



CITY OF VANCOUVER WILDLAND URBAN INTERFACE PROGRAM – Sept. 25,2003

PURPOSE: Due to the severe nature of the fire season in British Columbia in 2003 and the corresponding damage caused by the many wildland fires in many B.C interior cities, it would seem to be an appropriate time to assess the current preparedness level of the City of Vancouver to prevent and or deal with an urban interface fire occurring within it's boundaries.

SCOPE: As the Vancouver Fire & Rescue Service has the main responsibility to deal with any wildland fires within the city of Vancouver, this report will attempt to assess their current ability and preparedness level to deal with an emergency of this nature.

BACKGROUND: Wildland firefighting is one of the fastest growing aspects for most fire departments across North America. With the lack of available building space and population increases in urban areas the encroachment of people and structures into wildland areas has caused yearly increases of wildland fires. The city of Vancouver is no exception. Vancouver fire crews respond to an average of 70-80 wildland incidents each fire season (July to Oct.). Although there are limited areas of wildlands within the city boundaries, there are some extremely sensitive areas that could have large-scale implications on city residents, services, and the environment should a large-scale wildland incident occur. Although by rural standards the city does not have large wildland areas, conversely most rural or isolated areas do not have the large population base, or residential and industrial infrastructure that could be affected by a large wildland incident.

Due to the increasing rates of wildland fires in the city, the inclusion of the UBC Endowment Lands, and the pollution problems and concerns around the Delta Bog fires in the mid 1990's the Vancouver Fire & Rescue Services instituted a Wildland firefighting program in 1998. This program was designed to educate its suppression members in the differences between wildland firefighting tactics and safety and those of structural concerns. Approx. 450 members received a basic course in wildland Firefighting awareness in 1998. As well, two four wheel drive half ton pick up trucks with a water tank and forestry equipment were added to compliment #19 and #5 firehalls. This was done to ensure that quick access to the areas where the larger fire apparatus could not travel were accessible. Through 1998 to 2002 ongoing Wildland awareness training courses have been given to fire crews whose districts border the three areas of most concern noted above. This involves the training of approximately 120 personnel each year. We have one instructor who has taken training through the B.C. Forest Service that allows him to deliver and certify members to the forestry S-100 level. We have since trained 3 other members to deliver this 10-hour course. As Wildland concerns tend to be seasonal part of the certification process requires re-certification of anyone receiving this course on a yearly basis. With the constant movement and placement concerns with a department of this size it was found to be easier to run the full course on a yearly basis. The current wildland training takes place in the month's of May and June leading up to the fire season.

In 2003, The Vancouver Fire & Rescue Services purchased two Compressed Air Foam Wildland Vehicles, which have been stationed at #5 and #8 firehalls. These vehicles provided a serious upgrade to the Department's ability to combat and limit wildland fire spread.

THE VANCOUVER URBAN INTERFACE - AREA OVERVIEW

Although there are many pockets of vegetation throughout the city of Vancouver, the three main areas of concern are as follows:

1. **University of British Columbia Endowment Lands** – Although there are approximately 4000 acres of forest in the UBC area, the main concern is the 2000 acre Pacific Spirit Park. This area came under the direct jurisdiction of the Vancouver Fire Rescue Services after the merger with the University Endowments Fire Department in 1995. This is a protected provincial park and as such has had no activity in it for many decades. This has caused the area become severely overgrown, diseased and covered with a heavy layer of slash and ground fuel. This factor combined with the heavy coniferous tree load makes this area a huge fire risk.

Other risks & concerns associated with this area are:

- A total lack of internal water supply, as well as limited areas of supply around the perimeter of the park
- Most trails are not passable by department vehicles
- Only one trail through the park, with no effective turn around spots. The trail is a hydro cut line and as such is an inherent danger
- Trail system is confusing and bearings are easily lost in dense cover
- Extreme fuel load , both aerial and ground
- The area directly impinges on many sensitive sites, Triumph Research Facility, hazardous waste dump, electrical sub stations and many housing developments .
- Park visitors and illegal campers start many fires through cooking and campfires.

