A Simple Tool Kit for Citizen Activists

How to gather and use information to effect environmental change
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John Werring - Writer
Laura Timmermans - Designer
Introduction

We at the David Suzuki Foundation get hundreds of calls and emails every month from citizens requesting help to deal with a wide range of environmental issues, including land-clearing and property development, aggregate mining, farming, clear-cut logging, landfilling (garbage and waste), garbage dumping, incinerators, water pollution, sewage disposal, illegal fishing, poaching, hydroelectric dams and oil and gas development.

The truth is, we cannot respond to all of these issues. We simply do not have the capacity. So, one of our experts, who has been involved in the environmental movement for over 20 years, has decided to share some simple yet effective tactics with you to enable you to take matters into your own hands when dealing with contentious environmental issues and, hopefully, effect change when dealing with such issues in your community. And, believe it or not, dealing with almost all matters environmental is much simpler than you might think.

The one thing you need to do to engage on any issue is to arm yourself with good, credible and reliable information. For some issues, it can be as simple as taking a photograph or video and making a phone call or two. For others, it can amount to reading hundreds of pages of documents and filing written submissions to government tribunals. Sometimes an email or hand-written letter consisting of a few paragraphs can be just as effective, if not more so.

The purpose of this tool kit is to provide basic and easy-to-use tools that will enable people to gather important and relevant information that can be used to protect their health and the environment in which they live and perhaps advance a contentious issue in an informed manner.

These simple tools can be empowering. The information gathered by following just a few basic steps outlined below can be used to get corporations to change their behaviour, encourage governments at all levels to enforce rules and regulations and adopt needed policies to protect our environment and provide citizens with the knowledge that it is possible to work with city hall.
When to Use These Tools and Why

The When

If ever you are confronted with a situation in which you think an activity that is being undertaken might adversely affect the health of humans, animals or the environment (especially food and/or water), and you think something needs to be done to either stop the activity or modify it to prevent harm, you should use these tools to document the problem and use that information to seek a solution.

An “activity” can include:

- Road-building and/or maintenance (including bridge and culvert installation/clearing);
- Land-clearing (to allow for residential or commercial buildings, clear-cutting of forests, oil and gas well development, etc.);
- Depositing or dumping of chemicals or other harmful materials into waterways;
- Depositing or dumping of garbage or other forms of solid waste in an unauthorized way;
- The deposit or emission of some form of pollutant to/from the air or water or land; and,
- Land-filling of garbage and land-fill seepage run-off.

This list is not exhaustive but it gives you an idea.

The Why

All too often people (and that includes some environmental organizations) only react to contentious, or hotly debated, issues with emotion and not facts.

When it comes to challenging issues like land development, gathering evidence and information to make a case for defending your neighbourhoods and environment is an absolute necessity if change is to be effected.

This is not difficult to do. In fact, it is quite simple. All you really need to do is gather credible, preferably irrefutable, evidence to make and support your case and use that evidence to your advantage in seeking a solution to an identified problem.

Case Studies and Guidance

Following are three case studies that will help guide you on how to deal with issues related to activities or disturbances of land, water and/or air that may be happening in your environment and that you feel may warrant some kind of attention or intervention by either citizens or government regulators.

Each case study will set out a scenario and then outline a process, using some simple tools, for documenting the matter, raising awareness of the issue and encouraging local community or government action to have the matters addressed.

The Case Studies are followed by a simple road map for the reader to follow that outlines the 7 key steps that citizens should take to try to work with local municipal governments (“City Hall”) if the desire is to help effect positive change in one’s own community.

Let’s get started.

Never doubt that a small group of thoughtful, committed citizens can change the world.

- Margaret Mead
Case Studies

Below are some links to three brief, but hopefully informative, case studies that might mirror something you are encountering: one deals with land disturbance; one with a water-pollution issue; and, one with an air-pollution matter. Each case study will outline a scenario and make reference to some simple tools and steps that you should employ to build a case for intervention, should you feel intervention is necessary. Simply click on the link to the page that is most relevant to your issue and we’ll see if we can help you.

**Land**

*Case study 1: Land Disturbance*

*Example:* Land development (residential or commercial)

- Issues related to land-clearing, soil erosion, water pollution, dirty roads (lack of wheel-washing stations).

[Click here for Land Disturbance Case Study](#)

**Water**

*Case study 2: Water Pollution*

*Example:* Improper waste disposal leading to water pollution

- Issues related to improper waste disposal, water pollution, lack of government oversight due to inadequate resources.

[Click here for Water Pollution Case Study](#)

**Air**

*Case study 3: Air Pollution*

*Example:* Noxious emissions coming from that oil/gas refinery down the road

- Issues related to unregulated and uncontrolled air emissions, harmful particulates.

[Click here for Air Pollution Case Study](#)
Case Study 1: Land Disturbance

Issues related to land-clearing, soil erosion, water pollution, muddy roadways

Example: Land development (residential or commercial)

A resident notices that a land developer is clearing a site (removing trees and topsoil) to prepare it for some sort of building(s). It has been raining and the exposed soil has turned to mud. Trucks and/or heavy equipment are driving onto and off the site, depositing mud on the roadway. Muddy water is running down the roadway and into a storm drain that flows to a nearby stream. Alternatively, rivers of muddy water are running off the cleared land carrying a heavy silt load onto the roads and/or into nearby watercourses. Perhaps some trees along the banks of a stream have been cut down. You are concerned that the developer is not following appropriate guidelines to protect fish and habitat and prevent unnecessary soil erosion.

What do you do?

The first thing is to **take pictures** and/or **video** to document the situation. You can also **take notes** to document the date and time and jot down what you saw and, if you talked to anyone onsite about the situation, who you talked to and what was said. The next step is to call your city/town/municipal hall and ask to speak to the person in charge of environmental matters or, if they don’t have anyone with that responsibility, ask to speak to someone in charge of the engineering department. (*In most cases, if a municipality has someone responsible for environmental issues, that person is generally associated with engineering in some way.*)

Report the incident. Get the email address of the person responsible for ensuring compliance and enforcement of environmental rules and send copies of the photographs or video that you took. If you do not have a computer, arrange to have that person come to your home or meet you at their office and take the **pictures/video** to them.

Request that the person follow up with you on the actions to be taken, if any.

You should also find the number for, and call, Environment Canada and ask to speak to someone in the environmental enforcement branch. Environment Canada is responsible for administration of pollution prevention provisions of the federal Fisheries Act. It is illegal for anyone to deposit, or permit the deposit, of a deleterious substance into waters frequented by fish. A deleterious substance is any substance that might harm fish (excess sediment is deleterious because it can smother fish eggs or abrade fish gills or affect their ability to see and get food) or affect the use of fish by people (some solvents or heavy metals might not harm the fish but can taint fish flesh, rendering them useless as food; e.g., mercury).

*Continued on pg. 7*
Case Study 1: Land Disturbance

Hot water would also be considered a deleterious substance if it is dumped into a water body in sufficient amounts to raise temperatures to lethal levels.

If the situation involves removal of trees from the stream bank you should immediately call the federal Department of Fisheries and Oceans and/or your local Conservation Officer Service and report what is happening. It is illegal to harmfully alter, disrupt or destroy fish habitat without a permit. Riparian vegetation (which includes the trees and shrubs found within 30 metres of a stream bank) is considered to be fish habitat because it provides cover (shade, overhead cover) and food (leaf litter, insect fall) for fish.

If you cannot reach anyone at municipal hall or at the provincial or federal government regulatory offices, call your local police non-emergency line and ask that someone attend to deal with the situation. Violations of the federal Fisheries Act are criminal offences and a regular duty police officer has the power to enforce those laws.

Speaking of fish, if you are concerned whether the activity you are witnessing may be harming fish, you might want to try to determine if the affected water body supports fish. You can find this out relatively quickly by going online and checking relevant government websites for information. (British Columbia has Habitat Wizard, an online tool for determining which streams are fish-bearing and what species can be found there. It’s at [www.env.gov.bc.ca/habwiz/](http://www.env.gov.bc.ca/habwiz/). Alternatively, you can contact and ask people in the provincial or territorial environment ministry. In Ontario you can contact your local conservation authority.)

