hours
- Interest free loans for computer purchases
- Up to \$20,000 reimbursement on the successful completion of education programs outside normal work hours

#### Student Programs and Scholarships

Throughout the year, the Airport Authority operates programs for co-op, summer and practicum students to help young people in post secondary institutions get real-life work experience.

The Airport Authority also helps children of employees continue their education at recognized post-secondary institutions with up to 20 scholarships awarded each year.

#### Workforce Diversity

At the Airport Authority, we want our workforce to reflect the diversity of the community we serve. To that end, we welcome resumes and applications from women, aboriginal peoples, persons with disabilities and members of visible minorities. Our Employment Equity Committee, which is comprised of 12 management and staff members from various departments, also helps raise awareness of employment equity and diversity issues.

The Airport Authority believes strongly in enabling people with disabilities to realize their ambitions and contribute to the community.

#### Employee and Family Assistance Program

To provide employees with options to help them manage their personal health and happiness, the Airport Authority's Employee and Family Assistance Program provides confidential, professional assessment, guidance and counseling (and referrals if required) for a broad range of personal and family issues. Employees and their families can receive short-term counseling from a professional counselor.

#### Managerial Development

All Airport Authority management staff go through a 360-degree review process that allows their direct reports, peers, superiors and others to provide confidential feedback on individual managerial performance.

#### Apprenticeship Program

The Airport Authority encourages maintenance employees to develop their skills in a second trade. This enables employees to become multi-skilled and allows the Airport Authority to develop cross-functional teams with the ability to respond effectively and efficiently to a variety of issues. To date, 60 percent of the Airport Authority's trades staff are dual ticketed or in the process of becoming dual ticketed.

In 2003, the Airport Authority sponsored a total of 341 training and apprenticeship programs, with the average employee receiving approximately 60 hours of training. This exceeds the target of 25 hours of training per employee for the year.

#### Lunch with Larry

Every year, Larry Berg, the Airport Authority's President and CEO, hosts informal lunches for each department. Employees can ask him about Airport Authority strategies, goals, policies, departmental activities or anything else that piques their interest. It also provides an opportunity for him to hear first-hand from employees any issues that are of concern to them.



## Health and Safety

We continually foster and improve our safety culture, through training and innovation, empowering employees to reduce the threat and occurrence of injuries and health problems.

#### Health

The Airport Authority is committed to the ongoing improvement of health and safety standards for all employees. As a result of our health and safety programs, and unrelenting focus on enhancing health and safety practices, accident and days lost totals were the lowest since 1992. These results earned the Airport Authority a Canadian Labour and Business Centre award for one of the Top 10 Healthy Workplaces in Canada.

#### **Health Initiatives**

The Airport Authority's high standards for employee health are achieved through several initiatives such as:

- An employee-driven wellness program
- Annual Airport Authority sponsored vaccinations
- Regular hearing tests and hearing protection for maintenance and airside employees
- A rigorous asbestos monitoring program, which resulted in zero asbestos-related incidents in 2003
- Noise and indoor air quality tests for Airport Authority staff and tenant workplaces
- Custom-fit breathing apparatus where required
- Strategies implemented to address West Nile, Norwalk and SARS viruses

#### Fitness and Balance Wellness Program

The Airport Authority's Wellness Program is driven by the Wellness Committee, which is comprised of employee and management representatives who have a keen interest in health issues. The committee has designed an incentive-based program that helps employees achieve fitness and balance in their work and personal lives.

Now in its third year, the Wellness Program promotes healthy lifestyles through committee-sponsored fitness events, activities, and learning opportunities at YVR. These include training events, such as group hikes, walking and running clinics, as well as a Wellness Fair and Trade Show. The program also includes a series of Lunch and Learn sessions covering topics such as yoga, Pilates, body rolling, weight watchers and coping with stress. "When the Canadian Labour and Business Centre approached me for suggestions about companies to study whose commitment to health, safety and wellness marked them as industry leaders, YVR sprang to mind. A safe workplace is fundamental to success in any business venture and the strong, proactive approach that YVR takes shows in their results – fewer injuries and healthier staff, as well as an ongoing business success story that all British Columbians can be proud of."