2. **Stanley Park** – 1000 acres centrally located near the downtown core of Vancouver. Also a heavy fireload but maintained regularly by Parks Board personnel. It has a good hard road access system as well as a fixed city hydrant system around the perimeter of the park.

Risks and concerns associated with this area are:

- Traffic and congestion problems due to proximity to downtown core, vehicular traffic and park visitors.
- The older style interior water mains (some wood) have partially collapsed making the internal park water supply extremely limited.
- Proximity to many sensitive structures and highways
- Illegal campers and a growing vagrant population in the park is causing a greater risk of camping, cooking and cigarette related fires.

3. **Everett Crowley Park** – The old city dump located at 64th and Kerr St. Approximately 500 acres of light deciduous fuels such as birch and alder trees with heavy overgrowth of brambles and grass.

Risks and concerns with this area are:

- Only one way in and out
- Many unseen soft spots and hollows on trails due to bark mulch and fill.
- No internal hydrants or water supply
- Vegetation encroaches directly into back yards of the housing and condo complexes.
- Methane vents from the city dump are still active in the park.
- Fuels in the park are light and could spread very rapidly making them difficult to control.
- Campfires and arson are regular problems

RESPONSE CAPABILITIES

The Vancouver Fire & Rescue Services currently has three dedicated wildland vehicles. These vehicles can access areas that larger fire apparatus cannot to ensure quick response to wildland incidents. They are stationed at #5 hall, #8 hall and #19 hall because of their proximity to the three areas of most concern noted above. They are also available to respond anywhere in the city should the need to arise. The units stationed at #8 and #5 hall are the new 300 gallon Compressed Air Foam Vehicles while the vehicle at #19 is the older GMC ½ ton pick up with a 100 gallon tank. All of these vehicles carry specialized clothing and equipment specifically designed to deal with a wildland fire. The members in these halls receive wildland training at the beginning of each fire season, as well they doing regular tactical inspections of the 3 large park areas

Summary and Conclusions

Conclusions:

As the manager of the wildland program for the VF&RS I traveled to Kelowna and Kamloops in late September to meet with the command officers from these respective departments. The purpose of this visit to ascertain information regarding any tactical or logistical concerns that may have developed during their involvement with the large wildland incidents and to relate the lessons learned to the ability of the VR&RS current preparedness level to deal with a large scale incident should it occur. There were many concerns that were expressed that I believe do not relate to us. Most revolved around the logistics of a smaller department absorbing a large amount secondary assistance. As an example the Kelowna Fire Department only employs 21 on duty personnel, but at the height of the incident was responsible for the deployment and logistics of approx. 650 personnel and close to 100 apparatus. This posed a major concern for them in the area of communications, accountability and logistics. Their involvement with other agencies in a unified command structure also was problematic. Most of these concerns in my opinion would not be as big an issue for us because of the size of our department, our training levels, as well as our previous experience with large incidents of varying types. The area that in my opinion is the most concern for our department revolves around that of equipment and specific training.

The following should be considered to ensure proper preparedness levels are in place:

1. The current deployment of the older style wildland vehicle at #19 firehall is insufficient to meet the needs of that area.
Recommendation – Purchase another CAFS vehicle similar to the ones stationed at #5 and #8. This should not be too much of a fiscal burden as the funding is already in place and is also assisted by the Provincial Government because of the involvement with the provincial park and the merger with the University Fire Department. I believe because of the devastation caused by the B.C. interior fires, the willingness of the provincial government to assist in preparedness would be high.
2. The current level of equipment (specifically clothing) carried on the wildland apparatus would not allow for the involvement of manpower in a large-scale incident.
Recommendation - Purchase of another 3 dozen sets of wildland coveralls, as well as forestry helmets and goggles. This would allow for the equipping of 50-60 front line personnel.
 Some upgrading to the level of hand tools and fittings would need to be done.
 Approximate estimated cost would be: Coveralls - \$5000, Tools and fittings \$2000
3. More interaction with other agencies in scheduled information sessions. Currently the VF&RS is part of the South Coast Interface Committee, which involves the B.C. Forestry Service, The G.V.R.D parks protection crews as well as many local fire departments. This as an excellent group that has worked on interagency preparedness concerns. Where I believe an upgrade is required is within the city structure itself. There needs to be more Fire Service involvement with other city agencies such as The Parks Board, Engineering & Pre-fire planning. This could address such issues as access to areas and water, clearing of trails and underbrush, vagrancy concerns and inter-agency response of manpower or equipment.

4. Training levels of the wildland halls as well as peripheral halls needs to be increased. This is simply done through scheduling of more instructor training through the training department. My recommendation would be to train 12-16 new trainers that would be stationed at wildland halls to assist crews with their knowledge base. The only concern with this is the fact that due to the volume of training currently being done by the VE&RS Training Dept. the priority of wildland training sometimes needs to take a back seat to other department priorities.
5. The inclusion of a compressed foam component on the engines surrounding the park areas would also be a positive step. After conversations with Chief Mutter of fleet Maintenance I believe this may already be in progress. This would allow for second in companies to a wildland incident to provide much better exposure protection and possibly limit extensive spread. Many of the larger progressive departments in North America have moved in this direction.
6. With the involvement of Vancouver Fire crews in the interior wildland fires and the possibility of future involvement as requested, I would recommend the following:
To avoid a last minute search for extra clothing and equipment for Vancouver fire crews who are sent in mutual aid wildland responses, as was the case this year, or to a large scale incident within the city, I believe the development of an emergency container or pod of clothing and equipment be established. This "Pod" could contain the necessary wildland clothing and equipment to equip approx. 30 personnel and up to 3 apparatus and could be kept at the Training site. A container already exists for this purpose and would only require the equipment and a willingness to put it together, which I would gladly undertake. This "Pod" could have multi purpose use in many other emergency preparedness scenarios as well.

Summary

While the Wildland Program of the Vancouver Fire & Rescue Services has evolved continuously since it's inception in 1998, the incidents in the B.C. interior serve as a reminder that preparedness and prevention of wildand fires should be the ultimate goal of any program. Although difficult in these times of fiscal restraint, the monetary costs of upgrading this type of program always outweighs the magnitude of the possible cost and suffering that could occur should a large scale incident take hold. Even with all the preparation in place sometimes wildland fires still occur and cause considerable damage, this is the nature of this type of incident. I believe it is important that if this does happen, Vancouver Fire & Rescue Services is able to confidently defend its level of preparedness to deal with a wildland incident.

Last year's dry summer and wildfires in B.C.'s Interior have heightened awareness of fire risks associated with natural and remnant woodland park areas in the City. With an anticipated trend to warmer, drier summers, Vancouver Fire and Rescue Services (VFRS), the Greater Vancouver Regional District (GVRD) and the Vancouver Park Board (VPB) are working together to enhance levels of readiness in case of a fire outbreak. An inter-agency, coordinated approach to fire prevention, suppression, preparation and protection for Vancouver's urban forest builds on protocols that have been in place for many years. The strategy includes regular meetings, shared resources, training, short and long-term planning, public education and communication along with monitoring and response. The goal is to ensure that we protect our parks, and keep them open and safe for the public.

The nature of urban forests

like rural forests, urban forests are managed by trained staff with special equipment. They provide good access roads and water supply and detailed mapping, and are serviced by local professional firefighters. Park maintenance staff and rangers regularly patrol the parks.