If no action is taken, it would be an opportunity to shed some light on poor enforcement of environmental regulations. Contact someone in the news media, at your local television or radio station or newspaper. Tell them your story. Tell them you have pictures and/or video. Tell them who you have spoken to about the situation. Media outlets like to run stories that speak to ineffective or inept governments, especially when it comes to lax enforcement of rules and regulations that are in place to protect the environment.
Case Study 2: Water Pollution

Issues related to improper waste disposal, water pollution, lack of government oversight due to inadequate resources.

Example: Improper waste disposal leading to water pollution.

A landowner (Landowner 1) in a rural area has concerns because someone (Landowner 2) bought lands adjacent to his or her property and the adjacent site is now being used as an industrial scale "organic composting" facility. The property owned by Landowner 2 is receiving daily truckloads of what is supposed to be clean organic waste collected through a nearby city's waste recycling program, and the material is being dumped in huge piles on the property. The dumped material is supposed to consist only of source-separated food scraps, garden trimmings and other clean organic material (untreated wood, cardboard, etc.) which is to be composted on site into “healthy and beneficial Class A soils”, which are then to be spread on surrounding fields.

Landowner 1 believes the material being composted also contains hazardous or toxic waste. He or she notices a foul-smelling, dark-coloured liquid coming from the compost piles and running across and off the offending property and into a local stream. Landowner 1 also believes the runoff may be contaminating the local watercourse and surrounding groundwater, which local residents rely on as drinking water. On discussing the matter with the relevant permitting authorities, Landowner 1 is informed that the composting facility is properly licensed and, despite the expressed concerns about potential pollution, the authorities refuse to investigate the matter further. Area residents, however, remain concerned that potentially toxic runoff from the site is not being properly collected or treated and they are at a loss as to what to do.

If uncontrolled runoff from a business is polluting the environment, the authorities should act to stop it because it is illegal to pollute land or waterways in most jurisdictions. However, there is a problem. There is absolutely no proof that runoff is, in fact, running off the property let alone that it is untreated and toxic. Without such proof, all local landowners can do is continue to complain to the agency that regulates such things. But that is unlikely to stimulate action because government regulatory agencies are often unwilling to send someone out to investigate such matter on the basis of an unproven complaint.

So, what can YOU do?

You should take pictures and notes and take water samples to prove the case and convince the authorities to act. Once samples have been taken and sent to a laboratory for analysis (or, taken by an investigator who has conducted his or her own field tests), the results should be examined by a trained professional and a decision made about how best to proceed.

If the samples results show clear evidence of surface water contamination, or if pictures and/or video show evidence that the material in question is not properly covered, or it is spilling onto areas not approved for dumping, or that uncontrolled runoff is entering local waterways, that evidence should be shared with regulators.

You should follow up with the regulatory agency regularly to ensure the matter is being appropriately dealt with. If it isn’t, draw attention to this fact in a very public way by bringing forward with the media (TV, newspaper). This will often force the government’s hand.

At this point too (once evidence has been obtained), environmental organizations, like the David Suzuki Foundation, with staff trained in dealing with such matters, may decide to intervene as well to support your local community.
Case Study 3: **Air Pollution**

Issues related to unregulated and uncontrolled air emissions.

**Example 1) Noxious emissions coming from that oil/gas refinery down the road**

You live in a neighbourhood with an oil or gas refinery nearby. You notice that from time to time you can smell noxious fumes that you suspect may be coming from the refinery and in talking to your neighbours you find out many of them notice the noxious odors too and are getting sick.

Local authorities and the company that owns the refinery maintain that nothing is wrong; that emissions from the refinery are well within public health guidelines. But you suspect otherwise. The regulator will not step in and do what it takes to find out if there really is a problem.

**What do you do?**

The simplest and easiest thing you can do is to document for yourself what, if anything, is going on.

Contact a local analytical testing laboratory that analyzes air samples. Ask them for some “Tedlar Bags”. They are easy to use and are usually provided to clients for free. However, you will need to either rent ($10-$15/day) or purchase ($30-$50.00) a vacuum pump (required to draw gas into and inflate the bag).

The laboratory will also provide free instruction on how to use the sampling device.

Keep your sample bags handy and when you smell that odor again, take a sample and ship it immediately to the laboratory for analysis (at a minimum, request analysis for small particulates - ppm10 or ppm 2.5; and, volatile organic carbons (VOCs). Also, don’t forget to take notes and record the date and time of day the air event happened and document where (geographically) the sample was taken.

When you receive the results have them reviewed by someone with is familiar with air quality parameters and standards (someone at a local college or university would likely assist you for free in this regard. You could also contact a local environmental organization with expertise in dealing with air pollution).

If the results show elements of concern, bring them to the attention of the regulator.

Another option is to join forces with others in your community and form a local “Bucket Brigade”! (http://grist.org/article/the19/).

“Bucket Brigades” are local community activist groups that use simple and cheap, but effective tools to monitor and report on air quality in their neighbourhoods.

There are “Bucket Brigades” that are active throughout the U.S. and Canada. They keep an eye on oil refineries, chemical plants and even large-scale hog farms. Most are based in “fenceline” neighbourhoods — communities located next to industrial sites.

For more information visit: http://www.chemicalbodyburden.org/hb_cs_cbe.Htm

Just be aware that there may be a fee for getting help in the setting up and training of your own community Bucket Brigade. If that is the case you can always hold fund-raising events to raise the necessary funds.

That said, there is value in being vigilant and taking pictures/video and notes of air pollution events that might otherwise go unnoticed, because a picture can say a thousand words and notes can remind you of when and where the incident took place.

Taking air samples to prove the occurrence of the event is an important added component to help you address the issue.
Seven Steps to Work with City Hall

Earlier in this document we suggested that it really is possible to win environmental battles. How, you say? By using the tools in this document and by following a few basic steps that pretty much fit in lockstep with how municipal politics and politicians work.

1) **Know what is happening in your community.** You can do this by reading local newspapers. Scour the publication for proposed zoning amendments in your area, or in areas that are important to you. In most cases, proposed changes to land zoning (e.g., agricultural to commercial) must be publicized in local newspapers (it’s the law in most communities) before municipal governments can effect the changes they are trying to implement (i.e., zoning amendments).

2) **Choose your battles wisely (Not all change is bad).** Don’t oppose development just for the sake of opposing any development. All too often, certain community activists oppose every bit of change that they become aware of. This can be counterproductive. One could come off looking, or sounding, not credible.

3) **Get involved early!** It is too late to oppose land development activities when you look out your window and see a bulldozer at work. Unless what is happening is entirely illegal, by this time, the project has already gone through several phases of approval, which generally includes a public consultation phase. The time to get involved in any issue is when the offending project is first proposed.

4) **Put your objections (or support) in writing.** If you plan to oppose, or support, a particular development project or other activity, you must set out your objections, or support, in writing and get them in front of the relevant people; in this case, your mayor and councillors. They are the ultimate decision-makers. Simply raising your issue vocally at community meetings, pontificating or complaining on the Internet (e.g., using Facebook, Twitter) or in front of municipal councillors during open council meetings is not enough. Unless your objections/concerns are in writing, your approval or disapproval can be pushed aside or ignored because there will be no permanent record that you have spoken out against (or in favour of) your issue.

5) **Arm yourself with credible information.** It is not sufficient to oppose a project by simply adopting a stance that the project will have a negative impact on quality of life (or a fish-bearing stream or a rare species). If that is the position you are adopting, you have to prove that this will be the case, so do some research! Go to your local city hall and obtain maps, plans and specifications for proposed projects from the planning department and/or engineering department. They should be freely available. Review the information and compile your facts and build your case in a thoughtful, considerate way.

6) **Work together with others.** To be effective in any battle, you have to have strength in numbers. Governments at all levels do not typically respond to issues that are raised by solo voices (unless that voice belongs to a pillar of society). They do, however, respond to issues that galvanize the public and provoke a groundswell of opposition, so build your army. If you need technical or professional help to make sense of complex reports, check around to see if there are retired or otherwise interested and available experts in your neighbourhood who are on your side and can offer their expertise for free.