 Roberta Ellis, Vice President,
 Workers Compensation Board of British Columbia

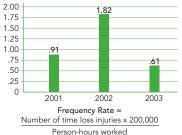
"In our analytical case study of Vancouver International Airport Authority, we saw that safety and employee well-being are critical components of the the airport's business strategy. The [Airport] Authority provides an incentive-based wellness program that encourages employees to develop healthy lifestyles, complementing the work of a strong joint health and safety committee. The program takes a balanced and holistic approach to health promotion, recognizing the physical, psychological and social aspects of wellness. We strongly believe that there is much to learn from the example set by YVR."

- Shirley Seward,

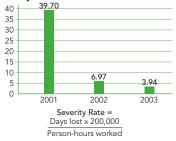


CEO, Canadian Labour and Business Centre

#### Frequency of Lost-Time Accidents



#### Severity of Lost-Time Accidents



#### Joint Occupational Safety and Health Committee

The Airport Authority Joint Occupational Safety and Health Committee is made up of employee and employer representatives co-operating to identify and resolve safety and health issues at the airport. Its co-operative framework ensures all employees of the Airport Authority can provide feedback on working conditions at YVR and contribute to the resolution of any outstanding issues.

#### Safety

The Airport Authority's commitment to health and safety extends well beyond our employees to tenants, construction contractors and major service providers, and the travelling public. Construction contactors must pass safety pre-qualification and undergo rigorous safety orientation before they can work at YVR.

Thanks to our adherence to best practices in safety management and ongoing training and innovation, the Airport Authority was recognized in 2003 by the British Columbia Chapter of the Canadian Society of Safety Engineering for having the best safety program for an organization with 51 to 500 employees.

#### Safety Management Initiatives

High safety standards are achieved by focusing on accident prevention at YVR and by including employees in decisions that affect their health and safety. Among the notable programs in place to promote safety are:

- Safety and environment compliance inspections
- Regularly updated construction safety and security manuals
- Confidential employee safety perception surveys
- Submission of annual safety plans by each department
- Ongoing fall protection and confined space entry training
- Implementation of a computer-based safety training system
- New Work Practice Codes developed for the Emergency Operations Division
- Firefighting and emergency response safety training for Emergency Response Specialists and Airfield Operations employees
- Ergonomic awareness for all staff
- Promoting awareness of shiftwork issues

#### Safety Standards

The Airport Authority's high safety standard continued to improve in 2003 with the addition of a team of new Emergency Response Specialists and the completion of an employee safety perception survey that led to new safety action plans from 15 Airport Authority departments. During the year, we also implemented a new computer-based training system with modules in areas such as fall protection, workplace hazardous materials information system, confined space entry, asbestos, office ergonomics, low visibility operations, and elevator rescue. The Airport Authority also uses its intranet to make accurate and accessible health and safety resource information available to employees.

"I have worked for the Airport Authority for six years and know that the health and safety of my co-workers and the public is a high priority. I recently attended a Creating World Class Safety symposium and I feel that the Airport Authority is an industry leader in safety."

Kevin Mann, Union Safety Director, Public Service Alliance of Canada, (PSAC) Local 20221

## **Environmental Management**

YVR is located on Sea Island, which is federal property within the City of Richmond, across the Fraser River from the City of Vancouver, and only 15 kilometres from Vancouver's downtown. This proximity to major urban settings adds to the challenge of operating YVR 24 hours a day while minimizing the level of disturbance from airport operations on its neighbours.

The Airport Authority's environmental policies and programs are described in the Environmental Management Plan, which is available on YVR's website, www.yvr.ca. The Airport Authority Environment Department, in conjunction with other Airport Authority departments, manages a number of program areas:

- Aeronautical noise
- Air quality
- Contaminated sites
- Environmental impact assessment
- Hazardous materials
- Natural habitat
- Resource efficiency
- Recycling
- Water quality

To ensure that we continually improve our environmental performance, the Airport Authority's environmental management system is based on ISO 14001, the internationally recognized standard that outlines the structures of environmental management systems.

In addition to cooperating with federal and provincial regulatory bodies, the Airport Authority works closely with community and local non-governmental organizations to improve environmental performance.

