

JUN 15 1982

Final Report

Introduction

The Fraser River Task Force was formed in February, 1980 to investigate all illegal sources of pollution in the lower Fraser River from Kanaka Creek downstream. The water distance was approximately 74 miles of shoreline. Major problems identified by various government agencies, citizen groups and the Fraser River Estuary Study concerning water quality and many other minor problems were investigated by the seven member team.

Only effluent and solid waste pollutions were investigated. Air pollutions were not included. The Task Force were very successful in their endeavours and completed investigations on 40 companies, individuals or government agencies. Total number of companies, etc. charged was 22 and the total number of actual charges laid was 51. These shall be detailed in the Report.

We feel that because of the Task Force's work, the environment has benefited. Many illegal sources of pollution have stopped, companies have become more aware of the Ministry's ability to enforce the law and compliance of Pollution Control permits has increased. The public has also become much more aware of the problem on the Fraser River and has been more willing to share in the surveillance of operations on the River.

This Report will make a number of recommendations which deal with improvements to procedures, enforcement, administration and the future control of pollution itself. The recommendations are based on the experiences and problems which the Task Force have encountered in the Ministry's enforcement of the present legislations dealing with pollution.

It should be noted that any criticism of procedures, etc. are meant to be constructive only.

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Selection of the Team

It was decided that since the Task Force's main investigations centred around the Pollution Control Act and Fisheries Act, the Task Force membership should consist of both Conservation Officers and Waste Management Technicians. The Conservation Officers were necessary because of their expertise in investigating offences. The Waste Management Technicians had expertise in sampling of various effluents, both chemical and non chemical. The team members were also chosen because of their interest in enforcement and their knowledge of pollution problems.

The team members selected were as follows:

- A. Ackerman, Senior Conservation Officer, Kamloops - Supervisor
- B. Clapp, Conservation Officer 3, Prince George
- R. Hoar, Conservation Officer 2, Creston
- D. Thatcher, Conservation Officer 3, Cloverdale
- R. Rattee, Waste Management Technician, Vernon
- ~~W. White, Waste Management Technician, Courtenay~~
- R. Hodges, Waste Management Technician, Surrey

In addition to the team members themselves, Ms. B. Stuber was selected as a full-time secretary for the duration of the Task Force.

The Task Force commenced operation on February 12, 1980 and disbanded on June 26, 1980.

Method of Preparation and Operation

Preparation

The first task of the new group was to decide how to carry out their assignment in the most efficient manner possible because of the magnitude of the problems on the Lower River and the basic time restrictions on the team.

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Because most of the team members lived in various locations of the Province and because they would be away from their homes for a considerable period of time, we felt that a time limit of June 30, 1980 would be reasonable. We planned our efforts accordingly.

The Task Force members were then formed into three teams consisting of one Conservation Officer and one Technician on each team. The teams were then assigned specific areas on the River to work in as follows:

- Team I - B. Clapp
 'R: Rattee
 - North Arm of Fraser River and Main Stem to Kanaka
 Creek.
- Team II - R. Hoar
 W. White
 - same as Team I
- Team III - D. Thatcher
 R. Hodges
 - South Arm of Fraser River.

The basic plan was to first investigate the pollutions which were on priority lists sent to us by Habitat Protection, Fish and Wildlife Branch, Waste Management staff and the Environmental Protection Service (Federal).

The Companies identified by the Fraser River Coalition were also put on our priority list because of their immediate impact on the public. After the priority targets were investigated, the teams were then to commence a step by step investigation of the companies, individuals, etc. within their respective areas. This plan was carried out successfully.

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Before the teams commenced work, it was necessary to carry out brief training programs in various aspects of their duties. We felt that it would be necessary to train the Conservation Officers in the sampling procedures, characteristics of certain types of effluent and parameters of samples so that they would have an understanding of why certain procedures had to be taken by the Technicians. The Technicians, on the other hand, would receive training in certain enforcement techniques such as taking statements, note taking and continuity of evidence, so that they would appreciate the enforcement procedures carried out by the C/O's. With a basic understanding of each others' roles, the teams would then be more effective and the members would be able to assist each other in their duties. This training proved to be very successful and the investigation reports indicated so.

Training consisted of the following areas:

1. Lecture by John Smith, Training Officer, on note taking, continuity of evidence and statements.
2. Lecture by Crown Counsel, Gary Hales and Chief Conservation Officer Aldrich on the Pollution Control Act, powers of team members under the Acts we were to enforce, preparation of pollution cases for Crown Counsel, and statement techniques.
3. Lecture by George Gough, Biologist, Waste Management Branch, on characteristics of various effluents and required parameters of samples.
4. Tour of Environmental Lab to provide an understanding of sampling analysis techniques and procedures for submitting samples to legal scientists. This also provided an important introduction to the legal scientists concerned.