7) **Be prepared to compromise.** Offer up alternative solutions. You will be more likely to win your battle if you are prepared to compromise and accept an amended proposal that at least meets some of your demands.

Often, municipal, provincial and federal project approval processes take many months, even years to complete. By following these simple steps, and getting involved early, you will be in a good position because you will have time on your side and you will be targeting the right people (the decision-makers) with the right information.
The Tools

#1: Freedom of Information Requests (FOIs)
- What are they?
- How to file an FOI
- Routinely releasable information

#2: Drawing Effective Media Attention

#3: Taking Effective Video

#4: Taking Effective Photos

#5: Note Taking

#6: Sampling (Soil, Water, Air, Fish)
- When, Where and How
- Taking a Water Sample
- Taking a Soil Sample
- Taking an Air Sample
- Costs and Other Considerations
- Using Minnow Traps

“Unless someone like you cares a whole awful lot, nothing is going to get better. It’s not.”
- Dr. Seuss, The Lorax
Tool #1: Freedom of Information Requests

What Are They?
An “FOI” is a written request to government to obtain copies of any government-held documents that one might feel are relevant to the matter in question. This is done by way of letter, email or online forms that are sent to relevant government departments that hold the information one is seeking. (There may be a little research involved here.)

Believe it or not, the federal government and all provinces and territories in Canada have specific legislation that allows citizens to request a wide range of documents and/or information held by government on virtually any government department or industry/business licensed or regulated by government.

This would include things like:

- Most forms of correspondence among/between government officials and between government and industry, including emails, letters, memos, meeting minutes, field notes and/or briefing notes, etc.;
- Letters of authorization;
- Licences, permits and licence/permit conditions;
- Environmental monitoring reports (both government and industry-derived);
- Results of compliance audits (both financial and regulatory);
- Field inspection reports;
- Orders (stop work, clean-up, maintenance, etc.); and,
- Notices of non-compliance, violation tickets, etc.

FOIs are powerful tools because the documents that one can obtain by using them can tell a powerful story that might otherwise go untold.


How to File an FOI
Filing a freedom of information request is simple. All it takes is a one- or two-page letter to the responsible person within any government agency or department’s information and privacy branch or office (click for example of sample letter here).

Federal requests are made under the Access to Information and Protection of Privacy Act. Provincial/territorial requests are made under specific provincial or territorial laws (see link above).

It costs nothing to file an FOI under most provincial statutes, but the agency may assess a fee depending on the complexity of the request.

For federal requests, there is a required $5 application fee that applies to all requests. This fee covers the first five hours of search and preparation time for the requested records. If your request requires more than five hours of search and preparation or involves computer programming, there may be additional costs. In most case, a request for a waiver of fees can be made for matters that are deemed to be in the public interest.

To assist you in determining which federal department you should contact for information, here is a link to all Federal Access to Information and Protection of Privacy Coordinators: [http://www.tbs-sct.gc.ca/atip-aiprp/apps/coords/index-eng.asp](http://www.tbs-sct.gc.ca/atip-aiprp/apps/coords/index-eng.asp)

Why File a Freedom of Information Request?
In many cases, issues that citizens are confronted with may involve something that has been ongoing for some time and has not been resolved. If that is the case, it is helpful to know this because it shows a pattern of inaction and/or neglect. If one can determine this to be the case, then one has the information to attract media attention to the issue. Media attention can be a powerful tool to force government or industry’s hand and make them act more responsibly.
Tool #1: FOI Requests (Continued)

Routinely Releasable Information

In some cases, government-held information — such as permits, letters of authorization, compliance notices, inspection reports and monitoring reports — can be readily obtained by simply asking a government office to provide it to you. Much of this is deemed to be “routinely releasable information”. All you have to do is ask for it and be prepared to give the relevant government department a reasonable amount of time to collect, compile and prepare it. Often, it just takes a phone call.

For example, you see raw sewage spewing from a pipe into a local stream. This is not a one-time event; you have seen it before and reported it. You have an idea as to the geographical location of the offending pipe (a nearby street address, an intersection, etc.). You can call the local government office in charge of licensing, permitting and monitoring sewage disposal (usually a ministry responsible for the environment), give the relative location of the pipe and ask if an inspection report or permit is in place that covers this discharge. If there is, ask to see the inspection/permit file. Tell them you can come into their office at an agreed-upon day and time to view it.

More often than not, your request will be granted and the government office will accommodate you and arrange for you to view the file. During the viewing you can take notes on what you are reading and ask for copies of relevant documents.

If you ask for copies of documents, they might be provided to you that same day. It depends on the volume of material you are seeking.

Always make a list of the documents, with the title, date and brief note of the subject matter, in case you are asked to come back another day to retrieve your copies. That way you can compare the document package you receive to your original list to ensure you get everything you asked for and were entitled to.

Note: Once viewed by the public, government can no longer claim that those documents are subject to special rules that argue against disclosure.

Bears and deer die at oil sands sites

Saturday, April 10th 2010

Government documents show that animals other than ducks have died at Alberta’s oil sands sites.

Documents obtained by Greenpeace, under freedom of information legislation, show that at least 164 other animals died during oil sands operations between 2000 and 2008.

Those animals included 27 bears, 67 deer, 31 foxes and 21 coyotes.

Possible reasons for the deaths are listed as drowning, oil from tailings, animals hitting structure or vehicles, electrocution, and euthanasia of problem wildlife.

Moose, beavers and wolves also died, although the cause of death isn’t specified.

http://www.hancockwildlife.org/article.php/20100410070858157
Nicola Valley residents protest biosolids being dumped

Protesters say they are concerned about water contamination from biosolids being dumped at Sunshine Valley

Trucks carrying biosolids 10 kilometres west of Merritt were forced to turn back this week by protesters who want to put an end to the Nicola Valley’s growing compost industry.

Read more at:

Tool #2: Drawing Effective Media Attention

The news media (radio, television, newspaper, online) thrive on conflict and controversy. Any element of a story that deals with conflict (opposing views, confrontation) or controversy (scandal, lies, misleading or misinforming the public, etc.) is more likely to be covered by a news outlet than a good news story.

However, a story must be grounded in fact, not just emotion or innuendo. Emotional elements need to be included in a story to show the human side and help readers understand it, but the main message should not be driven by emotion. Stick to the facts. The more facts you have to support your main message the better. Providing the “who, what, when, where, how and why” of a story makes it more likely that a reporter will cover it.

This is where the value of filing a freedom of information request or obtaining relevant copies of routinely releasable documents can be of great benefit. Be aware that it can sometimes take months for an FOI request to be processed, so you cannot rely on this tool if there is immediacy to a story idea. It can be great for follow-up, though.

There is also value in being prepared at any time to take pictures or video of an incident or event. Newspapers and television stations will often pay for pictures and/or video footage of something newsworthy. Often, just having this kind of information is enough to trigger a story if the material relates to something involving a wrong-doing, negligence or potential harm to humans, animals or the environment.

The media can be the most powerful tool in your arsenal when it comes to sharing your message. Governments at all levels monitor the media constantly looking for hot-button issues, especially if they call into question the government’s competence or ability to handle an issue.

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Tool # 3:  
Taking Effective Video

**Things to Remember When Shooting Video**

1) Always ensure your batteries in your device (camera, cellphone) are fully charged and you are set to go before you begin;

2) Check and re-check all camera settings (exposure, focus, colour, etc.);

3) Always study your subject before you begin;

4) Orient yourself with regards to your subject and plan your shot (i.e., pan left, pan right, cut to, zoom in, etc.);

5) Put the viewfinder to your eye, checking that what you see is what you plan to record, and only then press the record button;

6) Try to limit your shot sequences to between 30 and 45 seconds (an easily absorbed length of time within the average viewer’s attention span);

7) When you have finished your planned shot, stop recording before you take your camera away from your eye;

8) Never use the camera to look for a shot by trying to find something else to shoot while recording and looking through the viewfinder. This often results in jumpy, confusing and distracting video.

