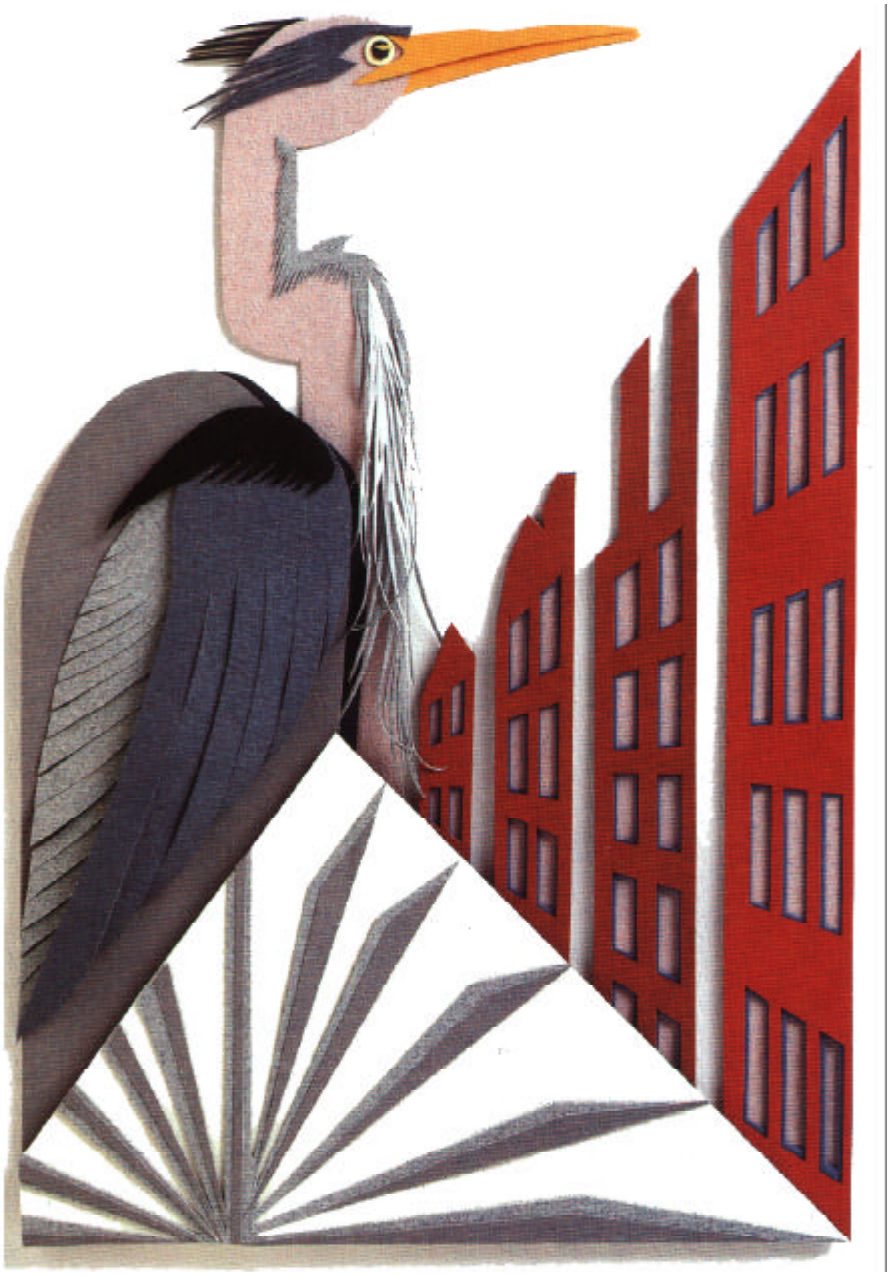
ATLANTIC COASTAL ACTION PROGRAM

Volume II

Sharing the Challenge

Community Environmental Profile:

A Workbook for use in ACAP Project Areas



CANADA'S GREEN PLAN
LE PLAN VERT DU CANADA

Canada

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Preface: A Word to the Workbook User

The condition and health of our environment affects each one of us. And in turn, the things we do in our daily lives--the actions we take at home, at school and at work--have an impact on the quality of the environment. Simple things like putting out the garbage or flushing the toilet may not seem like much, but actions like these do not go unnoticed by the environment, especially when combined with the actions of industries, businesses and other members of our community.

This Workbook is specially designed to help you take stock of the environmental conditions in your community. It will help you identify the environmental features, issues and problems which are found in your area. The Workbook will also encourage you to think about how your actions as an individual, in your home or office, affect the environment around you.

The Workbook has been prepared as part of the Atlantic Coastal Action Program (ACAP), an initiative under Canada's Green Plan. As such, the document focuses primarily on the marine environment. It is intended to assist Multistakeholder Committees to identify and describe local environmental conditions and issues.

Read on to find out more about how to use the Workbook and who to talk to if you need help along the way.

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How to Use the Workbook

The Workbook is made up of seven sets of questions plus an appendix which look at the range of activities which may have some impact on the environment in your ACAP project area. For example, one set of questions identifies the kinds of industry which are found in the ACAP project area, as well as how these industries affect the environment. These questions also help you take inventory of the environmental features in your community, including the presence of wildlife, fish and vegetation.

The appendix consists of a personal environmental survey which considers, in simple terms, what you are doing, as an individual, to help protect our environment. For instance, do you recycle materials such as soft drink containers or newspapers if your community has a recycling program? Or do you take measures to conserve water and energy? There's no scorecard to keep in answering the questions in the personal environmental survey, but the survey should help you make the connection between the actions you take as an individual, and the environmental conditions and issues you identified using questions presented in the main text of the Workbook.

Here's How to Get Started

Take a look at the list of sections which make up the Workbook. There are seven main sections and an appendix. Most sections contain a number of categories. For example, Section 1 contains four categories.

One of the first things you should do is get a good map of your ACAP project area. This is necessary because you will be asked to mark the location of various activities (industries, hospitals, waste facilities, etc.) on the map as you answer the questions in the Workbook. You may need more than one map to show all the activities, so make several photocopies of the map to be safe.

Start with Section 1 and begin answering the questions. Once you have finished Section 1, go to Section 2. It is not necessary to complete the sections in the order presented in the Workbook, but once you start a section, you should try to finish it to avoid missing questions. Sometimes it may not be possible to answer certain questions because the person who knows the answer is not available. If this happens, make a note at the beginning of the section you are working on to remind yourself to ask that person or get more information later. This will allow you to move on to the next section until you can fill in the missing answer.

In cases where there is more than one of a certain type of facility (e.g. two pulp and paper mills) in the ACAP project area, be sure to photocopy the appropriate list of questions, and answer the questions for each facility.

Remember that not all categories and questions will apply to your ACAP project area. For example, if you come to category 2Bi (Pulp and Paper), and your community does not have a pulp and paper plant, simply mark this on the question page and move on to the next category.

As you fill out the questions in the Workbook, be sure to use additional sheets of paper if you need more space for your answer than is provided. Also, if you have relevant information or comments which are not covered by the Workbook questions, record this information on additional sheets at the end of the appropriate section.

Your job is complete once you have finished all the sections of the Workbook and the Appendix.

Where to Go for Assistance

The Workbook contains many different questions--some will be easy to answer and some will be more difficult.

There are basically four types of questions:

1. Those which you can answer on your own by doing some research or reading, or by calling on your personal knowledge of the ACAP project area;

2 . Those which you can answer by visiting a site or facility, such as the local oil refinery (if your community has one), and observing conditions;

3. Those which you can answer by talking to the people who operate or work at a facility in your community, such as the wastewater treatment plant (if your community has one), and asking them to help you answer the questions; and

4. Those which you can answer by talking to government officials--either municipal, provincial or federal.

If you are not sure about the answer to a question, be sure to ask someone who is.

At the beginning of each section in the Workbook, there are suggestions about who you should talk to for assistance in answering the questions in that section.

Also, a *Glossary of Terms* has been included to provide you with definitions for some of the words used in the Workbook.

Analyzing Your Data

The data you collect in developing the community environmental profile will have a variety of uses, from building your awareness of conditions in the study area, to suggesting questions and data needs, to forming a foundation for an environmental quality assessment (described in Volume I–Part 2B). Furthermore, the data-gathering exercise can be a good starting point for getting the multistakeholder group to work together. Here are several suggestions for collecting and analyzing the data.

Approach to Data Gathering–This is your chance to delegate responsibility. The task of filling in the different forms for preparing the Community Environmental Profile can be assigned to various volunteers. Be sure to match the scope of the task and the topic to the abilities of your team members. Schedule opportunities for individuals to present and discuss their results to the group. Approaching the problem in this way gives everyone a chance to participate, and is an efficient way to make use of valuable volunteer resources.

Maps–Plotting data on maps is a good way to help you visualize, and analyze, the data. Maps are a natural organizer, putting things in perspective in space. Published maps available from a variety of sources also contain a great deal of information that can be used in preparing the environmental profile for your area. Frequently maps show evidence of past activities (an abandoned rail line, tannery, industrial facility etc.) obtained through an inventory of cultural features when the maps were prepared and this information can be useful. Topographic maps (minimum 1:50,000 scale) or hydrographic charts of your study area are essential. Obtain several copies of each map as they can be used to plot information relating to different themes, for general reference and discussion as well as for groundtruthing and for guiding your personal reconnaissance of the study area.

Much of the information you obtain in your Community Environmental Profile can be mapped. At a minimum, you should plot: locations of major industries; industrial outfalls; public buildings such as schools; wharves; sewage treatment plants; sewage outfalls; ocean dump sites; navigation channels; parks; protected areas and wildlife management areas; landfills/dumps; water supplies and drainage areas; watershed boundaries; permanent or traditional fishing areas (i.e. fishing weirs); shellfish beds; First Nations reserves; aquaculture sites; areas closed to shellfishing; major or significant bird colonies or concentrations; major wetlands; beaches; recreational features such as yacht clubs and so on. You can also include political boundaries, zoning restrictions etc. obtained from maps produced by regional planning authorities, towns, and local governments.

When plotting, use different symbols, stick pins or flags for each type of feature. Maps have a tendency to become cluttered so it is wise to make enlargements of key sections. Make sure you use maps in all your public presentations, and ensure that at least one map shows the extent of the ACAP study area. Also consider determining and recording the exact geographic position in latitude and longitude (or Universal Transverse Mercator coordinates) for each item you place on the map. It's a bit of extra effort now, but it can help others to evaluate your data and may be useful in the future in transferring your information to regional databases and geographic information systems.

It's a good idea to do your mapping as a group. Prepare a rough version of your map(s) using input from all participants. That way each of you will have a chance to view all the information, as well having an opportunity to see relationships between various components of it.

Data Synthesis-–The value of the data can be enhanced by looking at it in the right way. Some people make a life's work of the analysis of information, and so you cannot expect that you'll be as good at it as someone who does nothing else. Fortunately, the process of filling in data forms used in this part of the ACAP manual will give you the opportunity to make statements about conditions in your area without extensive analysis.

After the relevant forms have been filled out, discuss them. Weed out comments or indications that might be partisan, weak or misleading. Clarifying the data in this way will happen to a certain extent anyway, since some of the forms describe industries or activities in which stakeholders in the group are directly involved. For example, a representative of the local pulp mill might like more clarification concerning observations relating to his/ her plant or might be able to provide more information to lead to a better understanding of the situation.

When you are happy that the form gives a true picture of the particular element, ask yourself if the situation impairs any of your desired uses for the environment. Summarize the answers to the question for each sheet--'Yes, No, Maybe, Unknown' and make a table or list of responses, or organize your data in the form of a matrix. A matrix is a table with rows and columns in which you can present the various elements of the environment and respective impacts. Matrix approaches are commonly used in impact assessment and your Environment Canada representative should be able to help you set up a simple one. Don't worry for now about topics which have listed as 'maybe' or 'unknown'--the approach used here will give you the ability to make valid statements about environmental conditions even with some stones unturned. You can go back later and look more closely at unknowns identified at this stage.

Looking at the data in this way should enable you to get enough of a picture of environmental conditions to enable you to proceed with the development of your Comprehensive Environmental Management Plan. Consult with your ACAP representatives as you develop it to ensure that it adequately reflects the information available to you.

In some instances, however, a more detailed review of scientific and technical information on the topic may be required. This may be a formal review or one aimed at specific significant components of the environment in your area. Volume I – Part 2B of this manual deals with some of the considerations in doing a more formal Environmental Quality Assessment.

In this and in all your further efforts at data analysis, remember that the best advice is to stay simple and stick with techniques you know.Staying within your level of competence, getting outside help when you need it, and spending time thinking your assessment through, will ensure that the least amount of effort is wasted.