#### **Environmental Advisory Committee**

The Airport Authority's Environmental Advisory Committee meets quarterly to monitor and provide advice on the design and implementation of the Airport Authority's environmental management system. The committee represents a diverse set of interests and includes representatives from:

- Air Canada
- Citizen Representatives (Vancouver and Richmond )
- City of Vancouver (Vancouver Coastal Health Authority)
- Environment Canada, Canadian Wildlife Service
- Environment Canada, Environmental Protection Branch
- Fraser River Coalition
- GlobeGround North America
- Greater Vancouver Regional District
- Habitat Management, Department of Fisheries and Oceans
- Musqueam Indian Band
- North Fraser Port Authority
- Transport Canada, Environmental Services
- Urban Development Division, City of Richmond
- Vancouver Natural History Society

"Operating an airport adjacent to an estuary of international ecological significance brings constant challenges. The technical diversity and interests of representatives participating on the Environmental Advisory Committee match the diverse array of environmental issues that YVR addresses. With representation from industry, environmental regulators, municipal government, community groups, and local residents, our discussions are always spirited and focused on finding solutions that minimize potentially negative effects of airport operations on environmental values situated on and adjacent to the airport property."



Paul Schaap, Co-Chair of the Environmental Advisory Committee and City of Richmond resident and member of Richmond's Advisory Committee on the Environment.



## Natural Habitat

As part of its commitment to environmental stewardship and corporate responsibility, the goal of the Airport Authority's Natural Habitat Program is to minimize the impact of airport operations on the ecologically sensitive ecosystems within the estuary. A key challenge is balancing the safety of airport operations with wildlife control. We strive to achieve this balance



operations with wildlife control. We strive to achieve this balance by working closely with all stakeholders on habitat issues.

#### **Our Natural Environment**

YVR is located on Sea Island, part of a vibrant natural setting at the mouth of the Fraser River. The river is home to one of the world's largest salmon runs with five species of spawning salmon. The Fraser River Estuary is also a major staging area for birds on the Pacific Flyway and a significant wintering area for waterfowl. Designated protected habitats and important recreational areas on and adjacent to Sea Island include Sturgeon Bank Wildlife Management Area, Sea Island Conservation Area, McDonald Beach Park, Swishwash Island and Iona Beach Regional Park.

#### In 2003:

Environment Canada, Transport Canada and the Airport Authority reached a mutual agreement on compensation for potential impacts from snow goose control within the Sturgeon Bank Wildlife Management Area. Transport Canada and the Airport Authority jointly funded a wildlife compensation program for snow geese that will be implemented by Environment Canada with assistance from Ducks Unlimited.

The Airport Authority cleaned out one of the drainage ditches in Sea Island that had become overgrown. This activity raised concerns from members of the community who thought that habitat was being destroyed. Environment Canada responded, noting that the ditches within the Sea Island Conservation Area are important drainage corridors for Sea Island and the airport. These facilities must be maintained to ensure good drainage and to reduce ponding that attracts flocking birds that are dangerous to aviation. The Airport Authority will work with Environment Canada to maintain them more regularly in the future.

The Airport Authority teamed up for the second consecutive year with the City of Richmond, Transport Canada and Environment Canada to remove the Scotch Broom from McDonald Beach Park. This annual activity is working to rid the park of this invasive plant species that chokes out native species, and improve the dog off leash area of the park. This event is also used to make dog owners aware of the importance of keeping their dogs on leash within the Sea Island Conservation Area.

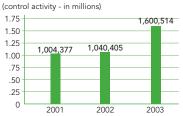
#### Wildlife Control

With YVR and Sea Island located within a major staging area on the Pacific Flyway, adjacent to prime waterfowl habitats on the Sturgeon Banks foreshore, birds present a considerable environmental and a safety challenge for the airport. Preventing bird strikes by aircraft is the main focus of our Wildlife Control Program.

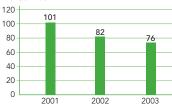
At YVR, biologists study the behaviour of the various types of birds and keep records on bird activity on and adjacent to the airport. With this information, wildlife officers work to control birds using a variety of techniques. One of the most effective has been habitat management, whereby airport lands are modified to reduce their attractiveness to hazardous wildlife species. This includes the management and control of grass length, types of grass, weed control, water drainage, perching spots, garbage accumulation and building design.