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5. Tour of the Environmental Protection Service Bioassay Lab to provide an understanding of sampling analysis techniques and procedures for submitting legal samples. This, again, introduced the team members to the legal scientists involved.
6. Instruction by the Coordinated Law Enforcement Unit (C.L.U.E.) on surveillance techniques and the use of the more sophisticated surveillance equipment which C.L.U.E. loaned us for our investigations.
7. A review of the Fraser River Coalition slide show to familiarize ourselves with their viewpoint of the problems in the lower Fraser.

Operation

After training was completed (four to five days over a two-week period), we then toured the area by helicopter, boat and vehicle to gain a greater appreciation of the problem. Until that time, we hadn't fully appreciated the magnitude of our task. We estimated at that time that we would have to carry out a minimum of 200 investigations to cover the area immediately on or adjacent to the River. We eventually only completed 40 investigations because many of the cases required lengthy time of investigation.

It was decided that we would have better success with our cases in court if only one Crown Counsel acted as advisor and handled our cases. Gary Hales, Assistant Regional Crown Counsel for Surrey, was requested for this task and permission was given by all Regional Crown Counsels in the various court jurisdiction we were dealing in for Gary to handle all our cases. Mr. Hales was given instruction by team members on sampling techniques, etc. and was actually shown some of the effluents involved so that he would have a better appreciation of the cases he would be handling.

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He was also given an aerial tour of the area and shown violations which were occurring at the time. Eventually, when Mr. Hales read our case reports, he had an understanding of pollution cases rare of Crown Counsel in this Province and provided us with the legal expertise we needed.

Constant contact with other government agencies proved to be very critical. Environmental Protection Service, Federal Fisheries, and Fish and Wildlife Branch were advised on a weekly basis of the status of our investigations. This was to prevent any agency from overlapping our investigations or the reverse. Environmental Protection Service, because of their enthusiasm for our efforts, also consented to provide free analysis at their bioassay lab for the substantial number of toxicity tests involved with our cases. We also maintained constant contact with C.L.U.E. and the Fraser River Harbour Commission who both assisted us many times.

Contact with the media and the Fraser River Coalition was also constant. This proved to be very successful and was useful in identifying our role to the public. We received many calls from informants concerning pollutions which were a direct result of the high media profile we took. Some of this information eventually resulted in charges against companies.

A standard method of referral of our case reports within the Ministry was established by Chief Conservation Officer Aldrich and D. Hehn. The process, which was intended to provide for both legal and inter-Ministerial advice, was as follows:

1. Investigation completed and case report prepared by team.
2. Report critiqued and approved by A. Ackerman.
3. Report sent to Crown Counsel, Gary Hales, for legal advice and, where sufficient evidence was contained, confirmation of recommendation for charges.

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4. Report then sent to D. Hehn, R. Aldrich, copy to R. Ferguson, with recommendations by A. Ackerman for charges, remedial action or no further action required.
5. Recommendations and report reviewed by Headquarters staff.
6. If charges approved by Headquarters, approval sent to Task Force for implementation of legal proceedings.

A standard format was also established for preparation of our case reports. The reports included the report itself, statements, photos and pertinent documents such as permits, copies of correspondence and documents. The reports were presented in booklet form. It was found by all those who reviewed the reports that all the pertinent information was present and that it was much easier to make decisions or formulate questions when this information was presented in the booklet form. Crown Counsel was especially pleased with this format.

It should be noted that because of the expertise available on the teams, the quality of recommendations involving remedial action was very high. In many cases, the recommendations were extremely technical in nature and reflected the expert capabilities of the Task Force members.

It was decided and agreed upon by Waste Management staff that once we recommended remedial action in our reports which would involve action by Waste Management staff, the Task Force would no longer be involved with the company other than processing the charges laid by the Task Force. We did not have time to follow up on orders issued by Waste Management staff and felt that enforcement of those orders should be done by themselves. We did, however, offer our assistance if it was required.

New techniques were also developed by the teams in order to strengthen continuity of evidence procedures and to make sampling more efficient and easier. The tackle box which contained the Fish and Wildlife Branch "Hazelkit" sediment sampling bottles was modified to carry the necessary containers for effluent samples.