Glossary of Terms

AOX–chlorinated compounds found in pulp mill effluents

Aquaculture–also fish farming, the growing and raising of fish or shellfish in cages in the marine environment

Biological Oxygen Demand (BOD)–measure of oxygen depletion of water due to bacterial decay of organic polutants

Causeway–a man-made land bridge which connects an island to the mainland, usually built to accomodate a road

Dredgeate–the sediment and water slurry which is produced from dredging operations

Dredging–process to dig trenches or holes in the seabed by digging up and removing sediment

Effluent–wastewater produced from operations (industrial, sewage) and discharged in the marine environment

Erosion–the loss of material (sediment, rocks, etc.) due to physical processes

Groundwater–water found underground in the spaces between particles of rock and soil, or in crevices and cracks of rock. Groundwater flows through the ground and usually moves downhill. Groundwater is usually fresh but may be salt water in coastal areas.

In-filling–the creation of useable land by filling areas with rock and soil

Persistent Chemicals–chemicals that do not break down in the environment over time

Primary Wastewater Treatment–first step in sewage treatment to remove solids by screens and sediment and organic matter in settling chambers

Ramsar Site–International Convention on Wetlands of International Importance–signed by Canada in 1981

Rate of Discharge–speed at which wastewater is pumped or disposed into the marine environment

Sediments/Sedimentation–the accumulation of sediment on the seafloor--happens in areas where current speeds are small and wave energy is low

Secondary Wastewater Treatment–after primary treatment, removal of biodegradable organic matter from sewage using bacteria and other microorganisms, in activated sludge or trickle filters. Also removes some of the phosphorus (30%) and nitrogen (50%).

Suspended Solids–very fine material (sediment, organic matter) which floats in the water

Tailings–waste rock from screening or processing of raw ores

Tipping Fees–fees charged to dump garbage from trucks in landfills or garbage depots

Turbidity–a measure of the “cloudiness” or amount of suspended solids in the water.

1.0 The ACAP Project Area: General Characteristics

A) Location/Population
B) Geographic/Geological Features
C) Land/Water Use
D) Local Government

This section is intended to help you identify the general characteristics of your ACAP project area.

For category A, you will likely have to take a look at the Canadian Census in order to answer the population questions, although the Planning Department of your local municipality may be of assistance here. The Canadian Census can be found at your local library.

The Planning Department of your municipality should also be able to help you with categories C and D. For water use questions in category C, contact the port authority (if there is one) in your ACAP project area.

For category B, consult a detailed map of the ACAP project area, or better yet, take a car, bicycle or boat ride around the project area.

1A. LOCATION/POPULATION

1. What is the name of your ACAP project area and the province(s)/jurisdictions in which it is located? (Obtain a map which you can use to pinpoint the location of activities and features in the ACAP project area.)

   Project Area: ☐

   Province(s)/Jurisdictions: _____
   _____
   _____

2. What is the population of the ACAP project area? (Use the most recent figure available and include the year and source.)

   population ☐ year ☐ source ☐

3. In the last 5 years, has the population of the ACAP project area:

   increased ☐ decreased ☐ remained about the same ☐

4. Approximately what percentage of the people in the ACAP project area:

   speak English as their first language ☐

   speak French as their first language ☐

   speak another language as their first language ☐

1B. GEOGRAPHIC/GEOLOGICAL FEATURES.

1. Would you describe the land in the ACAP project area as:

   mainly flat ☐ hilly ☐ mountainous ☐

   other (specify) _____

2. List the names of the main bodies of water (rivers, lakes, harbours, estuaries etc.) which are found in the ACAP project area.

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

3. Indicate which of the following coastal features are found in the ACAP project area. (Mark the major features on your map.) Be sure to list other significant coastal features which are not included below.

island(s)	☐	bays	☐	inlets	☐
lagoons	☐	fiords	☐	marshes	☐
coastal mountain ranges	☐	rocky cliffs	☐	river estuary	☐
mudflats	☐	glacial till bluffs	☐	boulder beaches	☐
shale beaches	☐	barrier beaches (barachois)	☐	sandy beaches	☐

   other (specify) _____
   _____
   _____
   _____

1C. LAND / WATER USE

1. Approximately what percentage of land in the ACAP project area is:

   urban: [%] rural: [%]

2. List the names (and mark the locations on your map) of the following in the ACAP project area:

   a) local, provincial and national parks.

   _____
   _____
   _____

   b) designated areas of special natural or environmental significance.

   _____
   _____
   _____
   _____

   c) designated areas of special historical significance.

   _____
   _____
   _____
   _____

   d)military bases or installations.

   _____
   _____
   _____

   e) First Nations (Indian Reservations).

   _____
   _____
   _____

1C. LAND / WATER USE - contd.

3. List the titles of any municipal or regional Official Plans which address land use in the ACAP project area.

_____
_____
_____
_____
_____
_____

4. Indicate which of the following water uses are present in your ACAP project area. Be sure to list other significant water uses which are not included below.

port facilities ☐ commercial fishing ☐

marine park ☐ (recreational boating, etc.) ☐

aquaculture areas ☐

other (specify) _____
_____
_____
_____

5. List the titles of any municipal, regional or other government plans which address water use in the ACAP project area.

_____
_____
_____
_____
_____
_____

1D. LOCAL GOVERNMENT

1. List the names of all municipalities (cities, towns, villages, townships, etc.) which comprise the ACAP project area.

_____
_____
_____
_____
_____
_____
_____

2. Is there a regional government which oversees activities in the ACAP project area?

Yes ☐ No ☐

(If YES, include the name of the regional government.)

_____
_____

3. List any the names and locations of any government departments or offices located in the ACAP project area which deal with environmental matters and issues:

a) at the municipal level.

_____
_____
_____
_____

1D. LOCAL GOVERNMENT - contd.

b) at the regional level.

_____
_____
_____
_____

c) at the provincial level.

_____
_____
_____
_____

d) at the federal level.

_____
_____
_____
_____

2.0 Potential Sources of Pollution

A) Municipal Effluent
   i) Sewage
   ii) Storm Sewers

B) Industry and Business
   i) Pulp and Paper
   ii) Food Processing Plants
   iii) Fish Processing Plants
   iv) Mining (Land Based)
   v) Mining (Offshore and Beach)
   vi) Oil Refineries
   vii) Chemical Plants
   viii) Steel Plants
   ix) Smelting Plants
   x) Power Generation Facilities
   xi) Other Large Industries
   xii) Small Businesses

C) Hospitals and Other Medical Facilities
D) Large Institutions
E) Municipal Waste Management
F) Marine Transportation/Port Operations
G) Dredging/Ocean Dumping
H) Agriculture
I) Forestry
J) Recreation and Tourism
K) Highways
L) Urban Development
M) Litter/Abandoned “Junk”
N) On Site Domestic Waste Treatment

This section includes many activities and factors which could affect the quality of the environment in the ACAP project area. It is very unlikely that your site will have all of the activities listed above. However, your community may have sources of pollution which are not covered by any of the categories in this section--if this is the case, be sure to attach pages listing these sources, and include information on what environmental impacts are present.

The best approach for answering the questions in this section is to visit the site(s) of each activity, and talk to the people who run the facility/operation. If you are planning a site visit, be sure to contact the facility/operation in advance, and arrange an appointment.

You should also talk to government officials--municipal, provincial, and federal--who are familiar with these activities or issues.

2A. MUNICIPAL EFFLUENT

i) Sewage

1. Is there a sewage (human waste) treatment facility in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-11; if NO, complete questions 12-15.)

2. Who operates the sewage treatment facility?

   _____
   _____

3. Where is the facility located? (Mark the location on your map.)

   _____
   _____

4. In what year did the facility begin operating?

   ☐

5. Approximately what percentage of the population in the ACAP project area is served by the sewage treatment facility?

   ☐ %

6. Does the sewage treatment secondary treatment facility provide:

   primary treatment ☐ secondary treatment ☐

   both primary and secondary treatment ☐

2A. MUNICIPAL EFFLUENT – cont'd

i) Sewage - cont'd

7. How would you describe the system used for treating the sewage?
mechanical treatment ☐ lagoon system ☐

other (specify) _____

8. The following questions relate to how the sewage treatment facility operates:

a) Is there a routine maintenance program in place?

Yes ☐ No ☐

b) Briefly describe how the sewage is carried to the facility.

_____
_____
_____
_____

c) Where is the effluent from the facility released?

_____
_____

d) How much BOD materials (in kilograms) has the facility released in each of the past 5 years?

1991 ☐ 1990 ☐ l989 ☐

1987 ☐ 1986 ☐

2A. MUNICIPAL EFFLUENT - cont'd

i) Sewage - cont'd

e) How much suspended solids (in kilograms) has the facility released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

f) Briefly describe any changes to the plant which have been made to reduce the release of BOD materials and suspended solids.

_____
_____
_____
_____

g) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

h) Is chlorine or any other chemical added during the treatment process?

Yes ☐ No ☐

specify other chemical(s) added

_____
_____
_____

2A. MUNICIPAL EFFLUENT - cont'd

i) Sewage - cont'd

i) List any persistent chemicals which are known to be present in the discharge from the sewage treatment facility.

_____
_____
_____
_____

j) What is the rate of discharge from the facility?

☐

k) List below the legislation (laws) under which the facility operates.

_____
_____
_____
_____

1) List below the regulatory permits (municipal, provincial, and/or federal) under which the facility operates, and the environmental requirements of each permit.

_____
_____
_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details.

_____
_____
_____
_____

2A. MUNICIPAL EFFLUENT - cont'd

i) Sewage - cont'd

m) Is there a combined sewer/stormwater overflow?

Yes ☐ No ☐

If YES, how often do overflows happen and where are the overflows discharged?)

_____

_____

n) What is done with the sludge which remains after treatment?

incinerated ☐ other (specify) _____

o) Does the sewage treatment facility receive wastewater from industries in the ACAP project area?

Yes ☐ No ☐

(If YES, is the treatment facility specially designed to handle this wastewater?)

Yes ☐ No ☐

p) Does the facility have full-time staff?

Yes ☐ No ☐

9. How would you describe the overall performance of the sewage treatment facility?

excellent ☐ good ☐ fair ☐ poor ☐

2A. MUNICIPAL EFFLUENT - cont'd

i) Sewage - cont'd

10. List the tides of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the sewage treatment facility. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____
_____

2A. MUNICIPAL EFFLUENT - cont'd

i) Sewage - cont'd

11. Use the following chart to describe any environmental problems which appear to result from the operation of the sewage treatment facility. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? Yes	No	Comments
contamination of surface water			
discoloration of surface water			
contamination of groundwater			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination at facility site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			

2A. MUNICIPAL EFFLUENT - cont'd

I) Sewage - cont'd

12. Where is the untreated sewage from homes and buildings in the ACAP project area released? (Name the body of water and mark the release location(s) on your map.)

_____

_____

13. Approximately how much untreated sewage (in liters) is released:

in one day? ☐

in one year? ☐

14. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the release of untreated sewage. (These may include reports prepared by government agencies or consultants.)

_____

_____

_____

_____

_____

_____

_____

15. What percentage of homes in the watershed:

a) are connected to municipal sewers? ☐

b) use on-site sewage disposal (septic tanks, percolation fields)? ☐

2A. MUNICIPAL EFFLUENT - cont'd

i) Sewage - cont'd

16. Use the following chart to describe any environmental problems which appear to result from the release of untreated sewage. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? Yes	No	Comments
contamination of surface water			
discoloration of surface water			
contamination of groundwater			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
excessive odour			
impact on human health			
_____			
_____			
_____			
_____			

2A. MUNICIPAL EFFLUENT - cont'd

ii) Storm Sewers

1. Is there a storm sewer system in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-8; if NO, go to 2B.)

2. In what year was the storm sewer system constructed?

   ☐

3. Who maintains the storm sewer system?

   _____
   _____

4. Where does the wastewater from the storm sewer system end up? (List all points of discharge to surface waters in the ACAP project area.)

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

5. Are water quality tests taken at the point(s) of discharge from the storm sewer system?

   Yes ☐ No ☐

2A. MUNICIPAL EFFLUENT - cont'd

ii) Storm Sewers - cont'd

6. Have contaminants been found in the outflow from the storm sewer system?

Yes ☐ No ☐

(If YES, list the contaminants which have been found to be present in the outflow.)

_____
_____
_____
_____
_____

7. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the storm sewers. (These may include reports prepared by government agencies, consultants or the agency which maintains the storm sewers.)

_____
_____
_____
_____
_____
_____
_____

2A. MUNICIPAL EFFLUENT - cont'd

ii) Storm Sewers - cont'd

8. Use the following chart to. describe any environmental problems which appear to result from the storm sewer system. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of groundwater			
contaminations of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
excessive odour			
impact on human health			
_____			
_____			
_____			

2B. INDUSTRY AND BUSINESS

i) Pulp and Paper

1. Is there a pulp and paper plant in the ACAP project area?

   Yes ☐ No ☐

   ('f YES, complete the rest of this section for each plant in the ACAP project area; if NO, go to Section 2B(ii).