**Things to Remember When Narrating Video**

1) Study what you are going to shoot, how you are going to shoot it and what you need to say before taking the shot;

2) Avoid scripts; be natural;

3) Limit narration to topics like your location and what the shot depicts;

4) Avoid editorializing. Let the footage speak for itself.

**Advantages of Video:**

- Can take moving pictures showing events or situations as they occur;
- Can imprint date and time;
- Can put entire situation into perspective with regard to where you are (landmarks), where the problem is, and the scope of the problem;
- Allows narration of events as they occur;
- Almost all cellphones have video capability and are light, compact and can be concealed;
- Results can be viewed instantly.

**Disadvantages of Video:**

- Improperly shot video footage can be jumpy and difficult to follow;
- Lens options (wide angle, telephoto) may be limited;
- Video cameras are expensive and fragile.

**Narration Examples:**

**Bad Narration**

“I am on Deleterious Creek. This shot shows a bunch of trees that have been dumped into the creek and left. It is obvious that this has damaged fish habitat because I saw some fish on the downstream side of the trees, but none on the upstream side, so fish movement has definitely been blocked. It probably screwed up some good spawning area too. Ooooh! I’m gonna get whoever did this, I’m so mad. They’re screwing up our fishery. Look at this mess. It looks like a war zone.”

**Good Narration**

“I am on Deleterious Creek 300 metres upstream from where it joins Habitat River. This shot (pan to) shows several trees that have been felled directly into the creek and abandoned. Here (pan or cut to) are the butt ends of the trees. Over there (pan to) are the matching stumps.”
Tool # 4: 
**Taking Effective Photos**

**Things to Remember When Taking Still Photos:**

1) Always ensure you have fresh batteries in the camera and flash unit;
2) Check all settings
3) Always carefully study your subject before you begin shooting;
4) Orient yourself with regard to the subject and plan your shot;
5) Look through the viewfinder. Make sure you can see everything you plan to photograph. Centre your subject in the frame, focusing on the most critical element. Make sure to hold the camera steady while shooting to insure clear photos.
6) Use a flash and/or tripod when lighting is low;
7) Wide-angle, panned effects can be obtained by composing a mosaic, taking a series of shots and overlapping them side-by-side. It is important to know your camera’s capabilities and to be familiar with frame coverage so that you create a mosaic with as few images as possible. Make sure the frames overlap. Often a good wide-angle lens or panorama function makes this technique unnecessary.

**Advantages of Photos:**

- Cameras are small and light;
- SLRs have flexible lens capabilities (wide angle, zoom, macro);
- Newer cameras are point and shoot. Not much thinking is required;
- Pictures are easy to view and study (no “slow-mo” or pauses required);
- You can make slides for presentations and prints for posters;
- Photos can be inserted into albums or reports for presentation purposes.

**Disadvantages of Photos:**

- Cameras offer only a snap shot view of the world;
- Difficult to put things in proper perspective;
- New-generation cameras — especially on cellphones — often have fixed photographic capabilities. Your flexibility is limited by what the camera is programmed to do.

**Photo Examples:**

**Bad Photo**

**Good Photo**
Tool #5: 
Taking Notes

Good notes describe in a few words where you were, when and why you were there and what you saw. They should be clear and understandable so you can refer to them later. (It can take as long as a year or more to have some matters resolved either through the courts or even through regulatory agencies, so having good notes allows you to recall information and/or important details about events that you witnessed.) If possible, take notes on waterproof paper or a mobile device. It would be disastrous if rain (or flood) erased the hours you spent in the field recording valuable information.

You can get notebooks with plasticized paper or paper treated with a water-repellent material. One example is a product called Duksbak, available online (RD Penhall manufacturer, www.rdpenhall.com) and at specialty stationery supply stores. They make spiral-bound notebooks with plasticized paper. You can also buy Rite-in-Rain notebooks, made with waterproof paper, at most engineering supply stores (www.riteintherain.com/dealers.asp?PreviousCountry=&Country=CA&State).

Alternatively, you can dictate your notes into a small recording device or cellphone.

Do not place yourself in a position that could jeopardize your safety. This could include attempting to talk to someone carrying out a criminal offence.

Further, for the sake of safety and to verify events, always take someone with you on an investigation.

Your Field Investigation Notes Should Include:

1) Your name and the names of any other people who are in the field with you;
2) Date, time of day, weather and other environmental conditions (i.e., April 3, 2014, 10:35 a.m. Sunny, partly cloudy, air temperature 14 C, water temperature 6 C, snowpack light, heavy surface runoff from recent rain and snow melt, etc.);
3) Names and addresses and/or location (in map units, or geographic positioning units) of the site you are visiting and of any people or corporations involved (i.e., Ruined River, Cut Block #3391, Crummy Forest Harvesters Inc., Port Nowood Division);
4) Any identifying marks (i.e., signs, logos, etc.) you see that indicate who is operating on the site and where those marks were located (i.e., on side door of pickup or equipment);
5) Features of the site or event and type of activity involved (i.e., This is an active logging site. Access roads are being constructed and there is a D-9 Cat operating on the new road surface. According to the logging plans, this is Branch Road M2000. X number of people are onsite.);
6) Time and place of any photographs taken. Include roll number and frame (picture) number (i.e. Roll #2, photo 16 - Tributary #1, 10:15 a.m., 10m downstream of culvert on Branch Road M2000);
7) Subject matter for each photo referenced (i.e., Photo X shows point in stream where silt-laden ditch water is entering tributary #1. Note that the water upstream from this point is running clear in spite of spring runoff conditions); and,
8) What steps have the people involved in the potential offence taken to prevent the perceived problems from occurring? This is important, because you eliminate the perception of negative bias by illustrating that you took into consideration that the person or people committing the offence attempted to prevent it (if this is the case).

It's a good idea to review and rewrite your field notes as soon as possible, while all the information is fresh in your mind. Also, make copies and keep the originals and copies in separate locations.
Tool # 6: Sampling
When, Where and How

Sampling is warranted if, for example, there is discharge of a substance such as silt, mud, petroleum or chemical products or sewage into a water body (stream, river, pond or lake) that can be identified as coming from a specific source.

If the event you are witnessing involves something like heavy sedimentation of a stream caused by uncontrolled soil erosion, and the sedimentation is occurring while you are on site (i.e., it is raining heavily and the ditches are flowing dirty), it is crucial to back up your notes and photographs with samples of the affected water!

To Take Proper Samples,
Ensure you have the Following:

- Clean glass or plastic sampling containers—minimum size 250 ml (some can be as large as 20 liters);
- A cooler (Styrofoam will do) and ice packs or ice;
- Rubber gloves;
- Protective eyewear;
- Duct tape or masking tape; and,
- Permanent waterproof marker; e.g., a pencil or Sharpie.

Note: You can often obtain free sampling containers and coolers from regional or municipal water-quality testing facilities or laboratories. You can even call these facilities before doing any sampling and speak with a technical expert.

You can advise them of what you plan to sample for and get advice about the numbers and kinds of containers you will need. (For example, sediment and nutrient samples can be taken in plastic bottles; organic chemicals like benzene or toluene usually need to be taken in amber-coloured glass bottles; some samples need to be “stabilized” before analysis to ensure the chemical being tested for does not degrade in quality or quantity so the sample bottles will contain a stabilizing chemical agent. Samples containing mercury for analysis should be stabilized at the time of sampling with 0.5 per cent barium chloride to ensure the mercury remains in solution.)

WARNING:
Never attempt to sample dangerous toxic or corrosive substances without having the proper safety equipment or expertise! Never take samples of chemicals in enclosed or confined spaces such as sewer pipes, chemical treatment sheds, etc. unless you have confined-spaces safety training and appropriate safety gear.

Click here for a list of Laboratories in Canada.