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The same tackle box was also used to contain the preservatives (acids, etc.) for chemical effluent sampling. Two problems which the Technicians recognized instantly with the procedure used in the "Chuck" kit by Fish and Wildlife technicians was that there was no lock on the kit and that the preservatives were not changed regularly in the kits. This is necessary to show the court that no tampering of preservatives occurred. The kit should be assigned to one Technician who has the key for the lock. Preservatives also have to be changed regularly in order to prevent criticism by the court of "old" preservatives. It was also found that the acids and preservatives used in the kit should be stored under lock and key if they are to be used for legal samples. The Technicians also found that the plastic bottle in which the hydrochloric acid was stored tended to crystalize and turn brittle. The bottle should be changed regularly to prevent it from eventually shattering. One final fault with the kit was that it was not capable of being used for sampling mercury. It should include a container of dichromate for this purpose. Most of these faults were corrected by the Technicians and I feel that we should have no continuity problems as a result of their changes.

One other method used in treating sample containers was the use of wax for sealing sample containers. This was especially used for the five gallon bioassay containers on which the ordinary masking tape procedures were difficult to use. We used a red wax which is available in most stationary stores to seal the samples and both Labs were pleased with the procedure.

Description of Pollutions

Through its investigations, the Task Force identified many chronic problems involving illegal discharges of effluents, dumping of solid materials and violations of Pollution Control Permits or the conditions of these Permits as stated in the Letters of Transmittal. These general problem areas will now be discussed under separate headings.

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Solid Waste

Many of the violations encountered by the teams involved the illegal deposit of wood waste or non compliance of conditions of permit associated with wood waste land fills.

The main problem associated with wood waste fills is the toxic leachate that is produced when water filters through this waste and accumulates the deadly terpenes, trapdones, neutral alcohols, amonia nitrogen, resin acids, and other toxic components of wood. This toxic leachate then found its way, via drainage ditches or direct discharge, into the Fraser River and its small tributaries. In one case, the flow of the leachate into the Fraser River was estimated to be a consistant seven cubic feet per second. On March 12, 1980, the Task Force estimated that there was fifteen to twenty million cubic yards of illegal hog fuel (wood waste) deposited in the area we were investigating. The estimated number of illegal sites in our area was 35 to 40 and we also estimated that approximately 20,000 cubic yards of hog fuel was being illegally dumped per day. With those figures in mind, Paul Christensen, Waste Management Technician in Surrey then approximated that the available legal volume of hog fuel that could be deposited in the area at that time was 115,000 cubic yards with a further potential of 115,000 cubic yards. It should be stressed that the above figures, other than available legal volume remaining, were purposefully underestimated.

We found that the hog fuel provided the landowners, trucking companies and companies supplying the wood waste with substantial profits. In one case alone, an illegally filled site increased the assessed value of the property from \$6,000.00 to \$375,000.00. Another illegally filled property rose in worth by approximately \$1,000,000.00. We plan on using these figures to justify a request for maximum fines under the Acts when we reach the sentencing stage of our court cases.

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Not all dump sites involved wood waste. Domestic garbage, construction debris, waste from various industries including gyproc and chemical containers, were observed. All produced toxic leachates which found their way into the River. Most bioassay tests (fish toxicity) on these leachates resulted in fish kill from almost instantaneous to 15 minutes.

As mentioned previously, violations of permits or letters of transmittals were also encountered many times. Because of these violations, leachate was produced. These violations involved such matters as covering of material with impervious materials, berming the property with impervious dikes and leachate control devices.

Effluent

Many sources of illegal effluent discharge were identified and included chemical manufacturing, steel manufacturing, paper recycling, wood treating, sewage treatment plants, and land fill leachates. Many of these effluents were extremely toxic and either had no permit or were out of compliance with their permits.

Sampling of these effluents exhibited the need for trained technicians. The Technicians were able to determine what parameters were required for these samples and what safety precautions had to be taken in order to obtain samples. Many times, heavy duty rubber gloves had to be used. One member of the team was slightly burned when taking a sample and it displayed the need for extra precaution with that type of effluent.

Examples of the types of effluents or constituents of illegal effluents that we found are:

Toxic organics

Poly Vinyl Acetate, Methylene Blue, Alcohol, Creosote (containing penta and tetra chlorophenols), Urea glue, Oil.

Metals

Iron, zinc, lead, copper, arsenic, chromium.

Landfill leachates

Containing more toxic organics and ammonia as well as exerting high chemical and biochemical oxygen demands.

Sanitary Sewage

Containing more toxic organics, metals, ammonia and other contaminants (over 20).

Many of these illegal effluent discharges had occurred over a long period of time and had, in our opinion, caused considerable damage to the environment. One illegal source, a creosote compound, was estimated to have been discharging for over 25 years. This resulted in the creosote saturating the sand in the River bottom up to depths of six inches, up to a distance of 160 feet from the shore (one-half the width of the North Arm), and approximately 300 - 400 feet in length. Bioassay results indicated a fish kill in seven minutes.

The urea glue discharge had a fish kill in two minutes after it was claimed by company officials to be, quote, "non-toxic," unquote.