2. That is the name of the company which operates the plant?

   _____
   _____

3. Where is the plant located? (Also mark the location on your map.)

   _____
   _____

4. In what year did the plant begin operating?

   ☐

5. List the products and quantities which are made at the plant.

   _____
   _____
   _____
   _____
   _____

6. a) How are raw materials transported to the plant (Check more than one box if necessary.)

   truck ☐ train ☐ ship ☐ log drive ☐

2B. INDUSTRY AND BUSINESS - cont'd

i) Pulp and Paper - cont'd

b) How are products transported from the plant? (Check more than one box if necessary.)

truck ☐ train ☐ ship ☐

7. The following questions relate to how the plant operates:

a) What type of manufacturing process is used?

chemical pulping ☐ thermo mechanical ☐ ground wood ☐

other (specify) _____

b) How much water is used in the manufacturing process:

in one day? ☐

in one year? ☐

c) Where is the effluent from the plant released?

d) directly into a body of water (name) ☐

into the municipal sewage system ☐ no effluent is released ☐

other (specify)_____

2B. INDUSTRY AND BUSINESS - cont'd

i) Pulp and Paper - cont'd

d) List all the materials (wood fibre, chemicals, etc.) which are released in the plant's effluent.

_____
_____
_____
_____

e) How much AOX (absorbable organic halogen - see glossary) is released by the plant:

in one day? ☐

in one year? ☐

f) Does the plant perform bleaching?

Yes ☐ No ☐

What chemicals are used?

chlorine gas ☐ chlorine dioxide ☐ hydrogen peroxide ☐ other ☐

g) Is the effluent treated before it is released?

Yes ☐ No ☐

(If YES, briefly describe how this is done.)

_____
_____
_____

h) How much BOD materials (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

2B. INDUSTRY AND BUSINESS - cont'd

i) Pulp and Paper - cont'd

i) How much suspended solids (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

j) Briefly describe any changes to the plant which have been made to reduce the release of BOD materials and suspended solids.

_____
_____
_____
_____
_____

k) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____
_____

1) What is the rate of discharge from the plant?

☐

m) List below the legislation (1aws) under which the plant operates.

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

i) Pulp and Paper - cont'd

n) List below the regulatory permits (municipal, provincial, and/or federal) under which the plant operates, and the environmental ? requirements of each permit.

_____
_____
_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details.

_____
_____
_____
_____

o) Where is the solid waste from the plant taken for disposal?

_____
_____
_____

8. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the pulp and paper plant. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

i) Pulp and Paper - cont'd

9. Use the following chart to describe any environmental problems which appear to result from the operation of the pulp and paper plant. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of groundwater			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on marine vegetation			
loss of habitat			
soil contamination at plant site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

ii) Food Processing

1. Is there a food processing plant in the ACAP project area? (Note that fish processing plants are addressed in Section 2B(iii).

   Yes ☐ No ☐

   (If YES, complete the rest of this section for each plant in the ACAP project area; if NO, go to Section 2B(iii).

2. What type of food is processed at the plant?

   Vegetables ☐ meat ☐ dairy products ☐

   other (specify) _____

3. What is the name of the company which operates the plant?

   _____

   _____

4. Where is the plant located? (Mark the location on your map.)

   _____

   _____

5. In what year did the plant begin operating?

   ☐

6. a) How is unprocessed food transported to the plant (check more than one box if necessary.)

   truck ☐ train ☐ ship ☐

2B. INDUSTRY AND BUSINESS - cont'd

ii) Food Processing - cont'd

b) How is the processed food transported from the plant? (Check more than one box if necessary.)

truck ☐ train ☐ ship ☐

7. The following questions relate to how the plant operates:

a)Where is the effluent from the plant released?

directly into a body of water (name) ☐

into the municipal sewage system ☐ no effluent is released ☐

other (specify) _____

b) List all the materials (oil, grease, bacteria etc.) which are released in the plant's effluent.

_____
_____
_____
_____

c) Is the effluent treated before it is released?

Yes ☐ No ☐

(If YES, briefly describe how this is done.)

_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

ii) Food Processing - cont'd

d) How much BOD materials (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

e) How much suspended solids (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

f) Briefly describe any changes to the plant which have been made to reduce the release of BOD materials and suspended solids.

_____
_____
_____
_____

g) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

h) What is the rate of discharge from the plant? ☐

How much water does the plant use? daily ☐ annually ☐

2B. INDUSTRY AND BUSINESS - cont'd

ii) Food Processing - cont'd

i) List below the legislation (laws) under which the plant operates.

_____
_____
_____

j) List below the regulatory permits (municipal, provincial, and/or federal) under which the plant operates, and what is the environmental requirements of each permit.

_____
_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐ Provide details.

_____
_____
_____
_____

k) Where is the solid waste from the plant taken for disposal?

_____
_____
_____

8. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the food processing plant. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

ii) Food Processing - cont'd

9. Use the following chart to describe any environmental problems which appear to result from the operation of the food processing plant. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of groundwater			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination at plant site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

iii) Fish Processing Plants

1. Is there a fish processing plant in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete this section for each plant in the ACAP project area; if NO, go to Section 2B(iv).

2. What type of fish is processed at the plant?

   _____
   _____
   _____

3. What is the name of the company which operates the plant?

   _____
   _____

4. Where is the plant located? (Mark the location on your map.)

   _____
   _____
   _____

5. In what year did the plant begin operating?

   ☐

6. a) How is the unprocessed fish transported to the plant? (Check more than one hox if necessary.)

   truck ☐ train ☐ ship ☐ fishing vessel ☐

2B. INDUSTRY AND BUSINESS - cont'd

iii) Fish Processing Plants - cont'd

b) How is the processed fish transported from the plant? (Check more than one box if necessary.)

truck ☐ train ☐ ship ☐

7. The following questions relate to how the plant operates:

a) Where is the effluent from the plant released?

directly into a body of water (name) ☐

into the municipal sewage system ☐ no effluent is released ☐

other (specify) _____

b) List all the materials (oil, grease, bacteria etc.) which are released in the plant's effluent.

_____
_____
_____
_____
_____

c) Is the effluent treated before it is released?

Yes ☐ No ☐

(If YES, briefly describe how this is done.)

_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

iii) Fish Processing Plants - cont'd

d) How much BOD materials (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

e) How much suspended solids (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

f) Briefly describe any changes to the plant which have been made to reduce the release of BOD materials and suspended solids.

_____
_____
_____
_____

g) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____
_____
_____

h) What is the rate of discharge from the plant? daily ☐ per year ☐

How much water does the plant use? daily ☐ per year ☐

2B. INDUSTRY AND BUSINESS - cont'd

iii) Fish Processing Plants - cont'd

i) List below the legislation (laws) under which the plant operates.

_____
_____
_____

j) List below the regulatory permits (municipal, provincial, and/or federal) under which the plant operates, and the environmental requirements of each permit.

_____
_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details

_____
_____
_____
_____

k) Where is the solid waste (including fish remains) from the plant taken for disposal?

_____
_____

8. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the fish processing plant. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

iii) Fish Processing Plants - cont'd

9. Use the following chart to describe any environmental problems which appear to result from the operation of the fish processing plant. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of groundwater			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination at plant site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

iv) Mining (Land Based)

1. Is there a land based mining operation in the ACAP project area?

   Yes ☐ No ☐

   If YES, complete the rest of this section for each land based mining operation in the ACAP project area; if NO, go to Section 2B(v).

2. What type and quantity (tons/year) of material is mined at mine site?

   coal ☐ aggregate ☐ gypsum ☐ base metals ☐

   other (specify) _____

3. What is the name of the company which operates the mine?

   _____

   _____

4. Where is the mine located? (Mark the location on your map.)

   _____

   _____

5. In what year did the mine open?

   ☐

6. How are the materials transported from the mine site? (Check more than one box if necessary.)

   truck ☐ train ☐ ship ☐

2B. INDUSTRY AND BUSINESS - cont'd

iv) Mining (Land Based) - cont'd

7. The following questions relate to how the mine operates:

a) What type of mining is done at the mine operates

open pit ☐ underground ☐

b) Are the mined materials processed at the mine site?

Yes ☐ No ☐

(If YES, briefly describe the processing method used.)

_____

_____

c) How are the mined materials stored at the mine site?

_____

_____

_____

d) List any hazardous materials used / produced during the mining process and indicate how these materials are stored at the mine site.

Type of material	Storage method

2B. INDUSTRY AND BUSINESS - cont'd

iv) Mining (Land Based) - cont'd

e) How much water is used at the mine:

in one day? ☐

in one year? ☐

f) Briefly describe what is done with the waste rock or tailings which results from the operation of the mine.

_____
_____
_____
_____

g) Where is the effluent from the plant released?

directly into a body of water (name) ☐

into the municipal sewage system ☐ no effluent is released ☐

other (specify) _____

h) List all the materials (metals, chemicals, oil and grease etc.) which are released in the mine's effluent.

_____
_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

iv) Mining (Land Based) - cont'd

i) Is the effluent treated before it is released?

Yes ☐ No ☐

(If YES, briefly describe how this is done.)

_____
_____
_____

j) How much suspended solids (in kilograms) has the mine released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

k) Briefly describe any changes to reduce the release of suspended the mining operation which have been made to solids and contaminants.

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

iv) Mining (Land Based) - cont'd

1) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____

_____

m) What is the rate of discharge from the mining operation?

☐

n) List below the legislation (1aws) under which the mine operates.

_____

_____

_____

_____

o) List below the regulatory permits (municipal, provincial, and/or federal) under which the mine operates, and the environmental requirements of each permit.

_____

_____

_____

_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details

_____

_____

_____

_____

2B. INDUSTRY AND BUSINESS - cont'd

iv) Mining (Land Based) - cont'd

p) Are groundwater quality tests done at the mine site?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____

_____

q) Are air quality tests done at the mine site?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____

_____

r) Where is the solid waste from the mine (other than waste rock and tailings) taken for disposal?

_____

_____

s) Briefly describe the land reclamation, methods (if any are used) to restore mined areas on the surface.

_____

_____

_____

t) Would you say that the re growth of vegetation at the mine site is:

successful ☐ partly successful ☐ not successful ☐

2B. INDUSTRY AND BUSINESS - cont'd

iv) Mining (Land Based) - cont'd

8. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the mining operation. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____
_____

9. Use the following chart to describe any environmental problems which appear to result from the operation of the mine. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of groundwater			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			

2B. INDUSTRY AND BUSINESS - cont'd

iv) Mining (Land Based) – cont'd

Environmental Problem	Present? YES	NO	Comments
loss of habitat			
air pollution			
excessive odour			
waste rock dumped on shore			
uncontained/leaking tailings			
impact on human health			
sediment into ditches			
sediment into surface water			
_____			
_____			
_____			
_____			
_____			
_____			
_____			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

v) Mining (Offshore and Beach)

1. Is there an offshore or beach mining operation in the ACAP area?

   Yes ☐ No ☐

   (If YES, complete the rest of this section for each offshore or beach mining operation in the ACAP project area; if NO, go to Section 2B(vi).

2. What type of material is mined?

   construction aggregate ☐ titanium ☐ gold ☐ silica sand ☐

   other (specify) _____

3. What is the name of the company?

   _____

   _____

4. Where is the mining carried out? (Mark the location on your map.)

   _____

   _____

5. In what year did the operation commence?

   ☐

6. How are the materials transported from the site? (Check more than one box if necessary.)

   truck ☐ train ☐ ship ☐

2B. INDUSTRY AND BUSINESS - cont'd

v) Mining (Offshore and Beach) - cont'd

7. Are water quality tests done where the mining is taking place?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____
_____
_____

8. Briefly describe the extraction (mining) process.

_____
_____
_____

9. Briefly describe what is done with the waste (such as slurry, dredgeate or tailings) which results from the operation.

_____
_____
_____
_____

10. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the mining operation. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

v) Mining (Offshore and Beach) - cont'd

11. Use the following chart to describe any environmental problems which appear to result from the operation of offshore or beach mine. The lefthand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
air pollution			
excessive odour			
waste rock dumped on shore			
uncontained/leading tailings			
waste/sediment dumped into water/lagoon			
impact on human health			
contamination of groundwater			

2B. INDUSTRY AND BUSINESS - cont'd

v) Mining (Offshore and Beach) - cont'd

Environmental Problem	Present? YES	NO	Comments
_____			
_____			
_____			
_____			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

vi) Oil Refineries

1. Is there an oil refinery in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete the rest of this section for each refinery in the ACAP project area; if NO, go to 2B(vii).

2. What is the name of the company which operates the refinery?

   _____
   _____

3. Where is the refinery located? (Mark the location on your map.)

   _____
   _____

4. In what year did the refinery begin operating?

   ☐

5. List the products and quantities which are made/refined at the refinery.

   _____
   _____
   _____
   _____
   _____

6. a) How are raw materials transported to the refinery. (Check more than one box if necessary.)

   truck ☐ train ☐ ship ☐ pipeline ☐

2B. INDUSTRY AND BUSINESS - cont'd

vi) Oil Refineries - cont'd

b) How are products transported from the refinery? (Check more than one box if necessary.)

track ☐ train ☐ ship ☐ pipeline ☐

7. The following questions relate to how the refinery operates:

a) Where is the effluent from the refinery released?

directly into a body of water (name) _____

into the municipal sewage system ☐ no effluent is released ☐

other (specify) _____

b) List all the materials (ammonia, chemicals, oil and grease, etc.) which are released in the refinery's effluent.