Areas of Responsibility

Managing Parks and Forests

Park Board

- City • 200 parks and 18 km of beaches
- Primary areas of fire protection: Stanley, Everett Crowley and Jericho Parks
- Other smaller parks or portions of parks that have forested areas, including Captain Cook Park, Malkin Park, Musqueam Park, Renfrew Ravine, Ravine Park, Fraserview Golf Course

Greater Vancouver Regional Parks

- City and Region • 30 parks and greenways comprised of more than 12,500 hectares
- Primary area of fire protection in Vancouver: Pacific Spirit Regional Park
- Park staff are S100 trained and available to respond to fires within the park with initial attack equipment

Fire Protection and Response and Resources

Vancouver Fire & Rescue Services

Supported by Park Board, GVRD (Pacific Spirit Regional Park & Watershed Protection), BC Forest Service (BCFS)

- Planning and simulations—inter-agency committee holds regular meetings
- Professional firefighters—some fire stations designated as "wildland firehalls," Forestry S100 and S125 Courses; tactical inspections to familiarize themselves with access and potential problems
- Training of Park Board forestry staff—fire prevention & suppression methods
- Special vehicles and trucks—wildland vehicles purchased two years ago
- Hydrants in parks, fire stations adjacent to parks
- Helicopters, planes available from BCFS on request from VFRS—one hour response

Fire Preparation and Parks • Major Parks

Equipment and Training

- Rapid response protocols in place
- Appropriate fire suppression equipment at optimal locations to parks (Firehalls #19, 10, 5, 8 and 6)
- Designated "wildland firehalls" receive special training
- Tactical inspections of park sites ensure rapid response & identify local risks
- Provision of training for Park staff
- Purchase of 8 hand held thermal imaging cameras to assist in locating reported fires

Inter-agency Co-operation

- Improved and regular communications
- Development of coordinated plan involving all local organizations and BC Forest Service

Communication/Public Education

Inter-Agency

- Inter-agency committee has developed signage, to be used during high risk periods, with contact numbers for prompt reporting
- Improved communication links between Parks, Police, GVRD Parks, Forest Service and VFRS

- Forest fire hazard rating signs based on provincial design are to be installed at park entrances
- Review of Province's Filmon Report on B.C. fires in 2003, adoption of key recommendations related to urban forest

The Public

Target audiences: residents, tourists, stakeholders, such as tour bus operators, restaurant owners, and transients

Key messages for the public are:

- Fire prevention and safety is everyone's responsibility
- Do your part—respect signage, regulations
- Direct fire concerns or questions to park staff
- Report all fires to 911
- Signage—inter-agency committee developed signage that is ready for use during high fire risk periods, with emergency contact number
- Web site and news releases—will be used to keep the public updated on any change in fire risks or prohibitions
- Information flyers—will be made available to the public visiting these parks if fire hazard escalates

Other Park-Specific Protocols

Pacific Spirit Regional Park

- Many of the park trails are accessible by fire trucks, 4X4 trucks, ATVs to deliver water, crews and equipment
- The park is also well serviced by fire hydrants
- Staff and VFRS conduct tactical drive-throughs within the park with firefighting vehicles
- Park staff are S 100 trained with initial attack gear to respond to fires within the park
- Staff meet regularly with VFRS to review fire preparedness in the park
- With over one million park visitors annually, the public assist staff in patrolling the park trails daily
- Staff use progressive measures to prepare for fire hazard conditions starting April 1 until October 31
- Starting April 1 or in moderate fire hazard conditions, whichever comes first, park vehicles are equipped with basic firefighting gear
- In high fire hazard conditions, extra precautions are taken to alert the public including prohibiting all fires, using propane or briquette BBQs only in approved areas
- In extreme fire hazard conditions, all BBQs are prohibited and signs are posted at park entrances with "no smoking on trails", extra fire patrols may be organized
- New fire hazard danger rating signs like those in provincial parks will be posted on the main entrance signs to Pacific Spirit Regional Park and will be updated regularly
- Trained forestry staff regularly remove and reduce fire fuel loading in the park
- Park rangers and forestry staff receive fire suppression training
- Air surveillance of the park is provided through protocols with airlines using Vancouver Harbour; 100 incoming and 100 outgoing flights each day
- In extreme conditions, evening security will be initiated in the park
- Water main replacement will continue for additional fire flow capacity to the park
- GPS co-ordinate maps have been developed and are shared by all agencies including ECOMM
- New hydrants are being installed at each trail head along Park Drive (there are 12 hydrants currently in the forest, plus on the perimeter of the park)
- Park staff and VFRS regularly conduct tactical drive-throughs with wildland vehicles
- BBQs are permitted in designated grassy areas only; they must be 30 inches above the ground
- No campfires are permitted in parks or on beaches
- If deemed necessary, the Park Board will ask the public to refrain from smoking in the park