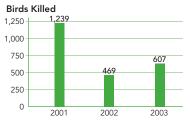
A minimum of two wildlife officers patrol the 1,300-hectare grounds 24 hours a day, seven days a week. In 2003, more than 1.6 million<sup>1</sup> birds were controlled and moved off-site using a variety of equipment such as pyrotechnics, sirens, lights and propane cannons. This represents a 54 percent increase in bird control activity from 2002. While habitat management and harassment techniques are the primary tools used, killing can occur if the wildlife is found to be a significant risk and is not responding to other control efforts. In 2003, wildlife control officers killed 607 birds. Dunlin, ducks, crows and gulls account for 94 per cent of the birds killed.

Thanks to the Airport Authority's award-winning wildlife management program, YVR is one of the safest airports in the world. In 2003, the Airport Authority recorded its lowest bird strike rate in four years. Seventy-six aircraft bird-strikes were reported, an eight percent decrease from 2002. Birds Controlled<sup>1</sup>



#### Bird Strikes







<sup>1</sup> Wildlife Officers keep records of birds moved from active runway and taxiway areas. This number is a total of birds moved by control activities for the year. The same birds could be counted and controlled multiple times.

#### Environmental Impact Assessment Program

As YVR expands to meet the needs of a growing community, environmental management plays a key role in the planning process. The Airport Authority's Environmental Impact Assessment Program addresses environmental aspects of



Assessment Program addresses environmental aspects of design, construction and operation of all new projects. This includes visits to project sites by environmental monitoring staff to ensure mitigation efforts are implemented as planned. In 2003, 123 construction projects underwent an environmental assessment review to ensure compliance with regulatory and airport standards.

#### Archeological Impact Assessment

As part of the environmental assessment process, the Airport Authority reviews projects for archeological, cultural or historical impacts and provides mitigation where required. During the assessment and monitoring of construction of an airfield road in 2003, a new archeological site was discovered on Sea Island. The site consisted of a collection of large cobbles and stones that showed markings and wear indicating extensive use. It is believed that First Nations groups once used the cobbles as tent or net anchors. These artifacts are now housed at UBC's Archeology lab.

#### Environmental Advisory Committe Involved in Siting an Asphalt Plant

In 2003, the Airport Authority provided the Environmental Advisory Committee with an overview of the 2004 runway overlay project and discussed the need to locate a new asphalt plant on Sea Island. The potential environmental impacts most commonly associated with asphalt plants include dust, noise, hazardous materials storage and handling, combustion emissions, and truck traffic. In response to the briefing, the committee raised several issues for discussion and consideration including:

- The noise impacts of a new asphalt plant on Sea Island
- Haul routes for truck traffic accessing the plant and the need to minimize the distance of truck travel
- Design considerations for the asphalt plant layout to minimize use of "back up beepers" on trucks
- Alternative locations of barge unloading facilities required for the delivery of aggregate materials for the project

In response to the committee's request, the Airport Authority commissioned a noise impact assessment study of four proposed sites. The study found that all four sites were suitable from a noise perspective. However, the truck haul routes should be closely monitored as they pass close to a residential community.

The Vancouver Airport Authority sets an excellent example of proactive cultural resource management. Through its environmental management program, archaeological site monitoring and impact assessment studies on Vancouver Airport lands [the Airport Authority] have documented and preserved important aspects of First Nations cultural history.

Martin Magne, Ph.D.
 Manager, Cultural Resource Services Parks

Canada, Environment Canada



### Air Quality

The Airport Authority's objective of minimizing and preventing pollution from airport and airport related activities is addressed in part by the Air Quality Program. The program focuses on airport activities that could



introduce pollutants, greenhouse gases and ozone depleting substances to the atmosphere. The

objective is to reduce these emmissions by raising awareness of clean air issues and promoting alternative forms of transportation to and from Sea Island.