_____
_____
_____
_____

c) Is the effluent treated before it is released?

Yes ☐ No ☐

(If YES, briefly describe how this is done.)

_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

vi) Oil Refineries - cont'd

d) How much oil and grease (in kilograms) has the refinery released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

e) How much suspended solids (in kilograms) has the refinery released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

f) Briefly describe any changes to the refinery which have been made to reduce the release of oil and grease and suspended solids.

_____
_____
_____
_____

g) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____
_____

h) What is the rate of discharge from the refinery?

☐

2B. INDUSTRY AND BUSINESS - cont'd

vi) Oil Refineries - cont'd

i) List below the legislation (laws) under which the refinery operates.

_____
_____

j) List below the regulatory permits (municipal, provincial, and/or federal) under which the refinery operates, and the environmental requirements of each permit.

_____
_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details

_____
_____
_____

k) Where is the solid waste from the refinery taken for disposal?

_____
_____
_____

8. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the refinery. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

vi) Oil Refineries - cont'd

9. Use the following chart to describe any environmental problems which appear to result from the operation of the refinery. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
oil spills/leaks			
contamination of surface water			
contamination of ground water			
discoloration of surface water			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination of refinery site			
air pollution			
excessive odour			
impact on human health			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

vii) Chemical Plants

1. Is there a chemical manufacturing plant in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-9 for each plant in the ACAP project area; if NO, go to2B(viii).

2. What type of chemicals are manufactured at the plant? List main types and principal products.

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

3. What is the name of the company which operates the plant?

   _____
   _____

4. Where is the plant located? (Mark the location on your map.)

   _____
   _____

2B. INDUSTRY AND BUSINESS - cont'd

vii) Chemical Plants - cont'd

5. In what year did the plant begin operating?

6. a) How are raw materials transported to the plant? (Check more than one box if necessary.)

truck ☐ train ☐ ship ☐

b) How are chemicals transported from the plant? (Check more than one box if necessary.)

truck ☐ train ☐ ship ☐

7. The following questions relate to how the plant operates:

a) What principal types of manufacturing process are used at the plant?

_____
_____
_____
_____
_____

b) Where is the effluent from the plant released?

directly into a body of water (name)

into the municipal sewage system ☐ no effluent is released ☐

other (specify)

2B. INDUSTRY AND BUSINESS - cont'd

vii) Chemical Plants - cont'd

c) List all the materials (chemicals, mercury, etc.) which are released in the plant's effluent.

_____
_____
_____
_____

d) Is the effluent treated before it is released?

Yes ☐ No ☐

(If YES, briefly describe how this is done.)

_____
_____
_____

e) How much BOD materials (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

f) How much suspended solids (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

2B. INDUSTRY AND BUSINESS - cont'd

vii) Chemical Plants - cont'd

g) Briefly describe any changes to the plant which have been made to reduce the release of BOD materials and suspended solids.

_____
_____
_____
_____

h) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____
_____
_____

i) What is the rate of discharge from the plant?

☐

j) List below the legislation (laws) under which the plant operates.

_____
_____
_____
_____

k) List below the regulatory permits (municipal, provincial, and/or federal) under which the plant operates, and what environmental requirements of each permit.

_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

vii) Chemical Plants - cont'd

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details

_____
_____
_____
_____

1) Where is the solid waste from the plant taken for disposal?

_____
_____

8. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the chemical manufacturing plant. These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS cont'd

vii) Chemical Plants cont'd

9. Use the following chart to describe any environmental problems which appear to result from the operation of the chemical manufacturing plant. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of ground water			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination of plant site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

viii) Steel Plants

1. Is there a steel plant in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-9 for each plant in the ACAP project area; if NO, go to 2B(ix).

2. What is the name of the company which operates the plant?

   _____
   _____

3. Where is the plant located? (mark the location on your map.)

   _____
   _____

4. In what year did the plant begin operating?

   ☐

5. List the products which are made at the plant.

   _____
   _____
   _____
   _____

2B. INDUSTRY AND BUSINESS - cont'd

6. a) How are raw materials transported to the plant? (Check more than one box if necessary.)

truck ☐ train ☐ ship ☐

b) How are these products transported from the plant? (Check more than one box if necessary.)

truck ☐ train ☐ ship ☐

7. The following questions relate to how the plant operates:

a) What principal manufacturing process is used at the plant?

electric arc ☐ other (specify) ☐

b) What is the main fuel source?

coal ☐ oil ☐ other (specify) ☐

c) Where is the effluent from the plant released?

directly into a body of water (name) ☐

into the municipal sewage system ☐ no effluent is released ☐

other (specify) _____

2B. INDUSTRY AND BUSINESS - cont'd

viii) Steel Plants - cont'd

d) List all the materials (chemicals, etc.) which are released in the plant's effluent.

_____
_____
_____
_____

e) Is the effluent treated before it is released?

Yes ☐ No ☐

(If YES, briefly describe how this is done.)

f) How much BOD materials (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

g) How much suspended solids (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

h) Briefly describe any changes to the plant which have been made to reduce the release of BOD materials and suspended solids.

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

viii) Steel Plants - cont'd

i) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____
_____
_____

j) What is the rate of discharge from the plant?

☐

k) List below the legislation (laws) under which the plant operates.

_____
_____
_____

1) List below the regulatory permits (municipal, provincial, and/or federal) under which the facility operates, and the environmental requirements of each permit.

_____
_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

viii) Steel Plants - cont'd

m) List below the regulatory permits (municipal, provincial, and/or federal) under which the plant operates, and the environmental requirements of each permit.

_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details

n) Where is the solid waste from the plant taken for disposal?

_____
_____
_____

8. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the steel plant.
(These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

viii) Steel Plants - cont'd

9. Use the following chart to describe any environmental problems which appear to result from the operation of the steel plant. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of ground water			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination of plant site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

ix) Smelting Plants

1. Is there a smelting plant in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete the rest of this section for each plant in the ACAP project area; if NO, go to the next section.)

2. What type of smelting is done at the plant?

   lead ☐ aluminum ☐ zinc ☐

   other (specify)

3. What is the name of the company which operates the plant?

   _____

   _____

4. Where is the plant located? (Mark the location on your map.)

   _____

   _____

5. In what year did the plant begin operating?

   ☐

6. a) How are raw materials transported to the plant? (Check more than one box if necessary.)

   truck ☐ train ☐ ship ☐

2B. INDUSTRY AND BUSINESS - cont'd

ix) Smelting Plants - cont'd

b) How is the finished product transported from the plant? (Check more than one box if necessary.)

truck ☐ train ☐ ship ☐

7. The following questions relate to how the plant operates:

a) Where is the effluent from the plant released?

directly into a body of water (name) _____

into the municipal sewage system ☐ no effluent is released ☐

other (specify) _____

b) List all the materials (metals, chemicals, etc.) which are released in the plant's effluent.

_____
_____
_____
_____

c) Is the effluent treated before it is released?

Yes ☐ No ☐

(If YES, briefly describe how this is done.)

_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

ix) Smelting Plants - cont'd

d) How much BOD materials (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

e) How much suspended solids (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

f) Briefly describe any changes to the plant which have been made to reduce the release of BOD materials and suspended solids.

_____
_____
_____
_____

g) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____
_____
_____

h) What is the rate of discharge from the plant?

☐

2B. INDUSTRY AND BUSINESS - cont'd

ix) Smelting Plants - cont'd

i) List below the legislation (laws) under which the plant operates.

_____
_____
_____

j) List below the regulatory permits (municipal, provincial, and/or federal) under which the plant operates, and the environmental requirements of each permit.

_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details

_____
_____
_____
_____

k) Where is the solid waste from the plant taken for disposal?

_____
_____

8. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the smelting plant. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

ix) Smelting Plants - cont'd

9. Use the following chart to describe any environmental problems which appear to result from the operation of the smelting plant. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of ground water			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination of plant site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

x) Power Generation Facilities

1. Is there an electric generating facility in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete the rest of this section for each generating facility. If there is a hydroelectric or tidal generating facility, go to section 4A 'DAMS' and 4B 'TIDAL POWER STATIONS'. If no power generating facilities are present in the ACAP project area, go to the next section.)

2. What fuel source is used at the facility?

   coal ☐ oil ☐ nuclear ☐ hydro ☐

   other (specify) _____

3. Who operates the facility?

   _____

   _____

4. Where is the facility located? (Mark the location on your map.)

   _____

   _____

5. In what year did the facility begin operating?

   ☐

6. What is the capacity of the facility? ☐ MW

2B. INDUSTRY AND BUSINESS - cont'd

x) Power Generation Facilities - cont'd

Is the facility operating:

below capacity ☐ at capacity ☐ above capacity ☐

7. How is fuel transported to the facility?

truck ☐ train ☐ ship ☐

8. The following questions relate to how the facility operates:

a) What is the average temperature of the intake water?

in summer ☐ in winter ☐ other (specify)_____

b) What is the average temperature of the cooling water when it leaves the facility?

in summer ☐ in winter ☐ other (specify)_____

c) Where is cooling water released?

into a body of water ☐ a cooling lagoon ☐ other ☐

d) What is the average discharge rate of cooling water?

per day ☐ per year ☐

2B. INDUSTRY AND BUSINESS - cont'd

x) Power Generation Facilities - cont'd

e) Are antifouling or other treatments applied to cooling water?

chlorine ☐ other ☐

Specify

_____
_____
_____
_____

f) Where is other effluent from the facility released?

directly into a body of water (name) ☐

into the municipal sewage system ☐ no effluent is released ☐

other (specify) _____

g) List all the materials (wastewater, chemicals, radioactive waste, etc.) which are released in the facility's effluent and cooling water. Specify.

_____
_____
_____

h) Is the effluent, other than cooling water, treated before it is released?

effluent Yes ☐ No ☐

cooling water Yes ☐ No ☐

(If YES, briefly describe how this is done.)

_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

x) Power Generation Facilities - cont'd

i) How much effluent (in kilograms) other than cooling water has the plant released in each of the past five years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

j) Briefly describe any changes to the facility which have been made to reduce the amount of effluent released.

_____
_____
_____
_____

k) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____
_____
_____

l) What is the rate of discharge from the facility?

☐

m) List below the legislation (laws) under which the facility operates.

_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

x) Power Generation Facilities - cont'd

n) List below the regulatory permits (municipal, provincial, and/or federal) under which the facility operates, and the environmental requirements of each permit.

_____
_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details

_____
_____
_____
_____

o) Where is the solid waste from the facility taken for disposal?

_____
_____

10. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the power generation facility. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

x) Power Generation Facilities - cont'd

11. Use the following chart to describe any environmental problems which appear to result from the operation of the power generation facility. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of ground water			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination of plant site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

xi) Other Large Industries

Use this form to identify and describe any other large industries in the ACAP project area which do not fall into i) through x) above. Use one form for each additional industry. Identify the industry by filling in the blank below, and then proceed to answer the list of questions.

Type of Industry/Plant ☐

1. What is the name of the company which operates the plant?

   _____

   _____

2. Where is the plant located? (Mark the location on your map.)

   _____

   _____

3. In what year did the plant begin operating?

   ☐

4. List the products which are made at the plant.

   _____

   _____

5. a) How are raw materials transported to the plant? (Check more than one box if necessary.)

   truck ☐ train ☐ ship ☐

2B. INDUSTRY AND BUSINESS - cont'd

xi) Other Large Industries - cont'd

b) How are products transported from the plant? (Check more than one box if necessary.)

truck ☐ train ☐ ship ☐

6. The following questions relate to how the plant operates:

a) Where is the effluent from the plant released?

directly into a body of water (name) _____

into the municipal sewage system ☐ no effluent is released? ☐

other (specify) _____

b) List all the materials (metals, chemicals, etc.) which are released in the plant's effluent.

_____
_____
_____
_____
_____

c) Is the effluent treated before it is released?

Yes ☐ No ☐

(If YES, briefly describe how this is done.)

_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

xi) Other Large Industries - cont'd

d) How much BOD materials (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

e) How much suspended solids (in kilograms) has the plant released in each of the past 5 years?

1991 ☐ 1990 ☐ 1989 ☐

1987 ☐ 1986 ☐

f) Briefly describe any changes to the plant which have been made to reduce the release of BOD materials and suspended solids.

_____
_____
_____
_____

g) Are water quality tests done at the point where the effluent is released?

Yes ☐ No ☐

(If YES, how often are tests done and who does the tests?)

_____
_____
_____

h) What is the rate of discharge from the plant?

☐

2B. INDUSTRY AND BUSINESS - cont'd

xi) Other Large Industries - cont'd

i) List below the legislation (laws) under which the plant operates.

_____
_____
_____

j) List below the regulatory permits (municipal, provincial, and/or federal) under which the plant operates, and the environmental requirements of each permit.