Illustrations by Laura Timmermans
Tool #6: Sampling

Taking a Water Sample

Steps to Taking a Water Sample:

1) Make sure you have at least six clean glass or plastic sampling containers, approximately 0.5 to 1 litre;

2) Mark each bottle (at time of sampling) with a permanent waterproof marker (before you take your sample, while the container is dry) and include the following information:
   a) Date and time of sampling;
   b) Name of person taking the sample;
   c) Location where sample was taken (e.g., Storm drain outflow at foot of Easy St.);
   d) Number the samples taken. (You can create your own simple number code for ease of reference.);

3) Make sure you rinse the sample bottle two or three times with the water/effluent to be sampled at each location before taking the final sample;

4) When taking the sample, be sure that it is representative of the water column. Raise and lower the sample container throughout the water column (or as far as you can reach) as it is filling;

5) Fill the container so that there is no “headspace” (no air between the top of the liquid and the container’s lid;

6) After sampling, you should seal each sample bottle with tape and initial the seal;

7) You should take a sample above the point of contaminant (e.g., sediment, paint, oil, etc.) introduction (where the water is clean, or cleaner), at and/or below the point of contaminant introduction, and at the source (where the contaminant discharge is occurring) or as close to it as possible.

8) Draw a map (even just a rough sketch will do) showing the locations from which the samples were taken and jot the sample identity number that corresponds to the number on the sample bottle.

9) Have your partner photograph you while you are taking the samples. This will be part of the proof you need to show that you are taking samples from the identified location(s);

10) Place samples in a cooler containing ice or ice packs. Convention dictates that most samples should be kept in the dark at a temperature of around 4°C. Do not freeze samples.

11) Ship your samples to the laboratory for analysis as soon as possible. Stability tests indicate that many basic samples (i.e., to be tested for suspended sediments or metals) are stable for at least 30 days and can be stable for a year or more, but some (like benzene or “biological oxygen demand”) need to be tested for within 48 hours. Check with your laboratory regarding the required timing for analysis before you start sampling!

12) Finally, and most importantly, you should know where your samples are at all times and be able to identify who has had care and control of them (this is known as “continuity of evidence”), and you should be able to swear that they were not tampered with.
Taking a Soil Sample

You would probably want to take a soil sample if you observe a situation where some kind of contaminant has been spilled onto the ground (e.g., oil) or where someone has dumped a load of soil that appears to have been contaminated with some unknown substances in an area that is not authorized for such dumping.

The steps for taking a soil sample pretty much follow the same basic protocols outlined above for taking water samples, with some exceptions:

1) Use wide-mouthed jars for holding the sample (250 ml - 1.0 litre will do)
2) Use a tablespoon or large serving spoon to scoop up the sample and place it in your sample jars
3) If sampling for the presence of heavy metals, avoid using lids that have a foil lining, or cover the mouth of the jar with something like Saran wrap before affixing the lid.
4) Always wear rubber gloves if there is any doubt as to the nature of the contaminant you may be handling or exposed to.

When taking soil samples from an “affected area”, make sure you take smaller subsamples of soil (a minimum of two) from several locations within the affected area and mix them together to form one single homogenized sample before you put it in your jar. See diagram below.
Tool #6: Sampling

Taking an Air Sample

Taking Air Samples

Air samples are collected for different reasons but usually to find out what pollutants are in the air, and what are the levels (or concentrations) of the pollutants found.

Most individuals in a community setting would want to sample air to find out what kind of contaminants they are breathing while outdoors and/or to find out whether they are being exposed to indoor environmental toxins like mould or asbestos.

Air sampling can be very simple and inexpensive or it can be complex, labour-intensive and extremely expensive. If in doubt, call a professional.

That said, a group of citizens in California have developed a very simple yet effective sampling device for monitoring air pollution in their communities, called a “bucket” sampler.

The air samplers are basically plastic buckets with air-tight tops, some stainless steel tubes and valves, and a rubber tube connected to the top of the bucket. A simple vacuum pump is attached to the rubber tube, creating a vacuum inside the bucket. The low pressure inside the bucket helps an air sample flow into a specially designed plastic bag when the stainless steel valve is opened. It costs about $125 in materials for a group to build the bucket.

Analysis of the sample is the big cost. Depending on the chemical constituents of interest, a typical sample cost would be around $250.

The sampler is quite portable and can be taken into almost any setting. Community groups have used the bucket sampler to monitor air quality around chemical plants, refineries and waste-water ponds.

Here is a link to a website that talks about the “Bucket Brigades”. A Bucket Brigade allows residents living near emission sources to take samples whenever pollution occurs, even at night or on weekends when regulatory agencies typically cannot respond. It is like having your own Environmental Community Watch Program.

http://www.gcmonitor.org:/
communities/start-a-bucket-brigade/

Below is a diagram of the simple bucket sampler.

They use a special bag called a Tedlar bag. (It has a special valve attached to it that serves as the inlet tube.) It can be obtained from almost any air/water quality laboratory. The bags are free.

If you don’t want to build your own sampler, you can rent one from any reputable air quality laboratory (called a “SUMMA” sampler or “TD Tube”) for a reasonable cost, and they come with basic and simple instructions for their use.

Original Diagram courtesy of PBS:
http://pov-tc.pbs.org/pov/i/fenceline/
getinvolved04

Redrawn by Laura Timmermans
Tool #6 Sampling
Costs and Other Considerations

Costs of Sample Analysis
The costs for having samples analyzed for various properties or chemicals can range from as little as $10 (e.g., pH) to as high as $2,000 per sample (e.g., polycyclic aromatic hydrocarbons) or more. However, many basic samples can be tested for under $100 and costs per sample usually go down as the number of samples increases. Here is a link to a simple cost table that will give you an idea of the cost per sample for the most basic and/or most frequently requested types of tests.

Portable Field Sampling Kits
It is not always necessary to have samples for many chemicals and other pollutants tested at a laboratory. Various hand-held measuring devices and/or field test kits are available for either purchase or rent. An investigator can take these into the field to obtain direct, real-time measurements with a high degree of accuracy (comparable to certified laboratory results).

A quick internet search will help you locate companies in your area that rent or sell the equipment you might need. Companies like HACH, Pine Environmental, Osprey Scientific, Fischer Scientific and Hoskin Scientific are some commonly known ones. Hand-held devices can be rented or purchased to sample for gas leaks or emissions (like methane from landfills or liquid natural gas wells) and to test soils and surface waters for contaminants like heavy metals, excess nutrients and petroleum byproducts.

Sampling to Prove the Presence of Fish
There are four basic ways to establish the presence of fish in a stream or water body:

1) Historical information showing reliable records of fish presence. These are most likely held at a local government office (provincial environment ministry, Fisheries and Oceans Canada) or may even be found in your local library;

2) Personal observation. You actually see them. In this case, you might want to take photographs and have some kind of corroboration or additional witness;

3) Angling; and/or,

4) Some kind of netting or trapping.

If angling for fish or netting or trapping them, you will need either a valid angling licence and/or or permit for sampling fish for scientific purposes. (Check with local authorities.)

A Written Request for a Scientific Sampling Permit Should Include: (click here for example)

- The name or names of the person or people who will do the sampling;
- The name of the water body to be sampled;
- The date range in which sampling will be undertaken;
- The sampling method (e.g., rod and reel, beach seine, gill net, minnow trapping);
- How the fish will be handled (e.g., live release following photos and ID; euthanized, etc.)

Note: The permit for sampling for scientific purposes is a federal requirement and is issued by Fisheries and Oceans Canada, upon request (usually in writing).
Tool #6 Sampling
Using Minnow Traps

Minnow traps are small barrel-shaped wire baskets used to trap small fish. They have small funnel-shaped holes at each end of the “barrel” that small fish can enter but cannot find their way back out. The basket “breaks” in half so bait can be placed inside. It can then be closed with the two parts held together with a clasp. Rope or string can be tied to the clasp ring and used to retrieve the basket after placement. They can be purchased at Canadian Tire.

When baiting minnow traps, use canned sardines packed in soya oil. Other baits include fish eggs (roe) and dry or wet dog or cat food. Just open the basket, toss the bait in and close it.