#### Ambient Air Quality

The Airport Authority is a partner in the Greater Vancouver Regional District's (GVRD) ambient air quality management program. A GVRD monitoring station is located at YVR east of the south runway, near the community of Burkeville. Data collected from this station is reported on the GVRD's website. The GVRD publishes an annual emissions inventory for the lower Fraser Valley airshed that indicates how total emissions are changing. This airshed encompasses the GVRD and extends east to Hope and south to Whatcom County in the United States. Aircraft emissions currently account for less than one percent of all greenhouse gas emissions and less than one percent of all smog forming pollutants in the lower Fraser Valley airshed.

Across the Lower Mainland, exhaust from vehicle traffic is the largest source of harmful air emissions, and reducing the number of single-occupancy vehicles traveling to and from the airport is one of our goals. The Airport Authority's Air Quality Program helps reduce vehicle emissions on and off Sea Island by:

- Promoting alternative fuels for fleet vehicles
- Setting high standards for companies that generate revenues by operating vehicles on Sea Island
- Supporting public transit initiatives and capital improvements to the region's transportation infrastructure, such as the Richmond-Airport-Vancouver (RAV) rapid transit line
- Promoting cycling and carpooling among employees as an alternative to driving
- Promoting awareness of air quality issues among employees and tenants
- Participating in air quality awareness events such as the annual Commuter Challenge on Clean Air Day



#### Reducing Vehicle Emissions: Alternative Fuels

The Airport Authority continues to pursue opportunities to demonstrate alternative fuels such as natural gas, biodiesel, and hydrogen. YVR is a prime location for a hydrogen fuelling station and in 2003 the Airport Authority worked with multiple local industry partners to develop the concept. Sustainable transportation is being fueled by Vancouver's commitment to a sustainable Olympic Winter Games in 2010. The Airport Authority is an active member of two working groups, Sustainable Transportation Consortium and the Sustainable Energy Committee, consisting of industry and government stakeholders. Collectively these groups seek to make the 2010 Olympics as sustainable as possible in terms of vehicles and energy.

The Airport Authority also supports the ongoing improvement of cycling paths on and leading to Sea Island and has constructed dedicated cycling storage and change facilities to encourage cycling as an alternate form of transportation for employees.

In 2003, the Airport Authority initiated a five-year taxi agreement with 16 companies serving YVR. As part of this new agreement, licensing cost incentives are now in place for taxi operators using hybrid vehicles or vehicles with engines designed to run on natural gas. At YVR, taxis must be no older than six years and limousines no older than seven years.

## Improving Local Connections

#### Richmond-Airport-Vancouver Rapid Transit Line (RAV)

In conjunction with the Greater Vancouver Transportation Authority (TransLink) and the Government of British Columbia, the Airport Authority continued to build community and government support for a public rapid transit line linking Vancouver and Richmond, with a spur line to the airport. The RAV line will serve one of the busiest transportation corridors in Greater Vancouver creating more transportation choices, adding capacity, improving travel time, reliability and air quality. For Sea Island specifically, the project will reduce vehicle congestion and idling on the Arthur Laing and the No. 2 Road bridges.

#### Awareness Campaigns

Recognizing that raising employees' awareness to the cost and health effects of vehicle emissions is the first step to eliminating it, the Airport Authority actively participates in several initiatives each year to raise awareness of air pollution to its employees. These initiatives include the annual Commuter Challenge on Clean Air Day, when employees are encouraged to bike, carpool, use transit or use some form of transportation other than the single occupancy vehicle. The Airport Authority is also joining the Jack Bell Foundation's carpooling and ride sharing programs as well as the Idle Free Campaign to reduce vehicle emissions led by Better Environmentally Sound Transportation (BEST).



### Handling Hazardous Materials

Day-to-day operations of an airport involve the handling of a large variety of hazardous materials such as gases, flammable liquids and solids, as well as radioactive, poisonous or corrosive materials. Over one billion litres of aviation fuel are handled at YVR each year, making safe handling of fuel imperative. The Airport Authority works with YVR tenants to



reduce risk by exceeding the regulatory requirements for the safe handling and management of hazardous materials. Tenants are also required to be prepared for emergencies by having appropriate spill prevention and response plans in place.