_____
_____
_____

Does the facility meet the requirements?

Yes ☐ No ☐

Provide details

_____
_____
_____
_____

k) Where is the solid waste from the plant taken for disposal?

_____
_____

7. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to this industrial facility. (These may include reports prepared by government agencies, consultants or the company which operates the plant.)

_____
_____
_____
_____

2B. INDUSTRY AND BUSINESS - cont'd

xi) Other Large Industries - cont'd

8. Use the following chart to describe any environmental problems which appear to result from the operation of the industrial facility. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of ground water			
contamination of bottom sediments			
impact on fisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination of plant site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			
_____			

2B. INDUSTRY AND BUSINESS - cont'd

xii) Small Business

The preceding lists of questions (i-xi) have looked at large industries in the ACAP project area, and their impact on the environment. However, small businesses are also potential sources of pollution. For example, businesses such as auto body shops, dry cleaners, metal finishing operations, etc. may produce wastes which are hazardous to the environment.

Use the following form to identify describe small businesses in the ACAP project area which, in your opinion, may affect the environment in your community.

Type of Small Business

1. What is the name of the small business?

2. Where is the business located? (Mark the location on your map.)

3. In what year did the business begin operating?

2B. INDUSTRY AND BUSINESS - cont'd

xii) Small Business

4. Use the following chart to list the types of waste produced by the business, and whether these wastes are re-used or recycled.

Type of Waste	Re-Used? YES	Re-Used? NO	Recycled? YES	Recycled? NO
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐
_____	☐	☐	☐	☐

2B. NDUSTRY AND BUSINESS - cont'd

xii) Small Business - cont'd

5. Use the following chart to describe any environmental problems which appear to result from the operation of the small business. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

	Present?		
Environmental Problem	**YES**	**NO**	**Comments**
contamination of surface water			
discoloration of surface water			
contamination of ground water			
soil contamination on at business site			
excessive odour			
garbage strewn around business site			
untreated hazardous liquid waste released into municipal sewer system			
_____			
_____			
_____			
_____			
_____			
_____			
_____			
_____			
_____			

2C. HOSPITALS / OTHER MEDICAL FACILITIES

1. What type of medical facility is located in the ACAP project area? (Check more than one box if applicable.)

   hospital ☐ health clinic ☐ laboratory ☐

   other (specify) _____

2. List the main types of waste produced by the facility (including radioactive waste, if applicable).

   _____
   _____
   _____
   _____
   _____
   _____
   _____

3. Are any wastes treated or disposed of at the medical facility?

   Yes ☐ No ☐

   (If YES, go to question 4; if NO, go to question 5.)

4. List the types of Waste which are treated or disposed of at the medical facility, and briefly describe how this is done. (For example, is there an incinerator at the facility?)

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

2C. HOSPITALS I OTHER MEDICAL FACILITIES

5. If medical waste is disposed of somewhere other than at the medical facility, how is the waste transported to the disposal site?

_____
_____
_____
_____

6. Where is the medical waste sent for disposal?

landfill ☐ incinerator ☐

other (specify) _____

7. Where does the wastewater from the medical facility go?

directly into a body of water (name) ☐

into the municipal sewage system ☐

other (specify) _____

2C. HOSPITALS / OTHER MEDICAL FACILITIES

7. Use the following chart to describe any environmental problems which appear to result from the operation of the medical facility. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of ground water			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination on facility site			
air pollution			
excessive odour			
impact on human health			
_____			
_____			

2D. LARGE INSTITUTIONS

There may be large institutions - universities, colleges, high schools, libraries, community centres, government buildings - which affect environmental conditions in the ACAP project area. Answer the following questions for each institution which, in your opinion, may be a source of pollution or environmental problems in the ACAP project area.

Type of Institution _____

1. What is the name of the institution?

   _____
   _____

2. Where is the institution located? (Mark the location on your map.)

   _____
   _____

3. In what year was the institution built?

   _____

4. List the types of waste which are produced by the institution.

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

2D. LARGE INSTITUTIONS - cont'd

5. Are any of these wastes re-used or recycled?

Yes ☐ No ☐

(If YES, indicate which wastes are re-used or recycled?)

_____

_____

6. Does the institution have an individual or committee which is responsible for environmental issues, such as recycling?

individual ☐ committee ☐ no ☐

7. Does the institution have its own sewage treatment plant or is it connected to a municipal system?

Yes ☐ No ☐

Provide details:

_____

_____

_____

_____

2D. LARGE INSTITUTIONS - cont'd

8. Use the following chart to describe any environmental problems which appear to be caused by the institution. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of ground water			
soil contamination at institution site			
air pollution			
excessive odour			
untreated hazardous liquid waste released into municipal sewer system			
garbage strewn around business site			
_____			
_____			
_____			
_____			
_____			
_____			
_____			
_____			
_____			

2E. MUNICIPAL WASTE MANAGEMENT

1. How is garbage disposed of in the ACAP project area? (Check more than one box, if applicable.)

   landfill ☐ incinerator ☐

   other (specify) _____

   If a landfill is used, complete questions 2-13 and 22-27; if an incinerator is used, complete questions 14-21 and 22-27. If the ACAP project area has both a landfill and incinerator, complete all questions in this section.

2. Where is the landfill located? (Mark the location on your map.)

   _____
   _____

3. Who operates and/or maintains the landfill?

   _____
   _____

4. In what year was the landfill opened?

   ☐

5. Are there any tipping fees at the landfill?

   Yes ☐ No ☐

   (If YES, indicate how much the tipping fees are.)

   _____
   _____

6. How much longer is the site expected to be used?

   ☐

2E. MUNICIPAL WASTE MANAGEMENT

7. How would you describe the area where the site is located?

i) surrounding land? mainly flat ☐ hilly ☐

ii) are there streams or other bodies of water at or near the site? yes ☐ no ☐

iii) how close is the landfill to streams or other bodies of water?

Water Body	Distance
_____	_____
_____	_____

8. What is the main type of soil found at the site?

clay ☐ silt ☐ sand/gravel ☐ other (specify) ☐

9. Are any of the following landfill site design features found at the site:

i) any type of liner? yes ☐ no ☐

ii) leachate collection system? yes ☐ no ☐

iii) methane gas detection/alarm system? yes ☐ no ☐

iv) fence around the edge of the site? yes ☐ no ☐

10. Are any kinds of garbage not permitted in the landfill?

Yes ☐ No ☐ if YES, specify:

_____
_____
_____
_____
_____

2E. MUNICIPAL WASTE MANAGEMENT

11. Indicate if any of the following are a problem at the landfill:

gulls ☐ rats ☐ other pests (specify)_____

12. The following questions relate to how the landfill is operated:

a) during what hours is the site open? ☐

b) how often is the waste compacted? ☐

c) how often is cover soil applied? ☐

d) are any steps taken to control dust at the site? yes ☐ no ☐

if YES, specify

_____

e) are any steps taken to control pests at the site? yes ☐ no ☐

if YES, specify

_____

f) is garbage burned at the site? yes ☐ no ☐

g) are any steps taken to separate certain types of garbage (e.g. scrap metal) yes ☐ no ☐

h) are any water, air or soil quality tests done at the site? yes ☐ no ☐

if YES, specify:

_____

_____

2E. MUNICIPAL WASTE MANAGEMENT

13. Use the following chart to describe any environmental problems which appear to result from the operation of the landfill. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of ground water			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination outside site			
air pollution due to burning			
excessive odour			
garbage dumped outside site			
garbage blown outside site by wind			
presence of pests, wildlife			
_____			
_____			

2E. MUNICIPAL WASTE MANAGEMENT

14. Where is the incinerator located? (Indicate if the incinerator is part of another facility and mark the location on your map.)

_____
_____

15. Who operates and/or maintains the incinerator?

_____
_____

16. In what year did the incinerator begin operating?

17. List the main types of garbage which are burned in the incinerator.

_____
_____
_____
_____
_____
_____
_____
_____

2E. MUNICIPAL WASTE MANAGEMENT

18. Are there any kinds of garbage which are not permitted to be burned in the incinerator?

Yes ☐ No ☐

if YES, specify:

_____
_____
_____

19. The following questions relate to how the incinerator operates:

a) briefly describe the type of technology involved.

_____
_____
_____
_____

b) at what temperature does the incinerator normally operate?

☐

c) is energy produced as a result of the burning process?

Yes ☐ No ☐

2E. MUNICIPAL WASTE MANAGEMENT

d) are any mechanisms in place for controlling emissions from the stack?

Yes ☐ No ☐

if YES, specify:

_____

_____

e) what is done with the remaining ash?

_____

_____

_____

f) are any air quality tests done at the incinerator site?

Yes ☐ No ☐

20. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the incinerator. (These may include reports prepared by government agencies, consultants or the company which operates the facility.)

_____

_____

_____

2E. MUNICIPAL WASTE MANAGEMENT

21. Use the following chart to describe any environmental problems which appear to result from the operation of the incinerator. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comment
air pollution due to burning			
contamination of surface water			
contamination of ground water			
impact on fisheries			
Impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
soil contamination at the site			
excessive odour			
_____			
_____			
_____			
_____			
_____			

2E. MUNICIPAL WASTE MANAGEMENT

22. Briefly describe how garbage is collected from houses and businesses in the ACAP project area.

_____
_____
_____
_____

23. Approximately what percentage of houses/businesses in the ACAP project area have a waste collection service.

☐

24. Some of the products used by members of your community contain toxic ingredients and can be hazardous unless disposed of properly. These products include household cleaners, antifreeze for cars, used motor oil, bug sprays and paint, etc. Is there any special program in the ACAP project area for disposing of these wastes (called "household hazardous waste")?

Yes ☐ No ☐

(If YES, briefly describe the program.)

_____
_____
_____
_____
_____

25. How would you rate the awareness of people in your community of the need to safely dispose of household hazardous waste?

very high ☐ high ☐ medium ☐ low ☐ very low ☐

2E. MUNICIPAL WASTE MANAGEMENT

26. Are any materials (food cans, glass bottles, newspapers, motor oil, etc.) in your community set aside to be recycled?

Yes ☐ No ☐

(If YES, list the materials which are recycled.)

_____
_____
_____
_____
_____
_____
_____
_____

27. Does your community have a program to encourage people to reduce the amount of waste they generate?

Yes ☐ No ☐

(If YES, briefly describe the program.)

_____
_____
_____
_____
_____
_____
_____
_____

28. Does the community have a recycling program for:

paper ☐ glass ☐ aluminum ☐

cardboard ☐ tin cans ☐ plastics ☐

other _____

2F. MARINE TRANSPORTATION/PORT OPERATIONS

1. What types of ships make use of the waters of the ACAP project area? (Check more than one box, if applicable.)

large ocean-going commercial vessels	☐	smaller commercial vessels	☐
recreational boats	☐	commercial fishing boats	☐
dredgers	☐	oil rigs	☐
oil tankers	☐	container ships	☐
naval vessels	☐	coast guard ships	☐

other (specify): _____
_____
_____
_____

2. Are spills (oil, fuel, chemicals, etc.) from marine vessels a problem in the ACAP project area?

Yes ☐ No ☐

(If YES, complete questions 3-13; if NO, complete questions 4-13.)

2F. MARINE TRANSPORTATION/PORT OPERATIONS

3. Use the following chart to describe any large spills which have happened in the ACAP project area in last five years, and the environmental effects due to these spills (eg. water contamination, impacts on marine life, etc.).

Material spilled	Year of spill	Environmental effects

4. Is the release of effluent and/or ballast from ship bilges a problem in the ACAP project area?

Yes ☐ No ☐

5. Are there pumpout facilities for sewage from ships in the port/harbour area?

Yes ☐ No ☐

2F. MARINE TRANSPORTATION/PORT OPERATIONS

6. Is excess garbage from ships a problem in the ACAP project area?

Yes ☐ No ☐

7. Are there any facilities in the port/harbour area which take garbage from ships?

Yes ☐ No ☐

8. Is there a problem with fuel in the water at re-fuelling areas in the port/harbour area?

Yes ☐ No ☐

9. Is there a problem with objects falling (or being blown by the wind) into the water from docks in the port/harbour area?

Yes ☐ No ☐

If YES, note if this happens on a continuing basis, and whether any effort has been made to recover these objects.

_____
_____
_____

10. Are any ship maintenance/repairs or shipbuilding activities conducted in the port harbour area?

Yes ☐ No ☐

If YES, are paints or antifoulant chemicals applied?

Yes ☐ No ☐

2F. MARINE TRANSPORTATION/PORT OPERATIONS

11. Are raw materials stored uncovered near the water in the harbour?

Yes ☐ No ☐

If YES, is there any evidence of these materials leaking into the water after heavy rains?

Yes ☐ No ☐

12. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to marine transportation/port operations. (These may include reports prepared by government agencies, consultants, the port authority or shipping companies.)