Effluent from the Annacis Island and Iona Island Sewage Treatment plants had to be sampled many times in order to prove violations which were occurring over an extended period of time. These investigations took a great deal of time because of the complex nature of the systems and effluent. We eventually found that there were many violations under the Pollution Control Act and some under the Fisheries Act. These mainly dealt with exceeding parameter levels or illegal discharges.

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Permits

We found that, in the cases of non compliance of permits, there were many examples of gross negligence. One company, required by permit to construct treatment ponds with impermeable berms for effluent from a steel fabricating plant, constructed the ponds with sand berms. The extremely toxic effluent leaked through these berms at a constant flow directly into the River. The same company had also constructed illegal bypass pipes around parts of their treatment system and installed an illegal overflow from their seepage pond directly to the River. The company had technicians assigned to constantly monitor the treatment facilities. We eventually laid 14 charges against this company as a result of their operation.

Problems Encountered

There were a number of problems which we encountered during the organization and operation of the Task Force. Some of these are as follows:

Pollution Control Act

We found that the Pollution Control Act does not give the powers of "officers" to those who actually need them. "Officers", as described under the Act only include, at the field level, regional managers and assistant regional managers. The Act only gives the power of access or inspection to "officers" and thus does not include technicians and Conservation Officers who usually carry out these duties. Fortunately, the Conservation Officers for the purposes of the Task Force, used their powers as Fisheries Officers for access but this excuse wears thin on fill sites not producing a deleterious substance which enters water occupied by fish.

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Powers of an "officer" must be extended to technicians and Conservation Officers as soon as possible. There is also no obstruction section in the present Act and this could cause problems for officers in the future. This should also be corrected. The violation sections in the Pollution Control Act caused problems in the laying of charges. Crown Counsel had to combine Sections 5 and 20 (A) (old Act) or Sections 4 and 25 (revised Act) in order to appropriately word the charge for a violation involving non compliance of a permit. The violation section of the Act should be a completely separate section.

Permits and Orders

It was found that many of the Pollution Control Permits were written in ambiguous or vague terms and lacking specific information. This often made enforcement of these documents difficult. This was especially evident in the use of the term "at the Direction of the Regional Manager" when referring to methods of operation or construction of works. It is felt that more specific directions should be given in the permit so that a company cannot take advantage of a busy Manager. Once the company has a permit to legally discharge they are entitled to do so and only have to obey the directions of the Regional Manager when he provides such direction. We found that the direction mentioned in the permit was often not given for an extended period of time after the permit was issued. A company would proceed with its discharge once the permit was issued and often cause environmental problems.

Our investigations of the operations involved perusal of the Waste Management Branch files to determine the background knowledge of permits, approvals, etc. In most instances, we observed that the recommendations submitted by the Regional Biologist and technicians of Waste Management Branch, B.C. Fish and Wildlife Branch and Federal Fisheries staff which identified present and future problems, such as leachate, were ignored. This, ultimately, in many cases resulted in either illegal pollutions or severe environmental damage from permitted sites.

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Both of these illegal and "legal" pollutions posed problems for the Task Force when it came to deciding whether charges were to be laid or not. Again, the "due diligence" principle was involved.

It was also found that many of the orders issued pursuant to a permit or to a violation were poorly worded and again, too vague. Common problems centred around such things as lack of termination of operation dates for cease and desist orders and lack of specific instructions relating to such matters as remedial action. This literally made enforcement of these orders impossible.

Enforcement

Enforcement of permits and orders was lacking on many occasions and this proved to be a serious problem when the Task Force came to investigate the company. Although a company would be in violation of a permit for, in some cases, two or three years, no legal action had taken place by Waste Management Branch. This resulted in almost tacit approval by the Branch and caused problems for the Task Force when it came time for the decision to lay charges because of the "due diligence" rule.

Another problem centered around the actual finding of violations of permits by Waste Management Branch staff and the reporting of same on compliance checks. The teams would constantly encounter major violations which were easily identifiable yet would observe no record of the non-compliances of a permit which caused a deadly toxic substance to enter the Fraser River. Three days after the team visited one site, two Waste Management staff members visited the same site and reported no violations. These violations are still continuing today.

The Task Force also observe many instances of lack of enforcement of specific orders issued by Waste Management staff. This proved to be difficult for the investigators who wanted to lay charges but could not because of our agreement to allow Waste Management staff to enforce any orders issued by them as a result of our files.

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Again, wording on some of these orders proved to be too vague to enforce, thus making them literally useless. As mentioned in the Introduction, these criticisms of Waste Management Branch are only intended as constructive criticisms. It was felt by the Task Force that because of the general attitude of "non enforcement" which had been fairly consistent throughout the Province, many of these faults could not be laid against any specific individual or Region. We feel that together with the enforcement attitude of the Conservation Officers and a new philosophy which has to be adopted by Waste Management Branch towards enforcement, this problem will be removed. Training in enforcement techniques, court systems, writing of orders, etc. should be provided to the Waste Management Branch staff to help rectify this situation.