All spills are reported to Airport Operations, with those with the potential to enter surface water also reported to Environment Canada. In 2003, YVR recorded five fuel spills of more than 100 litres. Two of these spills were over 500 litres and occurred as a result of failures of the automatic shutoff systems on two fuel tank trucks. Fortunately, due to a quick response from staff, all the fuel from the two spills was fully contained within tank farm facilities, resulting in no environmental damage.

In an effort to lead by example, the Airport Authority delivers specific training



and workplace inspections to ensure compliance with all regulations, and has developed a recycling and disposal system for hazardous waste. To comply with applicable regulations the Airport Authority has a number of initiatives for its own facilities including:

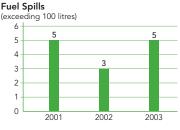
- Inspecting all waste storage areas regularly
- Maintaining a training program for hazardous materials and waste management
- Maintaining procedures for managing waste oil, PCBs, batteries and ozone depleting substances
- Maintaining storage tank and materials storage procedures

#### **Tabletop Exercises**

When it comes to handling potentially hazardous spills, there is no substitute for preparation. The Airport Authority regularly holds tabletop exercises with participants such as airline fuel suppliers, Environment Canada, Richmond Fire Rescue and Airport Authority personnel to practise coordinated responses to emergencies before they occur. These educational exercises foster cooperation between response agencies and the Airport Authority, and provide all participants with valuable emergency experience. At the same time they also highlight if any response modifications are needed.

In 2003, the Airport Authority carried out 12 tabletop exercises, two of which were environmental. One of the exercises involved simulating a 100-litre hydraulic oil spill on an apron (the paved area where aircraft manoeuvre). The other exercise simulated the spill of a hazardous material from a passenger's bag within a large metal container. In both instances, the exercises proved to be an excellent way to practise roles and responsibilities in emergency situations.







### Water Quality

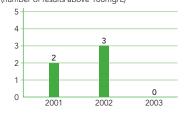
The Airport Authority's Water Quality Program's key objective is to

minimize or prevent pollution that results from airport and airport related activities. We are



committed to ensuring sensitive aquatic habitats are not compromised and surface and ground water are protected through a strict program of pollution prevention, emergency response preparedness and water quality monitoring.

#### Water Quality Results - Glycol (number of results above 100mg/L)



Some activities that occur on the airport have the potential to impact stormwater runoff and local water quality. The Airport Authority has developed strategic control measures and procedures focusing on three key airport activities:

- Aircraft de-icing and runway de-icing
- Aircraft fueling and maintenance
- Construction activities

#### **De-Icing**

For safety reasons, aircraft are de-iced in winter using chemicals such as glycol. Because these chemicals can act as pollutants in the environment, the Airport Authority closely monitors and regulates de-icing activities. In 2002, a new glycol processing facility was installed at YVR, resulting in more efficient glycol disposal and lower costs for airlines. Construction of new, more effective de-icing pads has reduced the likelihood of any glycol entering the environment. In 2003, more than 180 water samples were collected from surface water quality monitoring stations located near the edge of Sea Island and analyzed for ethylene glycol and propylene glycol (ingredients in aircraft de-icing fluids). None of these 180 sample results exceeded the Canadian Glycol Guideline limit of 100 parts per million. This marks the first time in the last 10 years that all glycol results remained below the guidelines.

#### **Fuel Handling**

Over one billion litres of aviation fuel are handled at YVR each year, making fuel spill prevention a top priority. Oil-water separators are being installed in all new vehicle parking lots and aircraft parking areas as a first line of defence in the event of fuel spills. Shut-off gates are located in drainage ditches at the edge of the airport property as well, allowing ditch flow to be stopped if a spill or other emergency requires it.

#### Construction

Excavating soil and the placement of preload materials can potentially increase soil erosion and release sediment into sensitive aquatic habitats. As a result, the Airport Authority requires strict erosion control measures on all projects that expose soil. All construction projects are reviewed and monitored by the Airport Authority.

## **Conserving Natural Resources**

The Airport Authority believes the "greenest" energy of all is the energy we don't use, and our goal of consuming energy more efficiently is addressed by our Resource Efficiency Program. By the end of 2007, our goal is to be in the top 10 percent of airports in North America for energy efficiency and improve our electrical energy efficiency by 15 percent relative to 2001 levels. At year-end 2003, we had improved our electrical efficiency by 5.1 percent.