Everett Crowley Park

- Park attendant is stationed in the park
- Park staff receive fire training
- Park staff and VFRS regularly conduct tactical drive-throughs with wildland vehicles
- No campfires are permitted on parks or beaches
- If deemed necessary, the Park Board will ask the public to refrain from smoking in the park

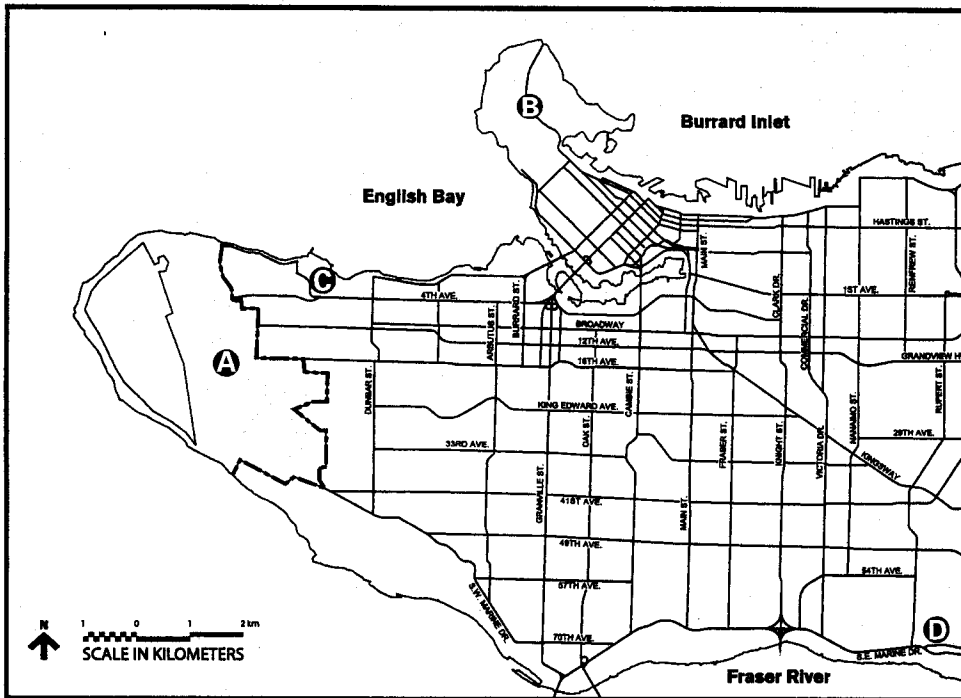
Stanley Park

- A major fire simulation was conducted in Stanley Park in 1993
- Fire access is provided by a perimeter seawall, extensive paved road and vehicle-accessible trail system
- With over 8 million visitors yearly, the public assist staff in fire hazard monitoring
- An outfitted fire trailer is available for park staff to monitor fires extinguished by VFRS

Jericho Beach Park

- Staff patrols to be implemented if increased risk warrant
- No campfires are permitted in parks or on beaches

Major Parks • Fire Readiness



A) Pacific Spirit Regional Park • 809 hectares (2,000 acres) • Adjacent to UBC in Electoral Area A

Primarily mixed second growth coniferous and deciduous forest 75 km of multi-purpose trails including 7.5 km of foreshore. The park contains a number of environmentally sensitive areas including the Ecological Reserve, Camosun Bog, small fish-bearing streams and Fraser River marshlands.