_____
_____
_____
_____
_____
_____

2F. MARINE TRANSPORTATION/PORT OPERATIONS

12. Use the following chart to describe any environmental problems which appear to result from marine transportation and/or port operations. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
excessive odour			
_____			
_____			
_____			
_____			
_____			
_____			
_____			

2G. DREDGING/OCEAN DUMPING

1. Has any dredging been done in the ACAP project area in the last 5 years?

   Yes ☐ No ☐

   (If YES, complete questions 2-13; if NO, go to question 11.)

2. What dredging projects have been undertaken in the last 5 years? Provide a list and give volumes dredged.

   _____
   _____
   _____

3. When was the most recent dredging project undertaken?

   _____
   _____
   _____

4. What method of dredging is usually used?

   _____
   _____
   _____

5. What is usually done with the dredged materials?

   dumped in ocean ☐ disposed of on land ☐

   other (specify) _____

6. Indicate how much dredgeate was disposed of for the most recent dredging project:

   involving land disposal ☐ involving ocean disposal ☐

2G. DREDGING/OCEAN DUMPING - cont'd

7. Is dumping of dredgeate permitted in the waters of the ACAP project area?

Yes ☐ No ☐

If YES, note any restrictions which must be followed.

_____
_____
_____
_____
_____
_____

8. Have contaminants been found in the dredgeate?

Yes ☐ No ☐

If YES, list the contaminants which have been found.

_____
_____
_____
_____

9. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to dredging. (These may include reports prepared by government agencies, consultants or the company which does the dredging.)

_____
_____
_____

2G. DREDGING/OCEAN DUMPING - cont'd

10. Use the following chart to describe any environmental problems which appear to result from dredging. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
excessive odour			
impact on human health			
turbidity			
suspended solids on agriculture			
_____			
_____			
_____			
_____			

2G. DREDGING/OCEAN DUMPING - cont'd

11. What materials have been dumped in the ocean near or adjacent to the ACAP project area?

dredged materials ☐ fish offal ☐

other (specify) _____
_____
_____
_____

12. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to ocean dumping. (These may include reports prepared by government agencies or consultants.)

_____
_____
_____
_____

2G. DREDGING/OCEAN DUMPING - cont'd

13. Use the following chart to describe any environmental problems which appear to result from ocean dumping. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
impact on human health			
_____			
_____			
_____			
_____			
_____			
_____			

2H. AGRICULTURE

1. Approximately how much land (in hectares) in the ACAP project area is used for agricultural purposes?

   ☐

2. Approximately how much land (in hectares) in the ACAP project area has been cleared for agriculture in the last 5 years?

   ☐

3. Indicate the main types of land which are being cleared for agricultural purposes.

   forested land ☐ wetlands/marshes ☐

   other (specify) _____

4. Indicate the main types of agricultural activity which are practiced in the ACAP project area.

   cereal crops ☐ dairy farming ☐ vegetable crops ☐

   livestock farming ☐ horticulture ☐

   other (specify) _____

5. List the main types of crops grown in the ACAP project area.

   _____
   _____
   _____
   _____
   _____

2H. AGRICULTURE - cont'd

6. Use the following chart to list the main types of livestock found in the ACAP project area, and approximate numbers of livestock present.

Type of Livestock	Number in ACAP Project Area

7. How is manure usually managed by farmers?

put in manure lagoons ☐ spread on fields ☐

other (specify) _____

8. How are livestock watered?

_____

_____

_____

2H. AGRICULTURE - cont'd

9. Are insecticides or other chemicals used in the production of livestock?

Yes ☐ No ☐

(If YES, list the insecticides or chemicals used and indicate how they are applied)

_____
_____
_____
_____
_____
_____

10. Do most farms in the ACAP project area have mechanisms in place to control effluent from silos?

Yes ☐ No ☐

11. Are there soil conservation programs in place in the ACAP project area?

Yes ☐ No ☐

(If YES, briefly describe the programs)

_____
_____
_____
_____
_____

12. List the types of fertilizer and pesticides which are commonly used in ACAP project area.

_____
_____
_____
_____
_____

2H. AGRICULTURE - cont'd

13. Has the use of fertilizer for agricultural purposes increased in the ACAP project area in the last 5 years?

Yes ☐ No ☐

14. Has the use of pesticides for agricultural purposes increased in the ACAP project area in the last 5 years?

Yes ☐ No ☐

15. Briefly describe how most farmers in the ACAP project area store agricultural fertilizers, pesticides and other chemicals. Indicate if buffer zones are used around storage areas.

_____
_____
_____
_____
_____

16. Briefly describe how most farmers in the ACAP project area store fuel. Indicate if buffer zones are used around storage areas.

_____
_____
_____
_____
_____

17. How do most farmers in the ACAP site area dispose of empty containers and other waste generated at their farms?

landfill ☐ incinerator ☐

other (specify) _____

2H. AGRICULTURE - cont'd

18. Briefly describe how manure is applied by most farmers, and when during the year the manure is applied.

_____
_____
_____
_____
_____

19. Briefly describe how agricultural limestone is applied by most farmers, and when during the year limestone is applied.

_____
_____
_____
_____
_____

20. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to agricultural activity. (These may include reports prepared by government agencies or consultants.)

_____
_____
_____
_____
_____

2H. AGRICULTURE - cont'd

21. Use the following chart to describe any environmental problems which appear to result from agricultural activity. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface			
water discoloration of surface water			
contamination of groundwater			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
impact on human health			
sedimentation			
suspended solids			
impact on inland mammals			
impact on inland birds			
impact on vegetation/habitat			
_____			

2H. AGRICULTURE - cont'd

_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	
_____	☐	☐	

2I. FORESTRY

1. List the main types of trees found in forests in the ACAP project area.

   _____
   _____
   _____
   _____

2. Would you describe the amount of forested area in the ACAP project area as:

   plentiful ☐ depleted ☐

3. Are the forests in the ACAP project area being depleted due to over-harvesting?

   Yes ☐ No ☐

4. Would you say that natural regeneration of forests in the ACAP project area is:

   excellent ☐ good ☐ fair ☐ poor ☐

5. Are there organized programs to plant trees in the ACAP project area?

   Yes ☐ No ☐

6. Are forest fires a problem in the ACAP project area?

   Yes ☐ No ☐

2I. FORESTRY - cont'd

7. Has forest spraying been carried out in the last 5 years to protect forests in the ACAP project area from disease and other pests?

Yes ☐ No ☐

(If YES, briefly describe these projects. Attach a page if necessary.)

Year	Organization	Size of Area Sprayed	Chemical Used

8. Is there an active logging operation in the ACAP project area?

Yes ☐ No ☐

(If YES, complete questions 9-16. Fill in a separate sheet for each operation; if NO, go to Section 2(j).)

9. What is the name of the company which does the logging?

_____

_____

10. Where is the logging done? (Mark the location on your map.)

_____

_____

_____

11. What type of logging method is used?

clear cutting ☐ selective cutting ☐

other (specify) _____

2I. FORESTRY - cont'd

12. How are the logs transported from the site of the logging operation? (Check more than one box if necessary.)

truck ☐ train ☐

13. List the types of waste produced by the logging operation.

_____
_____
_____
_____
_____
_____
_____

14. Are erosion control measures taken along logging roads?

Always ☐ Generally ☐ Rarely ☐ Not at all ☐

What methods are used?

_____
_____
_____
_____
_____
_____

15. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to logging. (These may include reports prepared by government agencies, consultants or the company which does the logging.)

_____
_____
_____
_____

2I. FORESTRY - cont'd

16. Use the following chart to describe any environmental problems which appear to result from the logging operation. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
discoloration of surface water			
contamination of groundwater			
over-harvesting			
impact on wildlife			
loss of habitat			
soil contamination			
air pollution			
excessive odour			
impact on human health			
_____			
_____			
_____			
_____			
_____			
_____			
_____			

2J. RECREATION AND TOURISM

1. What are the main types of recreation and tourism in coastal areas of the ACAP project area? (Check more than one box, if applicable, and circle uses which are seasonal.)

use of cottages ☐ recreational bating ☐ camping ☐

use of beaches ☐ fishing ☐ historic sites ☐

other (specify) _____
_____
_____
_____

2. Would you say that recreation and tourism in the ACAP project area is:

the most important industry ☐ an important industry ☐

a fairly important industry ☐ not important ☐

2J. RECREATION AND TOURISM - cont'd

3. Use the following chart to describe any environmental problems which appear to result from recreation and tourism. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
impact on water quality due to boating			
impact on water quality due to cottage septic tanks			
litter/junk on beaches/shoreline			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
_____			
_____			
_____			
_____			
_____			
_____			
_____			

2K. HIGHWAYS

1. List the names of the main highways in the ACAP project area.

   _____
   _____
   _____
   _____

2. Who maintains the highways?

   _____
   _____
   _____

3. How would you describe the general condition of the highways in the ACAP project area?

   excellent ☐ good ☐ fair ☐ poor ☐

4. What type of material is used on highways in the ACAP project area to combat ice in the winter?

   salt ☐ sand ☐

   other (specify)_____

5. Are any measures taken to control/reduce erosion:

   a) during road construction and maintenance?

      Yes ☐ No ☐

   b) in roadside ditches?

      Yes ☐ No ☐

2K. HIGHWAYS - cont'd

If YES for a) or b), describe these measures and whether actions have been successful.

_____
_____
_____
_____
_____

6. Use the following chart to describe any environmental problems which appear to result from highways. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
impact on surrounding vegetation			
impact of de-icing practices			
contamination of surface water			
contamination of groundwater			
_____			
_____			
_____			
_____			
_____			
_____			

2L. URBAN DEVELOPMENT

1. Is there concern about expanding urban development (and resulting impacts on surrounding land/water uses) in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2 and 3; if NO, go to section 2M.)

2. What types of urban development are in increasing demand in the ACAP project area? [check more than one box, if applicable]

   residential ☐ industrial ☐ recreational ☐

   other (specify) _____

3. Use the following chart to identify specific locations in the ACAP project area which are being considered for significant urban development in the near future. The chart also asks you to note the current land/water use at the location (eg. agriculture), as well as the type of urban development which is proposed (eg. a large residential development).

Location	Current Land/Water Use	Proposed Development

2M. LITTER/ABANDONED "JUNK"

1. Is there a problem with litter or other abandoned "junk" (old scrap cars, equipment, lost fishing nets, etc.) in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 24; if NO, go to section 2N.)

2. Where is the litter/junk mainly found? (Check more than one box, if applicable.)

   coastal areas/beaches ☐ urban areas ☐ rural fields/forests ☐

   other (specify) _____

3. Use the following chart to identify locations where litter/junk is a problem in the ACAP project area.

Location	Type of litter/junk

4. Are there any programs in place to deal with litter/abandoned, junk?

   Yes ☐ No ☐ Specify

   _____
   _____
   _____

2M. LITTER/ABANDONED "JUNK" - cont'd

5. Use the following chart to describe any environmental problems which appear to result from litter/abandoned "junk". The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
contamination of surface water			
contamination of groundwater			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
it on marine vegetation			
loss of habitat			
impact on human health			
_____			
_____			
_____			
_____			
_____			
_____			
_____			
_____			

2N. ON SITE DOMESTIC WASTE TREATMENT

1. Are septic tanks and disposal fields used in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-7; if NO, go to Section 3A.)

2. Use the following chart to list the general locations and condition (if known) of the septic systems (contact local Dept. of Health).

General Location	Condition

3. How often are the tanks usually pumped out? ☐

4. Are areas designated for sludge dumping in your ACAP area?

   Yes ☐ No ☐

   Where?

   _____

   _____

2N. ON SITE DOMESTIC WASTE TREATMENT

5. What proportion of homes in the watershed use on-site sewage treatment?

_____

_____

6. Indicate if any of the following problems have been experienced with septic systems in the ACAP project area: (check more than one box, if applicable]

tanks back up ☐ freezing ☐ waterlogged soil ☐

other (specify) _____

7. Use the following chart to describe any environmental problems which appear to result from septic tanks. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
spills/leakage			
contamination of surface water			
contamination of groundwater			
soil contamination			
excessive odour			
impact on human health			
_____			
_____			

3.0 Water and Sediment Quality

A) Surface Water Quality
B) Groundwater Quality
C) Sediment Quality
D) Drinking Water Supply and Treatment

By now, you will have developed a good understanding of the potential sources of pollution in the ACAP project area. You will also have a good idea of what types of pollution are found in your community.

Section 3 asks you to look closely at how this pollution is affecting the quality of the water and sediment in the ACAP project area, as well as your community's supply of drinking water.

Consult with municipal, provincial and federal government officials for information about water and sediment quality.

3A. SURFACE WATER QUALITY

1. Is surface water quality a concern in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-5; if NO, go to Section 3B.)

2. Is the surface water in the ACAP project area tested regularly (by Provincial or Federal Governments or consultants) to check the quality?

   Yes ☐ No ☐

   (If YES, indicate how often tests are done, who does the tests, and what specific information the tests are intended to gather.)