The Airport Authority is currently entering the third year of its 2002-2007 Energy Management Plan, which is designed to meet these targets through:

- Proactive planning and the elimination of energy waste
- Optimizing energy efficiency
- Choosing appropriate energy types and using 'green energy' wherever possible
- Raising staff awareness of energy issues
- Ongoing monitoring

At YVR, the Energy Reduction Committee coordinates activities, shares information, initiates action and tracks progress on Energy Management Plan initiatives.

#### New Buildings at YVR

New buildings at YVR are designed and constructed to operate at optimal energy efficiency with a target of 50 percent better energy efficiency than the Model National Energy Code for Buildings. The Airport Authority takes an integrated design approach and uses energy modeling tools such as BC Hydro's Design Assistance Workshop. In addition, the Airport Authority uses a Green Building consultant and involves employees in the design of new buildings. When building YVR's International Terminal Building and renovating the Domestic Terminal Building, the Airport Authority made extensive use of natural lighting by incorporating floor to ceiling windows and skylights throughout their design.

In 2003, as part of the new UPS facility constructed on the airport's northlands, YVR became the first airport in North America to install controllable inset Light Emitting Diode (LED) lighting on a taxiway. These LED fixtures consume 50 percent less energy than conventional quartz fixtures.



"We applaud the Airport Authority's innovative energy solutions and their goal to be a leader in energy reduction. Power Smart projects help our customers save money and help BC Hydro meet growing energy demand in the province by acquiring low-cost energy through conservation."

Bev Van Ruyven,
 BC Hydro Senior Vice-President Distribution





#### **Employee Awareness**

Recognizing that the Airport Authority's energy efficiency is largely dependent on the behaviour of its operational, trade and professional staff, the Airport Authority, with the support of senior management, is committed to educating staff about the environmental, performance and financial benefits of energy efficiency and conservation, both at home and at work.

Among the many initiatives in place to educate employees on energy efficient work activities, equipment purchasing choices and design decisions for future facilities are:

- Orientation sessions to introduce new employees to the Energy Reduction Committee and energy conservation issues
- Enrollment of key technical and management personnel in BC Hydro/Canadian Institute of Energy Training four-day Energy Management Training Courses
- Technical, hands-on training on specialized equipment and procedures associated with energy efficiency
- Seminars on advances in energy efficient retail design
- Specialized information sessions on eco-efficiency in urban development, sustainability, and alternative and renewable energy sources
- Seminars on green buildings for Engineering, Engineering Services, and Environment staff and Architects

Another key component of the Energy Reduction Committee's program is the informal Lunch and Learn information sessions, where technical staff educate others about the financial benefits of energy efficiency, conservation at home and at work, alternative and renewable energy sources and environmental performance. Information on energy efficiency is also communicated to all staff through our internal newsletter, intranet site, e-mails, staff meetings and other communications materials.

#### YVR: A Power Smart Airport

Power Smart is a BC Hydro initiative that assists its 1.8 million customers in conserving electricity, thereby saving money and reducing further impacts on the environment. In 2002, the Airport Authority became BC Hydro's first Power Smart Certified business for outstanding energy efficiency leadership. Although the terminal buildings at YVR increased in area by 44 percent between 1997 and 2003, total energy consumed at all Airport Authority controlled facilities increased by only six percent. Since 1996, Power Smart Certified initiatives implemented at YVR have resulted in savings of more than \$2 million.

#### Solar Panels

In 2003, the Airport Authority installed the largest solar powered hot water heating system in British Columbia. The \$500,000 project was paid for in part through \$85,000 of incentive funding through BC Hydro's Power Smart Program. The new system, comprised of 100 solar panels atop the Domestic Terminal, will generate savings of nearly \$90,000 and 8,569 gigajoules of energy annually. The system will heat on average 3,000 litres of hot water at YVR each hour.



"The solar panel installation is another example of how the Airport Authority is leading the way in large-scale energy reduction initiatives."