Laboratories

We experienced some difficulty with the Environmental Labs which we strongly suspect is caused by a lack of sufficient numbers of legal scientists. The Labs constantly wanted us to predict the numbers of samples we would be submitting for a given time period and they appeared to have difficulty understanding that enforcement problems, especially violations, cannot be predicted on a day to day basis, let alone a week to week basis. We were finally given priority on our samples by headquarters and this appeared to solve the problem somewhat. We did notify the Lab at one time that we wouldn't be submitting samples for one week and had to delay two investigations because our prior commitment to non submission of samples. Since pollution effluents have to be sampled at the time of occurrence, this predetermination of sampling exercise was not repeated, much to the dismay of the Lab.

This problem over our basis refusal to pre-commit ourselves to non sampling finally peaked during the investigations of Iona and Annacis Island Sewage Treatment Plants. Large numbers of samples had to be submitted and the Lab managerial staff then insisted on "approving" and "scheduling" our samples.

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This was not satisfactory to the teams because of the priority supposedly given to our samples and because of the difficulty in obtaining someone to "approve" them. Again, the problem centered around lack of sufficient legal scientists to handle the samples. Fortunately, we experienced no major difficulties with submission of the samples but it was unfortunate that internal problems at the Lab did affect the Task Force's operation to a degree. A separate report was written on this matter and submitted to the Ministry for its consideration.

We feel that the problem at the Lab could be solved by an increase in the number of legal scientists from the present contingent of two to at least four. Lab facilities would also have to be changed to accommodate this increase. It does concern us that early in March, a memo was submitted by the Task Force through the Regional Director to headquarters suggesting an increase in staff but obviously no action took place to rectify the problem. This problem will only be compounded once the Conservation Officers across the Province actively commence increased enforcement of the Pollution Control and Water Acts.

We have to comment at this time that the staff at the Federal Bioassay Labs at no time complained of the large number of samples we submitted to them. With a staff of two legal scientists who had to analyse our samples along with numerous other samples from other agencies and companies as well as work evenings and weekends to carry out the legal 96 hour tests, we experienced only positive reactions from them. This, together with the fact that we had the cost of the analysis absorbed by the Federal government, is a good example of the cooperation and enthusiasm which we experienced with the Federal government during our time on the Fraser River.

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Benefits

There were many benefits derived from the operations of the Task Force. The obvious benefit was the reduction of toxic effluent discharge into the River and the ceasing of illegal dumping activities by companies, individuals and governments (municipal and regional).

As was mentioned previously, the use of one Crown Counsel to coordinate our court activities proved to be extremely beneficial in both the preparation of cases and the actual court room activities. By having a Crown Counsel who understands the environmental issues we are dealing with, we can obtain the respect that these cases deserve in Court.

By maintaining excellent contact with the media and citizen groups, the Task Force not only increased public awareness of the problems in the lower Fraser River area, but it increased the reporting of violations by citizens. We developed many informants who supplied us with reliable information which resulted in major investigations. We had people writing to us from as far north as the Interior to compliment the Ministry of the Task Force's work and we definitely made industry and local governments aware of our presence and purpose. We cannot stress too greatly the benefits which were obtained by taking a high media profile on this project. It should be done more on a regular basis to show the public that the Ministry is really making a concerted effort to protect the environment.

Because the Task Force had to work with Waste Management Branch staff daily, the benefits of constant contact were many. Both sides increased their appreciation of the other's problems and procedures and we often worked together to resolve problems. By sharing the technical and enforcement expertise each had to offer, both sides were able to gain an education on both phases of pollution work and it benefitted us all. Since we feel that it will be absolutely necessary for both agencies to work together in the future, this experience hopefully will act as a guide for the rest of the Province to follow.

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We maintained excellent liaison with many agencies during the course of our duties and these contacts will be extremely beneficial in the future. Some of these agencies are as follows:

1. Environmental Labs (Provincial)
2. Bioassay Labs (Federal)
3. Environmental Protection Service
4. Fisheries Operations Branch
5. Assessment Authority
6. Land Registry
7. R.C.M.P.
8. C.L.E.U.
9. Municipal governments
10. Ministry of Health
11. Registrar of Companies
12. Fraser River Harbour Commission
13. B.C. Fish and Wildlife Branch

All of these agencies and more appeared to sense the urgency of our duties and gave us priority attention when we requested it. As an example, although they are an extremely busy agency in this area, Land Registry had the appropriate documents of companies we required usually within 24 hours, a process that normally takes much longer.