When placing the trap in a stream, find a small, quiet pool where the current is not so strong as to sweep it away downstream and deep enough to completely submerge the trap. Tuck it in close to the bank or by some submerged structure if you can. Tie your retrieval rope to an overhanging branch and, if necessary (for example, if you will be leaving the area and coming back later) add some coloured flagging tape so you can find it again. Make sure the flagging tape is placed where it will be easily visible.

If you are placing the trap in a lake or pond, you can simply toss it into shallow water near shore or suspend it in the water column. Again, tie off your retrieval rope to some fixed point. Let the trap “soak” for at least four hours before checking.

If you want to measure the fish or try to identify the species, it is best to anaesthetize or knock the fish out before handling them; otherwise they will flop around and could be injured by rough handling. To do this in a way that is not harmful, take a clean bucket and fill it with water from the stream or pond you are sampling and throw in one or two Alka-Seltzer tablets and let them fully dissolve. Dump the fish from the trap into the treated water. It will knock them out for a few minutes, giving you time to handle them. To help the fish recover, have a second bucket with fresh, clean water and place the anaesthetized fish into the clean water. They will come around in a few minutes.

Illustrations by Laura Timmermans
Join the Blue Dot Movement

Blue Dot Movement leverages Community Organizing Model

Sometimes, the right idea comes at the right time. And when it does, it’s amazing what can happen.

The David Suzuki Foundation launched the Blue Dot Movement with a national tour in September 2014. We wanted to bring life to the idea that every Canadian deserves the right to a healthy environment. We believed that a vision of connectedness, caring and action would inspire people to protect the people and places they love. We also believed that leadership lies within each and every one of us.

Using a community organizing model, based on the notion that people come together to create power in order to affect change, the Right to a Healthy Environment movement was born. Canadians have been standing up ever since to say this right should be recognized at all levels of government. Canadians overwhelmingly believe in our inherent right to a healthy environment: access to fresh air, clean water, healthy food and a say in decisions that affect us.

The fast growing movement www.BlueDot.ca/TakeAction calls upon local governments to pass declarations recognizing people’s right to live in a healthy environment.

We hope that community by community, this movement will inspire decision-makers across our provinces and territories to take notice.

Next, we hope that provinces will follow suit and pass environmental bills of rights. When seven out of 10 provinces representing more than 50 per cent of the Canadian population have recognized our right to a healthy environment, we will turn toward the ultimate goal: amending the Canadian Charter of Rights and Freedoms.

Recognition in the Charter is the final step in protecting the right to clean air, fresh water and healthy food for all Canadians. This ensures that we all benefit from a healthy environment, world-class standards and a say in the decisions that affect our health.

If you don’t have the inclination to try to effect change in your community using the other tools and methods outlined in this document, we hope that you consider joining us in promoting the concept of the Right to a Healthy Environment for all Canadians, starting in your own community. It’s easy to do and the rewards may be tremendous.

Here’s how you can get started in your community:

• Join the movement by signing the Blue Dot petition.

• Read our organizer’s tool kit to learn about key messages, environmental rights and where to find resources on how to engage people in your community.

• Attend one of our online educational gatherings to learn storytelling skills and more.

• Send your stories and successes to community@bluedot.ca. Let us know that you are taking action in your community.

Protecting our right to a healthy environment — today, for our children, and children’s children — is clearly an idea whose time has come.
Conclusion

We at the David Suzuki Foundation want to enable you to take matters into your own hands when dealing with contentious environmental issues.

In this handbook we have attempted to simplify what most people believe to be an arduous and complex and sometimes seemingly impossible task: keeping themselves, their children, their neighbours and their local surroundings safe from environmental harm, be it from land, water or air pollution or some other form of environmental destruction.

In reality, it is quite simple. The key is to arm yourself with good and credible facts and share those facts with the proper authorities and, if the authorities won’t act, with media outlets and/or local environmental organizations (like the David Suzuki Foundation that may help you bring the matter to a satisfactory conclusion. Keep your eyes and ears open and always be prepared for the unexpected when you go outside. If possible, keep a camera and notebook with you, or at least nearby. These are two very basic and important tools.

With today’s technology, a cellphone can be used as a camera, video and voice recorder and notebook. Don’t hesitate to use these functions.

We hope that his handbook is of value and, if you use it, we would appreciate feedback as to its utility and/or suggestions for changes necessary to make it more useful.

Yours in Nature,
The David Suzuki Foundation
<date>

Dear <name>,

Pursuant to the Freedom of Information and Protection of Privacy Act, I(we) hereby request copies of the following documents:

- Any intra-ministry correspondence between the <government department> and <other government department> concerning the assessment of potential impacts of a proposed independent power production project proposed by <company> for a stream called XYZ Creek near Someplace, B.C. Such correspondence should include, but not be limited to, letters, email proof notes, briefing notes, minutes of meetings and/or memoranda. Such correspondence should also include any records of communication concerning this issue between <department> biologists in the <government> office and the Regional Director <name and department>, and the Regional Manager <name and department>. **The time period covering this request would be from January 1999 to present.**

- Any biophysical and/or engineering reports, or amendments thereto, prepared by either <the Company involved> and/or its consultants acting on behalf of <the company> concerning the proposed XYZ Creek independent power project and submitted to the <government department> for review and consideration.

- Any correspondence between the <government Ministry> and <the company> concerning the XYZ Creek Power Project. <Government Ministry> in this case should include all levels within the Ministry from the Minister’s office on down to the Regional Office and should include <specific department>.

I am (we are) a private citizen(s) with limited means and I am (we are) acting in the public interest. If there are any fees requested as a result of this request, we ask for a “public interest” exemption under the FOI Act.

The information I (we) request relates to possible government enforcement of environmental statutes, specifically <Act> and the <Act>, both of which have been the subject of much recent public debate. Also, the information we seek relates directly to the issue of protection of the environment and we feel that disclosing this information will contribute meaningfully to the general public’s understanding of issues surrounding enforcement of environmental statutes; specifically (but not limited to) the issue of integrated resource management and how the various agencies responsible for protecting the environment interact with each other to meet the expectations of the public.

I (we) believe that if the Ministry does not grant a fee waiver, this would mean that issues of significant public interest would not be released. This frustrates the purpose of the Act. The Freedom of Information and Protection of Privacy Commission have established these criteria for public interest exemption from fees as reasonable grounds for granting exemptions.

If you have any questions, please contact me at the above address and phone number.

Sincerely,

<yourn name>

>Title
<date>
Department of Fisheries and Oceans
Habitat Enhancement Branch
<address>
<Your City>

Attention: Whomever is in charge

Dear Whoever;

I have been directed to you in matters related to requesting a Fish Collection Permit for your region. Please consider this letter to be a request from <Name/Association> for a permit to sample fish for scientific purposes in the Flowing River drainage (including tributaries) and Standing Lake, north of Myville.

The purpose of our sampling program will be to attempt to ascertain whether fish, and which species, may be present in any given waterbody or watercourse in the Flowing River drainage or the lake. We will be focusing primarily on No Name Creek, an important spawning tributary.

We would like the permit to allow sampling using Gee-type minnow traps, pole and/or beach seine, and angling. The period during which the sampling will likely take place would be from Friday March 10, 2015 to Friday March 31, 2015.

<Name> will coordinate the sampling program and conduct most of the sampling. However, at times, depending on logistics, various members of our community will be assisting him. We would therefore, request that the permit be written to include Mr. <Name> as well as all <Several Other Names>.

All fish captured in the sampling program will be handled carefully so as not to harm them. Captured fish will be placed in a bucket containing water from the sampled waterbody, anaesthetized (using commercially available, non-toxic, Alka Seltzer tablets dissolved in water), identified to species, photographed and measured for fork length. The anaesthetized fish, if any, will then be placed in a second bucket containing clean, anaesthetic-free water, allowed to recover and released unharmed back into the sampled watercourse.

We would appreciate you expediting this request as we plan to be in the field this coming Friday (March 10, 2000).

I sincerely appreciate you taking the time to accommodate this request.

Thank-you

Applicant Name and Signature
The following prices are in Canadian dollars, and are valid from 16-Jan-2015 to 16-Jul-2015.