   _____
   _____
   _____
   _____
   _____
   _____

3. Who receives water quality test results and who is responsible for responding to poor water quality?

   _____
   _____
   _____

4. List the titles of any reports you know about which discuss the quality of surface water in the ACAP project area. (These may include reports prepared by government agencies or consultants.)

   _____
   _____
   _____

3A. SURFACE WATER QUALITY cont'd

5. Use the following chart to list specific contaminants which have been found in surface water in the ACAP project area, the source(s) of these contaminants, if this is known (eg. the local oil refinery), and the source and date of the findings.

Contaminant Present in Surface Water	Source(s) of Contaminant (if known)	Date and Source of Data

3B. GROUNDWATER QUALITY

1. Is the quality of groundwater a concern in the ACAP project area?

   Yes ☐ No ☐

   (If YES, what are the major groundwater problems?

2. Is the groundwater in the ACAP project area tested regularly (by Provincial or Federal Governments or consultants) to check the quality?

   Yes ☐ No ☐

   (If YES, indicate how often tests are done, who does the tests, and what specific information the tests are intended to gather.)

   _____
   _____
   _____
   _____
   _____

3. Who receives water quality test results and who is responsible for responding to poor water quality?

   _____
   _____
   _____

4. List the titles of any reports you know about which groundwater in the ACAP project area. (These prepared by government agencies or consultants.)

   _____
   _____
   _____

3B. GROUNDWATER QUALITY - cont'd

5. Use the following chart to list specific contaminants which have been found in groundwater in the ACAP project area, the source(s) of these contaminants, if this is known (eg. gasoline, agricultural chemicals, road salt), and the source and date of the findings.

Contaminant Present in Groundwater	Source(s) of Contaminant (if known)	Date and Source of Data

3C. SEDIMENT QUALITY

1. Is sediment quality a concern in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-6; if NO, go to Section 3D.)

2. Is the sediment in the ACAP project area tested regularly (by Provincial or Federal Governments or consultants) to check the quality?

   Yes ☐ No ☐

   (If YES, indicate how often tests 'are done, who does the tests, and what specific information the tests are intended to gather.)

   _____
   _____
   _____
   _____
   _____
   _____

3. If sediment tests are done, briefly describe what contaminants the tests are designed to identify.

   _____
   _____
   _____
   _____

4. Who receives sediment quality test results and who is responsible for responding to poor sediment quality?

   _____
   _____
   _____
   _____

3C. SEDIMENT QUALITY - cont'd

5. List the titles of any reports you know about which discuss the quality of sediment in the ACAP project area. (These may include reports prepared by government agencies or consultants.)

_____
_____
_____
_____

6. Use the following chart to list specific contaminants which have been found in sediment in the ACAP project area, the source(s) of these contaminants, if this is known (eg. the pulp and paper mill), and the source and date of the findings.

Contaminant Present in Sediment	Source(s) of Contaminant (if known)	Date and Source of Data

3D. DRINKING WATER SUPPLY AND TREATMENT

1. What is the main source of drinking water in the ACAP project area?

   river/lake/bay (name) ☐

   groundwater source ☐

   other (specify) ☐

2. List any other sources of drinking water (wells, etc.) other than the main source.

   _____
   _____
   _____

3. Who pays for the supply of drinking water in the ACAP project area, and how is this payment made?

   _____
   _____
   _____
   _____

4. Does the main source of drinking water ever run dry or have periods of poor water quality?

   Yes ☐ No ☐

   (If YES, go to question 5; if NO, go to question 6.)

3D. DRINKING WATER SUPPLY AND TREATMENT

5. Use the following chart to list the times (in the last 5 years) when the water has run dry or become seriously depleted, and how long the problem lasted.

When did the Problem Occur (in the last 5 years)	How Long Did the Problem Last

6. Is the water supply tested regularly?

Yes ☐ No ☐ Who does the testing?

_____
_____
_____
_____

7. Is there a water treatment plant in the ACAP project area?

Yes ☐ No ☐

(If YES, complete questions 8-12; if NO, complete questions 13-15.)

8. Where is the water treatment plant located? (Mark the location on your map.)

_____
_____

3D. DRINKING WATER SUPPLY AND TREATMENT

9. Who operates and/or maintains the water treatment plant?

_____

_____

10. In what year did the water treatment plant begin operating?

	%

11. Approximately what percentage of the ACAP project area (houses and other buildings) is served by the water treatment plant?

12. The following questions relate to how the water treatment plant is operated:

a) is there a routine maintenance program in place? Yes ☐ No ☐

b) are water quality tests taken? Yes ☐ No ☐

(If YES, obtain a copy of the most recent test results, and any interpretation by environmental health staff and attach these items to this sheet.)

c) list the main problems, if any, experienced at the plant:

_____

_____

_____

_____

d) If sludge is generated during treatment, how is it disposed of?

_____

_____

_____

_____

3D. DRINKING WATER SUPPLY AND TREATMENT

13. How would you rate the quality of the drinking water in the ACAP project area?

excellent ☐ good ☐ fair ☐ poor ☐

14. Indicate if any of the following problems are regularly present in the area's drinking water: [check more than one box, if applicable]

unnatural colour ☐ bad smell ☐ bad taste ☐

other (specify) _____

15. List any activities or factors (industry, municipal effluent, etc.) which are known or suspected to affect the quality of drinking water in the ACAP project area.

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

4.0 Coastal Infrastructure and Related Issues

A) Dams
B) Tidal Power Stations
C) Wharves
D) Causeways
E) Dykes
F) In-filling and Land Reclamation
G) Flooding
H) Coastal/River Erosion
I) Breakwaters/Shore Protection Structures
J) Navigation Facilities

This section looks at man-made structures which have been constructed in coastal areas, and what impacts these are having on the environment. Related issues such as flooding, erosion and drainage are also addressed.

Municipal, provincial and federal government officials (particularly in the environment and natural resources ministries) should be of assistance for this section.

4A. DAMS

1. Is there a dam in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-8; if NO, go to Section 4B.)

2. Where is the dam located? (Mark the location on your map.)

   _____
   _____

3. In what year was the dam completed?

   ☐

4. Who operates and/or maintains the dam?

   _____
   _____
   _____

5. What is the main purpose of the dam?

   hydroelectric power generation ☐ flood control ☐

   navigation ☐ water supply ☐

   other (specify) _____
   _____
   _____

6. Are there fish ladders associated with the dam?

   Yes ☐ No ☐

4A. DAMS - cont'd

7. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the dam. (These may include reports prepared by government agencies, consultants or the company which operates the dam.)

_____
_____
_____
_____
_____

4A. DAMS - cont'd

8. Use the following chart to describe any environmental problems which appear to result from the dam. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
disruption of water flow			
flooding			
increased salinity			
contamination of surface water			
discoloration of surface water			
contamination of bottom sediments			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
erosion			
alteration of sediment transport patterns			
sedimentation			
_____			

4B. TIDAL POWER STATIONS

1. Is there a tidal power station in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-6; if NO, go to Section 4C.)

2. Where is the tidal power station located? (Mark the location on your map.)

   _____
   _____

3. In what year was the tidal power station completed?

   ☐

4. Who operates and/or maintains the tidal power station?

   _____
   _____

5. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the tidal power station. (These may include reports prepared by government agencies, consultants or the company which operates the tidal power station.)

   _____
   _____
   _____

4B. TIDAL POWER STATIONS - cont'd

6. Use the following chart to describe any environmental problems which appear to result from the tidal power station. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
disruption of water flow			
flooding			
increased salinity			
contamination of surface water			
discoloration of surface water			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
erosion			
alteration of sediment transport patterns			
sedimentation			
_____			
_____			

4C. WHARVES

1. Are there any wharves located along coastal areas in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-9; if NO, go to Section 4D.)

2. Are wharves located:

   only in harbours and estuaries ☐ in a number of areas ☐

   (specify general locations) _____

3. List the main uses of wharves in the ACAP project area.

4. What materials are the wharves made from?

   creosoted timbers ☐ concrete ☐ steel ☐

   other (specify) _____

4C. WHARVES - cont'd

5. Who operates and/or maintains the wharves?

_____

_____

6. Are there pumpout facilities for bilge water and/or sewage at the wharves?

Yes ☐ No ☐

7. Are there garbage receptacles for waste from vessels?

Yes ☐ No ☐

8. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to wharves. (These may include reports prepared by government agencies or consultants.)

_____

_____

_____

_____

4C. WHARVES - cont'd

9. Use the following chart to describe any environmental problems which appear to result from wharves. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
disruption of water flow			
discoloration of surface water			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
alteration of sediment transport			
alteration of beaches/shoreline			
_____			
_____			
_____			
_____			
_____			
_____			

4D. CAUSEWAYS

1. Is there a causeway in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-10; if NO, go to Section 4E.)

2. Where is the causeway located? (Mark the location on your map.)

   _____
   _____

3. In what year was the causeway completed?

   ☐

4. Who is responsible for maintaining the causeway?

   _____
   _____

5. Has the causeway been built such that water can flow through it?

   Yes ☐ No ☐

6. Are any measurements taken to see how much the causeway is disrupting the flow of water?

   Yes ☐ No ☐

   (If YES, list the most recent measurements.)

   _____
   _____
   _____
   _____

4D. CAUSEWAYS - cont'd

7. Has the causeway been changed or modified in any way in recent years in order to lessen its impact on the flow of water or the environment in general?

Yes ☐ No ☐

(If YES, briefly describe the changes made, and note when and why this work was done.)

_____
_____
_____
_____

8. Have any causeways in the ACAP project area been removed?

Yes ☐ No ☐

(If YES, indicate the location(s) and briefly describe why and when this was done.)

_____
_____
_____
_____

9. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to the causeway. (These may include reports prepared by government agencies, consultants or the company which maintains the causeway.)

_____
_____
_____
_____
_____

4D. CAUSEWAYS - cont'd

10. Use the following chart to describe any environmental problems which appear to result from the causeway. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
disruption of water flow			
flooding			
change in salinity			
contamination of surface water			
discoloration of surface water			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
erosion			
alteration of sediment transport			
sedimentation			
change in water temperature			
_____			

4E. DYKES

1. Are there any dykes located along coastal areas in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-7; if NO, go to Section 4F.)

2. Who maintains the dykes?

   _____
   _____

3. Is the land enclosed by the dykes still in active use?

   Yes ☐ No ☐

   (If YES, what is the land used for?)

   _____
   _____
   _____
   _____

4. Are dykes located:

   all along the coastal areas ☐ just in some areas ☐

   (specify general locations) _____
   _____
   _____
   _____
   _____
   _____
   _____

4E. DYKES - cont'd

5. Why were the dykes built?

flood control ☐ for farmland ☐

other (specify) _____
_____
_____

6. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to dykes. (These may include reports prepared by government agencies or consultants.)

_____
_____
_____
_____

4E. DYKES - cont'd

7. Use the following chart to describe any environmental problems which appear to result from dykes. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
disruption of water flow			
discoloration of surface water			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
alteration of sediment transport			
alteration of beaches/shoreline			
shoreline erosion/accretion			
flooding			
_____			
_____			
_____			
_____			

4F. IN-FILLING AND LAND RECLAMATION

1. Are there any areas along the coast in the ACAP project area where in-filling has been done to create additional land?

   Yes ☐ No ☐

   (If YES, complete questions 24; if NO, go to Section 4G.)

2. Use the following chart to list general areas where in-filling has been done, what the in-filled areas are now used for (eg. industry, marina, port area, residential development, etc.), and what materials were/are used for in-fill.

Year	Location	Current Land Use	Material Used for Fill

3. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to in-filling. (These may include reports prepared by government agencies or consultants.)

   _____
   _____
   _____
   _____

4F. IN-FILLING AND LAND RECLAMATION

4. Use the following chart to describe any environmental problems which appear to result from in-filling. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
disruption of water flow			
discoloration of surface water			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
alternation sediment transport			
alteration of beaches/shoreline			
_____			
_____			
_____			
_____			
_____			
_____			

4G. FLOODING

1. Is flooding a problem in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-8; if NO, go to Section 4H.)

2. Use the following chart to indicate the general location(s) where flooding happens, the typical cause(s) of the flooding, how often it occurs (eg. once per year, every 5 years, etc.), and what the extent of flood damage is (eg. erosion, bridge/road destruction, damage to buildings, etc.)

Location of Flooding	Cause(s)	Frequency	Extent of Damage

2. Are any flood control structures in place?

   Yes ☐ No ☐

   (If YES, list the general locations of these structures.)

   _____
   _____
   _____
   _____
   _____

4G. FLOODING - cont'd

3. Are any flood control structures planned for construction in the future?

Yes ☐ No ☐

(If YES, indicate when and where construction is planned.)

_____

_____

5. Is the area designated under the Flood Damage Reduction Program?

Yes ☐ No ☐

6. Are there other local or provincial regulations restricting development on floodplains?

Yes ☐ No ☐

7. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to flooding. (These may include reports prepared by government agencies or consultants.)