The ultimate benefit of the Task Force was to the Ministry itself. It has been shown that the agencies within the Ministry absolutely require the assistance of each other in order to properly carry out their duties.

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The Task Force established new techniques which will be extremely useful for the rest of the Province. Both the Conservation Officers and Technicians have gained a tremendous amount of expertise in pollution investigations which will be able to be used for training other staff in the various parts of the Province. Unfortunately, our offer to provide on-the-job training for Ministry staff in this area was not accepted by Regions, despite two offers -- one verbal and one in writing -- to Regional supervisors. The standard excuse offered involved financial considerations. The benefits that would have been obtained by sending Conservation Officers and technicians to work with the Task Force to gain this valuable expertise would have been much greater to the Ministry's overall commitment to protection of the resource than a short term financial sacrifice. Unfortunately, this training experience disappeared with the Task Force.

Results of Investigations

The Task Force investigated a total of 51 companies, individuals or government operations. Twenty-one of these operations were either in compliance, there were no violations discovered, or legal restrictions, statute of limitations or unenforcibility of Permits were present. A total number of 19 operations were involved in either prosecution or recommendation for prosecution with 44 charges under the Pollution Control Act and seven charges under the Fisheries Act being laid.

When this report was written, we were still awaiting approval on recommendation of a number of charges against Iona Island and Annacis Island Sewage Treatment Plants, and the Vander Zalm Brothers. It should also be noted that of the 51 operations investigated, time and priority constraints did not permit us to complete investigations on 11 of these operations.

Appendix A consists of the fact sheets on each operation that was investigated and the current status of each file.

It should also be noted that our cost reports also included recommendations for remedial action by Waste Management Branch.

Remaining Investigations

Because the Task Force was unable to complete its original goal of investigating all illegal pollutions in the Lower Fraser River area, a number of operations still remain to be looked at.

The teams have identified at least 20 major operations and 100 minor operations within one-quarter mile of the River that remain to be investigated. The minor operations include such things as land fills. Some of the major problems which remain are as follows:

1. Lulu Island Sewage Plant.
2. Storm sewers (open and closed) and drainage ditch discharges.
3. Domtar Inc. 8255 Wiggins St., Burnaby
 - Effluent entering River through diffusion system
 - Asphalt and other debris on bank below low water mark
4. Cleansteel Products Ltd., 17710 - 104 E. 104th Ave., Surrey
 - Septic field leaching into ditch leading to River
 - Domestic refuse in scrap metal piles
5. Valley Rite Mix, 24A Leeder St., Coquitlam
 - discharge from concrete truck rinsing to storm sewer
6. Lamford Cedar Ltd., Cumberland St., New Westminster
 - foreshore damage by hog and chip handling
7. Teal Cedar Products 1977 Ltd., 17835 Triggs Rd., Surrey, B. C.
 - foreshore damage extensive
 - illegal outfall

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8. Marathon and Oakridge Realty
- leachate problems from landfills in Coquitlam area, near west end of Port Mann.
9. Esco Ltd., Coquitlam.
10. Metalex Products Ltd., Richmond.
11. Varta Batteries, Richmond
12. Alcan Canada Products, Richmond
13. Kenna Metal Inc., Pt. Coquitlam
14. Crown Zellerbach, Fraser Mills
15. Liquid Carbonic Canada, Twigg Island.
16. Fraser Wharves Ltd.
17. M & B Wooden Pole Plant
18. M & B Packaging Ltd., New Westminster
19. Crown Zellerbach Canada Ltd., Richmond Paper Products Div.
20. Ebsco Ltd., Richmond

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Administration

Administration of the Task Force was supervised by the Regional Director and Victoria staff. A. Ackerman supervised the local administration involving expenditures, office procedures and other administrative paper work.

We kept account books for the expenditures involved with the personnel and our expenditures were as follows:

1979-80 Budget - Feb. 12 - Mar. 31/80

	Total Expenditure
	\$
Accommodation	2660.00
Travel Expenses	6627.06
Vehicle Expenses	866.20
Office Expenses	389.11
Aircraft Rental (helicopter)	2281.10
Miscellaneous Equipment and Supplies	892.58
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TOTAL	\$ 13,716.05

1980-81 Budget - April 1 - June 30/80

Accommodation	6592.99
Travel Expenses	12,272.30
Vehicle Expenses	2612.66
Office Expenses	183.56
Aircraft Rental (helicopter)	1111.66
Miscellaneous Equipment and Supplies	1170.92
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TOTAL	\$ 22,944.38

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As was mentioned earlier, a full time secretary was hired to carry out office duties (phone, typing, filing and accounts). This proved to be an absolute necessity for a group such as ours and maintained the confidentiality we needed for our files.