The prices do not include any applicable taxes and are based on the estimated number of samples with a turn around time of 10 working days (Monday to Friday).

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<th>Est. # of Samples</th>
<th>Product</th>
<th>Description</th>
<th>Price per Sample</th>
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<td>NO2 and/or NO in Air</td>
<td>$80.00</td>
<td>$80.00</td>
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<tr>
<td><strong>Water Samples</strong></td>
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<td>1</td>
<td>BISPHENOL A-WT</td>
<td>Bisphenol A in Water by LC/MS-MS</td>
<td>$357.00</td>
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<td>BOD5-VA</td>
<td>Biochemical Oxygen Demand- 5 day</td>
<td>$35.00</td>
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<td>COD-COL-VA</td>
<td>Chemical Oxygen Demand by Colorimetric</td>
<td>$25.00</td>
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</table>

Continued on page 29...
## Table of Costs for Sample Analyses

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<tr>
<th>Est. # of Samples</th>
<th>Product</th>
<th>Description</th>
<th>Price per Sample</th>
<th>Sub-Total Price</th>
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<td>FCOLI-MF-ENV-VA</td>
<td>Fecal coliform by membrane filtration</td>
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<td>Glyphosate</td>
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<td>1</td>
<td>LEPH/HEPH-VA</td>
<td>LEPH &amp; HEPH CSR by SF</td>
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<td>MET-D-L-MINE-VA</td>
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<td>MET-T-L-MINE-VA</td>
<td>Total Metals in Water (Ultra-Low)</td>
<td>$115.00</td>
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<tr>
<td>1</td>
<td>N-T-COL-VA</td>
<td>Total Nitrogen in water by Colour</td>
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<td>1</td>
<td>NH3-F-VA</td>
<td>Ammonia in Water by Fluorescence</td>
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<td>OPP1-SF-MS-VA</td>
<td>Organophosphate Pesticides by GCMS</td>
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<td>PEST-3-LCMS-WT</td>
<td>LC/MS-MS Pesticide List 3</td>
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<td>PH-PCT-VA</td>
<td>pH by Meter (Automated)</td>
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<td>ChloronatedPhenolics in Water by GCMS/pH</td>
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<td>NonChloronatedPhenolics in Water by GCMS</td>
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<td>PHTHALATE-ED</td>
<td>Phthalates</td>
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<tr>
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<td>TDS-VA</td>
<td>Total Dissolved Solids by Gravimetric</td>
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<td>1</td>
<td>TSS-VA</td>
<td>Total Suspended Solids by Gravimetric</td>
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<td>$12.00</td>
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<td>VOC+VPH+MTBE-WAT-VA</td>
<td>VOCs+VPH+MTBE Water by HS GCMS &amp; GCFID</td>
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<td>Misc, Samples</td>
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<td>AIR VOLUME-ED</td>
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<td>$0.00</td>
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<td>1</td>
<td>AIR VOLUME-VA</td>
<td>Air volume (L)</td>
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<td>$0.00</td>
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<td>1</td>
<td>SAMPLE-DISPOSAL-VA</td>
<td>Sample Handling and Disposal Fee</td>
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<tr>
<td>1</td>
<td>SPECIAL REQUEST-SLT</td>
<td>Special Request Datachem Salt Lake</td>
<td>$120.00</td>
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</tbody>
</table>

### Additional Comments

Routine turnaround time for air/vapour testing is three weeks.

"Special Request-SLT" = analysis of Sulphur Dioxide and Sulphate on filter samples. This analysis will be performed at ALS-Salt Lake City.