B) Stanley Park • 404 hectares (1,000 acres) • Adjacent to West End

600 acres of park is managed west coast forest comprised of cedar, Douglas fir and hemlock. 400 acres is landscaped, recreational land and gardens and includes a 5.5 mile seawall walk. Habitat for songbirds, water fowl, raptors and herons, small mammals including coyotes, raccoons, skunks, squirrels and rodents.

C) Jericho Beach Park • 54 hectares (133 acres) • Trimble St. and 4th Ave, west of Wallace St.

70% is wild, left to nature—meadows, broom and other scrub. Forest cover is about 40%-- mixed deciduous and coniferous forest, alder cottonwood, maple, cedar, and hemlock. Habitat for songbirds, raptors, water fowl and small mammals, including coyotes, raccoons, skunks, squirrels and rodents.

D) Everett Crowley Park • 40 hectares (99 acres) • Kerr Rd. and S.E. Marine Drive

Former city landfill site, natural reclamation of site, largely blackberry bushes with pockets of mixed deciduous forest of alder, cottonwood, wild cherry. Habitat for songbirds, raptors and small mammals including coyotes, squirrels, skunks, raccoons and rodents.

Media Contacts



Vancouver Fire and Rescue Services

Captain Rob Jones-Cook
Public Relations and Education Officer

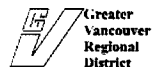
Ph 604-665-6070
rob_jones-cook@city.vancouver.bc.ca



Vancouver Park Board

Joyce Courtney
Manager of Communications

Ph 604-257-8699
joyce_courtney@city.vancouver.bc.ca



GVRD

Sheila Gardner-Grant
Communications

Ph 604-451-6033
sheila.gardner-grant@gvrd.bc.ca

Relevant By-Laws

Parks Control By-Laws

5. Prohibits discharge of any combustible material, or starting a fire or disposal of a lighted match or other burning material within any parks limits.
- 14.j Prohibits lighting a fire or placing fuel on a fire in or on any park or beach.
24. The General Manager shall post within parks for the purpose of prohibiting, restricting or regulating any activity with the area posted and has the right to enforce all sections of the Parks Control By-Law
28. Every person who commits an offence against this by-law is punishable on conviction by a fine of not less than \$50.00 and not more than \$2,000 for each offence.

Vancouver Fire By-Laws

- 1.4.2.2.(1) Where an emergency arises from a fire hazard (risk) that causes the Fire Chief to be apprehensive of imminent and serious danger to life or property, the Fire Chief may take reasonable and necessary steps to remove or lessen the risk.

1.4.4. ORDERS

- 1.4.4.4. (1) Where in the opinion of the Fire Chief a condition exists which endangers life or poses a risk of injury or loss by fire, the Fire Chief may take reasonable and necessary steps, including the issuing of orders, to lessen or remove the risk or hazard.
- 1.4.4.2. (1) Following an inspection the Fire Chief may in writing order: g) the owner or occupant to take such other precautions as necessary to reduce the danger of fire or danger of persons

2.4.51 OPEN AIR FIRES

- 2.4.51. (1) No person shall light or maintain a fire in the open air for any reason without first obtaining a PERMIT from the Fire Chief.

8.2.1.1.OFFENCES

- 8.2.1.1. (1) Every person is guilty of an offence against the By-Law who:
 - a) violates a provision of this By-Law or
 - d) does an act which violates a provision of this By-Law or
 - e) fails to comply with an order or direction given under this By-Law

8.3.1.1. FINES & PENALTIES

- 8.3.1.1. (1) Every person who commits an offence against this By-Law is liable to a fine of not more than \$2,000 and not less than \$100 for each offence