The Regions were saved substantial amounts of money by having the Task Force paying for such things as vehicle operation and maintenance expenses for the four vehicles used by the Conservation Officers during the five-month period. We mention this fact to again stress the point that no Region sent staff to us for training, with the main excuse being financial.

Recommendations

With the previously mentioned comments and considerations in mind, we wish to make the following recommendations:

1. That a permanent Task Force of at least three Conservation Officers, three technicians, a Senior Conservation Officer (supervisor) and a full time secretary be set up to continue investigating the illegal sources of pollution on the Fraser River. The reporting procedures for this team should be such that all case reports are submitted directly to the Regional Conservation Officer for the Lower Mainland Region and that the final decision on prosecution be made by the Regional Conservation Officer and Regional Director for the Lower Mainland.
2. That the mandate of the proposed permanent Task Force be broadened to include investigations of pollutions within one-half mile of the Fraser River. It should also include the illegal deposit of toxic wastes which have traditionally been shipped to the U.S.A. for disposal.

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3. That a training program be instituted for Conservation Officers, technicians, biologists and engineers to increase the Ministry staff's expertise in pollution investigations. The areas of training recommended for each group is as follows:

a) Conservation Officers

- Sampling procedures and techniques for effluent analysis involving preservatives.
- Sampling procedure and techniques for bioassay tests.
- Instruction on reading and understanding Pollution Control permits, Letters of Transmittal, etc.
- Instruction on enforcement of these same permits, etc.
- Parameters of samples
- Continuity of evidence techniques for effluent and bioassay samples.
- Powers of enforcement officers under the Pollution Control Act, Water Act, etc.

b) Technicians, Biologists, Engineers (Fish and Wildlife Branch, Waste Management Branch, Water Rights, Pesticide Control Branch)

- Basic enforcement techniques involving collection of samples, note taking, continuity of evidence and collection of other evidence such as photographs.
- Instruction on the Court system and giving of evidence in Court.
- Interview and taking of statement techniques.
- Instruction on the proper wording of official orders such that those same orders can be enforced.
- Powers of staff under the Pollution Control Act, Fisheries Act, Water Act, etc.

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4. That the Pollution Control Act be amended to extend the powers of "officers" to conservation officers, technicians and biologists. This would permit legal access to properties and access to files which at present is non-existent. This would also include the power to order the carrying out of works to correct situations that are causing problems for the environment. The ability to order immediate remedial action is an absolute necessity for those persons working in the field. Time delays can result in severe damage to a receiving environment.
5. That Ministerial procedures be instituted so that all violations of the Pollution Control Act, Water Act, Fisheries Act, etc. are investigated jointly by both biological, technical or engineering and Conservation Officer staff. This is designed to use the expertise of both groups in any one investigation.
6. That at least one Crown Counsel in each Region be selected and "trained" in environmental law so that all future cases can be referred to these experts for legal advice and processing through the Courts. This should increase our success in the Courts substantially.
7. That at least four additional legal scientists be added to the present contingent of two at the Ministry of Environment's Laboratory at U.B.C. Lab facilities should also be increased in order to handle the predicted substantial increase in legal samples once the Ministry enforcement effort in pollutions increases.
8. That either a Bioassay laboratory be constructed or set up at the present B.C. Environment Lab or that a joint provincial-federal funding scheme be instituted to fund future bioassay analysis at the Federal Lab in North Vancouver. Bioassay samples are an absolute necessity in pollution investigations and presently there are no provincial bioassay labs with provincial legal scientists performing analysis.

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9. That a standard format of case reports be developed for all pollution cases and that this format be implemented immediately. This will assist supervisors responsible for making decisions on these cases by providing them with a complete package of all pertinent information on a case.
10. That the present faults with the sampling kits be corrected immediately and that all staff be made aware of these faults and corrections (see previous comments).
11. That the Ministry make a major attempt to change the past philosophy of Waste Management Branch from "non-enforcement" to "enforcement". This is the most important recommendation that we, as a Task Force and concerned employees, can make. Without this new attitude and philosophy, our work in making the companies and public aware of the problems we face will be to little avail.
12. That Waste Management Branch staff be increased in the Lower Mainland Region by substantial numbers to administer and enforce the overwhelming number of permits and violations that occur on an annual basis in this area. At present, their numbers are far too low to even keep up with their present workload.
13. That the Pollution Control Act be amended to increase the maximum fines to \$50,000.00, for first offence; the continuing offence fine (per day) to \$5,000.00, and maximum fines to \$100,000 for subsequent offences. This would bring this Act in line with the Fisheries Act.
14. That the Ministry embark on a program to encourage the public to report pollution violations. This could be a similar program to the Observe, Record and Report program (presently used) or it could take it one step further with collection of evidence (samples) by trained citizen groups. If the companies, individuals or governments were more aware of public participation in reporting violations, we feel that the violation rate would drop.