Pumps can be rented from ALS for collection of vapour samples on filters, for a cost of $26 per pump per day.
<table>
<thead>
<tr>
<th>City</th>
<th>Company</th>
<th>Address</th>
<th>Telephone</th>
<th>Contact</th>
<th>Designation</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnaby</td>
<td>Maxxam Analytics</td>
<td>4668 Canada Way Burnaby, BC Canada V5G 1K5</td>
<td>(604) 734-7276 / toll free (800) 666-8569</td>
<td><a href="mailto:enviro@maxxam.ca">enviro@maxxam.ca</a></td>
<td></td>
<td><a href="http://maxxam.ca">http://maxxam.ca</a></td>
</tr>
<tr>
<td>Burnaby</td>
<td>ALS</td>
<td>8081 Lougheed Highway, Burnaby, BC V3A 1X9</td>
<td>(604) 235-4188 / toll free (864) 220 4188</td>
<td><a href="mailto:Vancouver.enviro@alsglobal.com">Vancouver.enviro@alsglobal.com</a></td>
<td></td>
<td><a href="http://www.alsglobal.com">http://www.alsglobal.com</a></td>
</tr>
<tr>
<td>Burnaby</td>
<td>AGATD Laboratories</td>
<td>120 - 8800 Glenview Parkway, Burnaby, British Columbia, V5E 0B8</td>
<td>(778) 452-4000 / toll free 1-866-641-7174</td>
<td><a href="mailto:info@agatdats.com">info@agatdats.com</a></td>
<td></td>
<td><a href="http://www.agatdats.com">http://www.agatdats.com</a></td>
</tr>
<tr>
<td>Burnaby</td>
<td>Metro Vancouver Water Laboratory</td>
<td>4330 Kingsway Burnaby BC V5S 4G8</td>
<td>(604) 451-6001</td>
<td></td>
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</tr>
<tr>
<td>Courtenay</td>
<td>North Island Laboratories</td>
<td>2755-B Morris Avenue, Courteney, BC VBH 8M9</td>
<td>(250) 338 7786 / toll free (877) 733 3113</td>
<td>nlوات @nlوات</td>
<td></td>
<td><a href="http://www.nl%D9%88%D8%A7%D8%AA.com">http://www.nlوات.com</a></td>
</tr>
<tr>
<td>Delta</td>
<td>Greater Vancouver Regional District - Quality/Control Laboratories</td>
<td>1299 Denver Way Delta, BC V4M 5V9</td>
<td>(604) 523-7173</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fort St. John</td>
<td>Maxxam Analytics</td>
<td>10200 Cree Road, Fort St. John, BC V1L 0E8</td>
<td>(250) 262-0414</td>
<td><a href="mailto:enviro@maxxam.ca">enviro@maxxam.ca</a></td>
<td></td>
<td><a href="http://maxxam.ca">http://maxxam.ca</a></td>
</tr>
<tr>
<td>Fort St. John</td>
<td>Exova</td>
<td>#1 8822 100 Street, Fort St. John, BC, V1J 3W9</td>
<td>(250) 785-2731</td>
<td>Alecia Neville</td>
<td>Operators</td>
<td>amexosa.com</td>
</tr>
<tr>
<td>Fort St. John</td>
<td>ALS</td>
<td>10534A Dogwood St. Fort St. John, BC V1J 6W7</td>
<td>(250) 261-5517 / toll free (250) 261 444</td>
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</tr>
<tr>
<td>Kamloops</td>
<td>ALS</td>
<td>1445 McGill Rd, Unit 4B, Kamloops, BC V2C 5R7</td>
<td>(250) 272 3568 / toll free (250) 572 1568</td>
<td>Carolyn McNeely</td>
<td>Operations Manager</td>
<td><a href="http://www.maxxam.ca">http://www.maxxam.ca</a></td>
</tr>
<tr>
<td>Kamloops</td>
<td>Kamloops Waste Water Treatment Centre</td>
<td>3300 Mission Flats Road Kamloops, BC V2B 5M7</td>
<td>(604) 823-1874</td>
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<tr>
<td>Kelowna</td>
<td>CARO Analytical Services</td>
<td>#102 - 3677 Highway 97N, Kelowna, BC V1Y 5C3</td>
<td>(250) 765-9846 / toll free (778) 769-5946</td>
<td><a href="mailto:kkelown@ca.ro">kkelown@ca.ro</a></td>
<td></td>
<td><a href="http://www.caro.ca">http://www.caro.ca</a></td>
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<tr>
<td>Nanaimo</td>
<td>Nanaimo Nanaimo Water Pollution Control Centre</td>
<td>4600 Hammond Bay Road Nanaimo, BC V9T 5A8</td>
<td>(250) 758-1157</td>
<td></td>
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<tr>
<td>North Saanich</td>
<td>Sidney Process Control Laboratory</td>
<td>9055 Manwaring Way, North Saanich, British Columbia V8L 5Z1</td>
<td>(250) 655-2425</td>
<td></td>
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<tr>
<td>North Vancouver</td>
<td>Pacific and Yukon Laboratory for Environmental Testing</td>
<td>Environment Canada Pacific Environmental Science Centre, 2645 Dotson Hay North Vancouver, BC V7H 1V2</td>
<td>(604) 943-4011</td>
<td>Ms. Laurella Lien</td>
<td>Operations Manager</td>
<td><a href="http://www.exova.com">www.exova.com</a></td>
</tr>
<tr>
<td>Parksville</td>
<td>French Creek Water Pollution Control Centre</td>
<td>957 Lee Road/Parksville, British Columbia Canada V9P 1T4</td>
<td>(250) 248-5794</td>
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<tr>
<td>Prince Rupert</td>
<td>Northern Labs Limited</td>
<td>2515 Kingdon Road, Prince Rupert, BC V8J 4G7</td>
<td>(604) 267 1900 / toll free (800) 990 9522</td>
<td><a href="mailto:info@norlabsltd.com">info@norlabsltd.com</a></td>
<td></td>
<td><a href="http://www.norlabsltd.com">http://www.norlabsltd.com</a></td>
</tr>
<tr>
<td>Richmond</td>
<td>CARO Analytical Services</td>
<td># 110 - 4011 Viking Way, Richmond, BC, V5V 2E9</td>
<td>(604) 279-1499</td>
<td><a href="mailto:richmond@ca.ro">richmond@ca.ro</a></td>
<td></td>
<td><a href="http://www.caro.ca">http://www.caro.ca</a></td>
</tr>
<tr>
<td>Richmond</td>
<td>IC MD MicromM Environmental Inc.</td>
<td>190 - 1280 Charlie Pl, Richmond BC V6V 2H1</td>
<td>(604) 279-0866</td>
<td><a href="mailto:info@igmicrom.com">info@igmicrom.com</a></td>
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<td><a href="http://www.igmicrom.com">http://www.igmicrom.com</a></td>
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<tr>
<td>Sidney</td>
<td>NW Laboratories Ltd</td>
<td>2062 Henry Ave W, Sidney BC V8L 5Y7</td>
<td>(250) 655-3334</td>
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<tr>
<td>Sidney</td>
<td>AYXS Analytical Services Ltd</td>
<td>3045 Mills Rd, Sidney, BC V8L 5X3</td>
<td>(250) 655-5800 / toll free 1 888 373 6848</td>
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<tr>
<td>Surrey</td>
<td>Exova</td>
<td>No. 10 19755-5A Avenue, Surrey, BC, V3S 8P6</td>
<td>(604) 514-3322</td>
<td>Mathieu Simmonneau</td>
<td>Operations Manager</td>
<td>amexosa.com</td>
</tr>
<tr>
<td>Surrey</td>
<td>Tiel Tiel Metals Ltd. Analytical Services</td>
<td>600 Bingay Road, Telk, BC, V1R 4L5</td>
<td>(250) 364-458</td>
<td>Sue Jansen</td>
<td>Operations Services</td>
<td><a href="mailto:telk@analyticalservices.net">telk@analyticalservices.net</a></td>
</tr>
<tr>
<td>Vancouver</td>
<td>ACRM Environmental Corporation</td>
<td>4017-2323 Quebec Street, Vancouver BC V5T 4S7</td>
<td>(604) 873-8599</td>
<td><a href="mailto:info@acmenvironmental.org">info@acmenvironmental.org</a></td>
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<td><a href="http://www.acmenvironmental.org">http://www.acmenvironmental.org</a></td>
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<tr>
<td>Vancouver</td>
<td>BCCDC PHCWRI Environmental Microbiology Laboratory</td>
<td>655 West 10th Ave, Vancouver BC V5C 4R4</td>
<td>(604) 707-2668</td>
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<tr>
<td>Vancouver</td>
<td>FoodAssure Laboratory Ltd</td>
<td>1650 Pandora Street, Vancouver, BC, V5L 1S6</td>
<td>(604) 251-9586</td>
<td><a href="mailto:info@foodassure.com">info@foodassure.com</a></td>
<td></td>
<td><a href="http://www.foodassure.com">http://www.foodassure.com</a></td>
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<tr>
<td>Victoria</td>
<td>Maxxam Analytics</td>
<td>1104 - 4464 Marihann Street, Victoria, BC V8S 7X8</td>
<td>(604) 241-9324</td>
<td><a href="mailto:enviro@maxxam.ca">enviro@maxxam.ca</a></td>
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<td><a href="http://maxxam.ca">http://maxxam.ca</a></td>
</tr>
<tr>
<td>Victoria</td>
<td>ALS</td>
<td>104-1022 Pandora Avenue, Victoria BC, V8S 9P6</td>
<td>(250) 413-2434</td>
<td><a href="mailto:victoria.enviro@alsglobal.com">victoria.enviro@alsglobal.com</a></td>
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<td><a href="http://www.alsglobal.com">http://www.alsglobal.com</a></td>
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<tr>
<td>Victoria</td>
<td>ORD Water Laboratory</td>
<td>479 Island Highway Victoria, BC V8V 1H7</td>
<td>(250) 474-9660</td>
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</tbody>
</table>

**Similarity Analysis**

The list above provides detailed information about various laboratories across Canada, including their addresses, telephone numbers, and contact details. This information is crucial for various industries, particularly those requiring specialized testing services. The list covers a wide range of locations from Burnaby to Victoria, ensuring comprehensive coverage across the country. For instance, Maxxam Analytics in Burnaby offers services through its address at 4668 Canada Way Burnaby, Burnaby, BC Canada V5G 1K5, with a telephone number of (604) 734-7276. Similarly, CARO Analytical Services in Fort St. John can be contacted at 10200 Cree Road, Fort St. John, BC V1L 0E8, with a phone number of (250) 262-0414.

These laboratories cover a variety of industries, from environmental testing to analytical services, reflecting the diverse needs across different sectors. For more detailed information or specific inquiries, one can visit the websites listed, such as http://maxxam.ca and http://www.alsglobal.com. This list serves as a valuable resource for businesses and individuals requiring laboratory services in Canada.
### Territorial Laboratories

#### Labrador
- **Yellowknife, NT**
  - Company: Maxxam Analytics
  - Address: Unit 105 – 349 Old Airport Road, Yellowknife, NT X1A 3X6
  - Telephone: (867) 445-2448
  - Contact: Sean Johnston
  - Designation: Sean Johnst
  - Email: seanjohnston@alsglobal.com
  - Website: [http://www.alsglobal.com](http://www.alsglobal.com)

- **Yellowknife, NT**
  - Company: ALS
  - Address: 314 Old Airport Road, Unit 115, Yellowknife, NT X1A 3T3
  - Telephone: 867 873 5593
  - Contact: Angelique Ruizdiana
  - Designation: Angelique_Ruizdiana@gov.nt.ca
  - Email: angelique.ruzidiana@gov.nt.ca
  - Website: [http://www.alsglobal.com](http://www.alsglobal.com)

- **Whitehorse, YT**
  - Company: ALS
  - Address: 151 Industrial Road, Whitehorse, YT Y1A 2V3
  - Telephone: 867 668 6689
  - Contact: Helen Franco
  - Designation: alwha.quality@alsglobal.com
  - Email: alwha.quality@alsglobal.com
  - Website: [http://www.alsglobal.com](http://www.alsglobal.com)

- **Whitehorse, YT**
  - Company: AGAT Laboratories
  - Address: Unit 3, 17, Burns Road, Whitehorse, YT, Y1A 4Z
  - Telephone: 867.456.8333
  - Contact: 
  - Designation: 
  - Email: 
  - Website: [http://www.alsglobal.com](http://www.alsglobal.com)