– Bob Cowan,

Senior Vice President, and Engineering with Vancouver International Airport Authority



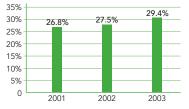
### Reducing, Reusing and Recycling

The Airport Authority's objective to increase the amount and type of waste being recycled is addressed

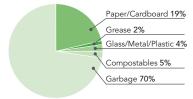


by our Recycling Program. Thanks to the program's focus on tenant and staff awareness of waste and recycling issues, the amount of waste that's diverted, recycled, reused or composted is increasing gradually each year.

#### Waste Diversion Rates







#### **Collection Measures**

The Airport Authority collects and recycles paper, cardboard, glass, metal, plastic containers, compostable foods, restaurant oil and grease, batteries, fluorescent lights, wood pallets, tires and electronics.

Among the many measures implemented to facilitate the collection of recyclable waste at YVR are:

- Containers for recyclables placed next to garbage bins in all public areas
- Desk-side recycling bins in Airport Authority office areas
- Recycling bins for glass, metal and plastic containers in YVR eating areas
- Extensive signage to educate traveling public and airport staff
- Recycling bins to collect compostable materials provided to all restaurant tenants

#### **Airport Terminal Waste**

In 2003, 29.4 percent (683,141 kilograms) of the waste generated from the airport terminals was diverted from landfill, the highest diversion rate recorded since the implementation of the program.

#### New Reporting Standards

While recycling has been an integral component of the Airport Authority's efforts to reduce solid waste for the past 10 years, only waste from the terminals was tracked and used as a performance-based standard. We now also track waste from satellite locations (Airport Authority buildings or operations not associated with terminal facilities) and construction projects to more accurately record the efforts and results of the Airport Authority's recycling program.

In 2003, the Airport Authority diverted 9.2 percent of waste from satellite locations, 29.4 percent from airport terminals and 82.2 percent (primarily concrete and asphalt) from its three largest construction projects. Collectively, YVR recycled or diverted over 59.9 percent of its wastes from landfills, surpassing the GVRD's target of 50 percent for waste diversion.

	AIRPORT	SATELLITE	CONSTRUCTION	
2003	TERMINALS	LOCATIONS	PROJECTS	TOTAL
Total Waste (kg)	2,322,091	629,556	4,594,289	7,369,886
To Landfill (kg)	1,638,950	571,596	817,201	2,887,007
Recycled (kg)	683,141	57,960	3,777,088	4,482,829
% Recycled	29.4%	9.2%	82.2%	60.8%

ENVIRONMENTAL PROGRAM	TARGET <sup>2</sup>	ACHIEVED 2003
Hazardous Materials	Zero Spills	Five fuel spills over 100 litres
	Reduce the number and amount of hazardous materials	Not measured
Water Quality	Reduce the number of exceedances of water quality criteria	No exceedances of glycol guidelines
Air Quality	Air Quality results that are better than the other locations in the Greater Vancouver Regional District	Aircraft emissions at YVR currently account for less than one percent of all greenhouse gas emissions and less than one percent of all smog forming pollutants in the Lower Fraser Valley Air shed
	A reduction in the number of single occupancy vehicle trips	Not measured
Aeronautical Noise	Complete all initiatives within the year planned	All but one of the 22 initiatives from the 1999-2003 Noise Management Plan completed
	Improved community response	Not measured
Resource Efficiency	Placement in the top 10 percent of airports in North America when measuring energy efficiency in terms of seasonally adjusted energy intensity	Not measured
	Improvement of electrical energy efficiency by 15 percent over five years (year end 2007) relative to 2001 levels.	5.1 percent improvement at year end
Environmental Impact Assessment	100 percent of construction projects reviewed by the Environment Department	100 percent or 123 Environmental Projects reviewed
Recycling and Waste Management	Exceed the GVRD's 50 percent waste diversion objective	59.9 percent of the total amount of waste at YVR was recycled or diverted from landfill

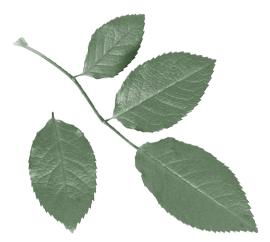
#### Summary Table – Environmental Performance Indicators

<sup>2</sup> This table represents a work in progress to define meaningful performance indicators. We are committed to working with key stakeholders to develop measures and targets that will drive continual improvement in our environmental performance. We welcome your comments or suggestions.



## Notes


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