15. That some of the objectives of the Pollution Control Board be reviewed with the modern concepts of environmental protection in mind. We have been told by Waste Management Branch staff that they are following the present objectives and see no need to include other protection measures in remedial action to problems.
16. That the practice of amending Pollution Control permits to justify or legalize discharges in excess of present permits be stopped. This practice has caused considerable public opposition of the Waste Management Branch and has made enforcement of present permits difficult at times.
17. With respect to 16), that the parameters described in Pollution Control Permits be expressed as maximum values allowable. The Permits should also reflect a practical point of discharge where the maximum allowable parameters can be achieved and measured. We did observe some permits where either the parameters were not identified or were not described as the maximum allowable. Other permits included parameters for the total discharge from two or more outlets and legally speaking, were extremely difficult to enforce because of logistics in sampling.
18. That the storage of wood chips require an official approval which contains specific expiry dates. We have observed potential and actual leachate discharges into the River from "temporary" chip piles, some of which are over four years old.
19. That the Ministry establish a set of expert witnesses who will be able to assist Ministry staff in the preparation of court cases and who will be able to attend court when required. Both provincial and federal agencies have expert witnesses who normally perform other duties. We found a reluctance on the part of their supervisors to release these people on a regular basis for court appearances because of the daily duties which the experts were committed to carry out. Lost time and wages were a big factor for these experts.

20. That the Ministry headquarters staff provide guidelines and policy for the future operation and philosophy of the Branch. It constantly amazed us that after five months of success of the Task Force, there were still many Waste Management Branch staff, including Regional Managers and upper hierarchy, who were totally opposed to the Task Force concept. If those attitudes persist, environmental protection in this province will suffer.

21. That more consideration be given to the recommendations of the Waste Management Regional biological staff, Fish and Wildlife Branch and Federal Fisheries staff concerning the effects of an operation under application for permit or approval. This problem was identified earlier in the report.

22. That more status and support be given to the Regional Waste Management biological staff. We have identified an increased importance for the need of an assessment team which will study the impact of effluents on the receiving environment. The Waste Management Regional biological staff certainly possesses the expertise to carry out this function but definitely need more support, both financially and internally.

23. That consideration be given to reorganizing the Regional Waste Management Branch staff structure so that more delegation of authority is permitted. We observed a reluctance by Waste Management Managers and Assistant Managers to share their "officer" status with their staff. Consequently a bottleneck problem occurred at the Regional level where all decisions on most matters had to be made by either of these two persons. This often resulted in long unnecessary delays in taking decisive action on critical matters.

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Conclusion

The problems which have been identified by the Task Force on the Lower Fraser River are causing or have caused a serious deterioration of the water quality. This is not something which can be corrected overnight, but we feel that through constant vigilance by a permanent Task Force, the illegal sources of pollution will be reduced considerably. Because of the Task Force's constant presence on the River, the public, industry and local governments have become more aware of the Ministry's commitment to protection of the environment.

We would like to express our appreciation for the assistance given to us by Mr. R. Aldrich, Chief C/O and Mr. G. Hales, Crown Counsel (Surrey) in the presentation of our case reports. We would also like to thank Mr. Don Hehn, Regional Director of the Lower Mainland, for his support and encouragement. We feel that his personal commitment to cleaning up the Fraser River is probably the one main reason why the Task Force has been as successful as it was. We only hope that the Ministry will continue to support Mr. Hehn in his efforts to clean up the River. The support received from the Minister and Deputy Minister assisted us tremendously in our work. We received considerable opposition internally and, of course, opposition externally to our work and if we hadn't been given the mandate and support by our Minister and Deputy Minister to carry out our tasks, our success would have been notably reduced.

I would like to commend the conservation officers and technicians who made considerable personal sacrifices to work on the Task Force for the five month period. Their commitment to their work was admirable and the professional manner in which they carried out their duties was appreciated by all concerned. They have dispelled any misconception that different parts of the Ministry cannot work together effectively and the Task Force should be an example to the rest of the Province that we have to work together to accomplish our goals.

We feel that it is an absolute necessity that the Task Force concept continue, especially in the Lower Mainland, to solve many of the major problems associated with illegal pollution in the province. A Task Force permits the Ministry to detect a large number of violations in a given period of time while the regular staff in that area carry on their normal duties. This should not, however, preclude any Branch of this Ministry from carrying out its normal enforcement duties.

Finally, I would like to draw your attention to a memo sent to me from C/O Clapp upon completion of the Task Force's work. (Appendix B). It reflects the feelings of the Task Force members more than adequately about our work and its message should be shown to those who will ultimately see this report or a version of it.