_____

_____

_____

_____

_____

4G. FLOODING - cont'd

8. Use the following chart to describe any environmental problems which appear to result from flooding. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
erosion			
impact on water quality			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
impact on wetlands			
impact on land vegetation			
impact on infrastructures (buildings, roads, bridges, etc.)			
_____			
_____			
_____			
_____			
_____			

4H. COASTAL/RIVER EROSION

1. Is erosion a problem in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-6; if NO, go to Section 41.)

2. What kind of erosion is a problem in the ACAP project area?

   riverbed ☐ riverbank ☐ shoreline ☐

   coastal bluff ☐ barrier beach ☐ sand dunes ☐

   other (specify)_____

3. Use the following chart to indicate the general location(s) where erosion happens and the typical cause(s) of the erosion (eg. wave action, flooding, etc.)

Location of Erosion	Cause(s)

4H. COASTAL/RIVER EROSION - cont'd

4. Have any structures to control erosion been put in place in the ACAP project area?

Yes ☐ No ☐

(If YES, indicate the type of structures and its general location)

_____
_____
_____
_____
_____
_____
_____

5. List the titles of any reports you know about which discuss the problem of erosion in the ACAP project area. (These may include reports prepared by government agencies or consultants.)

_____
_____
_____
_____
_____

4H. COASTAL/RIVER EROSION - cont'd

6. Use the following chart to describe any environmental problems which appear to result from erosion. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
impact on water quality			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
sedimentation			
_____			
_____			
_____			
_____			
_____			
_____			
_____			
_____			

4I. BREAKWATERS/SHORE PROTECTION STRUCTURES

1. Are there any breakwaters/shoreline protection structures located along coastal areas in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-6; if NO, go to Section 43.)

2. Are breakwaters/shore protection structures located:

   just in harbours and estuaries ☐ in a number of areas ☐

   (specify general locations) _____
   _____
   _____
   _____
   _____

3. What materials are the breakwaters/shore protection structures made from?
   _____
   _____

4. Who maintains the breakwaters/shore protection structures?
   _____
   _____

5. List the titles of any reports you know about which discuss environmental impacts and conditions in the ACAP project area due to breakwaters/shore protection structures. (These may include reports prepared by government agencies or consultants.)
   _____
   _____
   _____
   _____

4I. BREAKWATERS/SHORE PROTECTION STRUCTURES

6. Use the following chart to describe any environmental problems which appear to result from breakwaters/shore protection structures. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
disruption of water flow			
discoloration of surface water			
impact on fisheries			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
alteration of sediment transport			
alteration of beaches/shoreline			
_____			
_____			
_____			
_____			
_____			
_____			

4J. NAVIGATION FACILITIES

1. Are there any manned navigation facilities (such as a lighthouse, rescue station, etc.) located along coastal areas in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-6; if NO, go to Section 5A.)

2. Who operates the navigation facility?

   _____
   _____

3. Where is the facility located? (Mark the location on your map.)

   _____
   _____

4. In what year was the facility built?

   ☐

5. List the types of waste generated by the facility.

   _____
   _____
   _____
   _____
   _____

4J. NAVIGATION FACILITIES - cont'd

6. Use the following chart to describe any environmental problems which appear to result from the navigation facility. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
discoloration of surface water			
garbage strewn around site			
soil contamination			
_____			
_____			
_____			
_____			
_____			
_____			

5.0 Fish, Wildlife and Vegetation

A) Fisheries
   i) Commercial
   ii) Recreational

B) Shellfisheries
C) Aquaculture
D) Seabirds/Waterfowl
E) Marine Mammals
F) Inland Mammals and Birds
G) Marine Vegetation
H) Inland Vegetation
I) Wetlands/Marshes

Section 5 takes a close look at the fisheries and aquaculture industries, and the status of local flora and fauna.

Once again, government environment and natural resources officials should be consulted for assistance.

5A. FISHERIES

i) Commercial

1. Are there active commercial fisheries in the ACAP project area?

   Yes ☐ No ☐

   (IF YES, complete questions 2-11; if NO, go to Section A(ii).)

2. What types of commercial fishing are done? (Check more than one box, if applicable.)

   trawling ☐ dragging ☐ longliners ☐

   fixed gear fishing (using weirs) ☐ floating nets ☐ traps ☐

   other (specify) _____
   _____
   _____

3. Would you say that commercial fishing (and associated activities) in the ACAP project area is:

   the most important industry ☐ an important industry ☐

   a fairly important industry ☐ not important ☐

4. List the types of fish that are caught by fishermen in the ACAP project area for commercial purposes.

   _____
   _____
   _____

5A. FISHERIES - cont'd

I) Commercial - cont'd

5. Use the following chart to indicate the amount of fish caught (by type of fish - in tonnes) by fishermen in the ACAP project area in the last 5 years, and the approximate value (in dollars) of this catch.

Year	Type/Amount of Fish Caught (tonnes)	Value of Catch ($)

6. How would you describe the fish stocks harvested by fishermen in the ACAP project area?

plentiful ☐ good ☐ depleted ☐ seriously depleted ☐

5A. FISHERIES - cont'd

i) Commercial - cont'd

7. Is there concern about the presence of contaminants in the fish caught by fishermen in the ACAP project area?

Yes ☐ No ☐

8. List the titles of any reports you know about which discuss the quality of the fishery in the ACAP project area. (These may include reports prepared by government agencies or consultants.)

_____
_____
_____
_____

9. Use the following chart to list specific contaminants which have been found in fish in the ACAP project area, the source(s) of these contaminants, if this is known (eg. the local oil refinery), and the source and date of the findings.

Contaminant Present	Type of Fish	Source(s) of Contaminant	Sate and Source of Data

5A. FISHERIES - cont'd

i) Commercial - cont'd

10. Use the following chart to describe any closures or restrictions which have been implemented concerning the fishery in the ACAP project area in the last 5 years.

Date	Type of Fish	Description of Closure/Restrictions

5A. FISHERIES - cont'd

i) Commercial - cont'd

11. Use the following chart to describe any environmental problems which appear to result from commercial fishing activities. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
impact on water quality			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
lost/discarded fishing gear/nets			
impact of fishing gear on bottom habitat			
dumping of fish offal			
garbage discarded by fisherman			
_____			
_____			
_____			
_____			
_____			
_____			

5A. FISHERIES - cont'd

ii) Recreational

1. Is recreational (sport) fishing a significant activity in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-5; if NO, go to Section 5B.)

2. Indicate the types of recreational fishing operations which are found in the ACAP project area.

   deep sea charters/excursions ☐ fishing camps ☐

   freshwater charters/excursions ☐

   other (specify) _____
   _____
   _____

3. List the main types of fish caught by recreational fishermen.
   _____
   _____
   _____
   _____

4. How would you describe the supply of sport fish?

   plentiful ☐ good ☐ depleted ☐ seriously depleted ☐

5A. FISHERIES - cont'd

ii) Recreational - cont'd

5. Use the following chart to describe any environmental problems which appear to result from recreational fishing activities. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
impact on water quality			
impact on shellfisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
lost/discarded fishing gear/nets			
discarded carcasses			
garbage discarded by fisherman			
_____			
_____			
_____			
_____			
_____			

5B. SHELLFISHERIES

1. Are there active commercial shellfisheries in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-11; if NO, go to Section 5C.)

2. What types of commercial shellfishing are done? (Check more than one box, if applicable.)

   hand digging ☐ dragging ☐ mechanical harvesters ☐

   other (specify) _____
   _____
   _____

3. Would you say that shellfishing (and associated activities) in the ACAP project area is:

   the most important industry ☐ an important industry ☐

   a fairly important industry ☐ not important ☐

4. Indicate the types of shellfish that are caught by fisherman in the ACAP project area for commercial purposes.

   lobster ☐ scallop ☐ crab ☐ mussels ☐ oysters ☐

   other (specify) _____
   _____
   _____

5B. SHELLFISHERIES - cont'd

5. Use the following chart to indicate the amount of shellfish caught (by type of fish - in tonnes) by fishermen in the ACAP project area in the last 5 years, and the approximate value (in dollars) of this catch.

Year	Type/Amount of Shellfish Caught (tonnes)	Value of Catch ($)

6. How would you describe the shellfish stocks upon which fisherman in the ACAP project area rely?

plentiful ☐ good ☐ depleted ☐ seriously depleted ☐

5B. SHELLFISHERIES - cont'd

7. Is there concern about the presence of contaminants in the shellfish caught by fishermen in the ACAP project area?

   Yes ☐ No ☐

8. List the titles of any reports you know about which discuss the quality of shellfisheries in the ACAP project area. (These may include reports prepared by government agencies or consultants.)

   _____
   _____
   _____
   _____

9. Use the following chart to list specific contaminants which have been found in shellfish in the ACAP project area, the source(s) of these contaminants, if this is known (eg. the local oil refinery), and the source and date of the findings.

Contaminant Present	Type of Shellfish	Source(s) of Contaminant	Date and Source of Data

5B. SHELLFISHERIES - cont'd

10. Use the following chart to describe any closures or restrictions which have been implemented concerning the shellfishery in the ACAP project area in the last 5 years.

Date	Type of Shellfish	Description of Closure/Restrictions

5B. SHELLFISHERIES - cont'd

11. Use the following chart to describe any environmental problems which appear to result from shellfishing. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	Present? NO	Comments
impact on water quality			
impact on fisheries			
impact on aquaculture			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
lost/discarded fishing gear/nets			
impact of fishing gear on bottom habitat			
dumping of fish offal			
garbage discarded by shellfisherman			
_____			
_____			
_____			
_____			
_____			
_____			

5C. AQUACULTURE

1. Is there an active aquaculture industry in the ACAP project area?

   Yes ☐ No ☐

   (If YES, complete questions 2-13; if NO, go to Section 5D.)

2. What types of aquaculture are practiced in the ACAP project area?

   finfish - salmon fanning ☐ finfish - trout farming ☐

   other finfish farming (specify) _____

   shellfish - mussel farming ☐ shellfish - oyster farming ☐

   other shellfish farming _____

3. Where are the aquaculture sites? (Mark the location(s) on your map.)

   _____
   _____
   _____
   _____

4. From whom are the aquaculture sites leased?

   _____
   _____

5. Would you say that the aquaculture industry in the ACAP project area is:

   the most important industry ☐ an important industry ☐

   a fairly important industry ☐ not important ☐

5C. AQUACULTURE - cont'd

6. Are there conflicts between aquaculture and traditional fisheries in the ACAP project area?

Yes ☐ No ☐

7. Are there conflicts between aquaculture and other uses (eg. tourism, recreational boating, scenic views, etc.) in the ACAP project area?

Yes ☐ No ☐

5C. AQUACULTURE - cont'd

8. Use the following chart to indicate the amount of harvest (by type of finfish or shellfish - in tonnes) by fishermen in the ACAP project area in the last 5 years, and the approximate value (in dollars) of the harvest.

Year	Type/Amount of Harvest (tonnes)	Value of Harvest ($)

9. Is there concern about the presence of contaminants in the finfish/shellfish harvested in the ACAP project area?

Yes ☐ No ☐

5C. AQUACULTURE - cont'd

10. List the titles of any reports you know about which discuss impacts on farmed finfish/ shellfish in the ACAP project area. (These may include reports prepared by government agencies or consultants.)

_____
_____
_____
_____

11. Use the following chart to list specific contaminants which have been found in finfish or shellfish farmed in the ACAP project area, the source(s) of these contaminants, if this is known (eg. the local oil refinery), and the source and date of the findings.

Contaminant Present	Type of Finfish/Shellfish	Source(s) of Contaminant	Date and Source of Data

5C. AQUACULTURE - cont'd

12. Use the following chart to describe any closures or restrictions which have been implemented concerning the aquaculture industry in the ACAP project area in the last 5 years.

Date	Type of Shellfish	Description of Closure/Restrictions

5C. AQUACULTURE - cont'd

13. Use the following chart to describe any environmental problems which appear to result from aquaculture. The left-hand column lists several environmental problems which may be present. Be sure to add any problems you notice which are not on the list. Once you have indicated that the problem is present, briefly describe its extent and severity in the right-hand column.

Environmental Problem	Present? YES	NO	Comments
impact on water quality			
impact on fisheries			
impact on marine mammals			
impact on seabirds			
impact on marine vegetation			
loss of habitat			
lost/discarded gear/nets			
use of chemicals including antibiotics & fungicides			
dumping of fish offal			
generation of waste products			
sediment quality under aquaculture areas			
_____			
_____			
_____			
_____			
_____			
_____			

5D. SEABIRDS/WATERFOWL

1. Use the following chart to list the types of seabirds/waterfowl which are found in the ACAP project area, whether these birds are migratory or non-migratory, and whether significant nesting areas are present. Indicate if the population is increasing, stable or decreasing, if this is known.

Type of Bird	Migratory YES	Migratory NO	Presence of Significant Nesting Areas (Note Location)	Status of Population

2. Is there concern about the presence of contaminants in seabirds/waterfowl in the ACAP project area?

   Yes ☐ No ☐

3. List the titles of any reports you know about which discuss impacts on seabirds/waterfowl in the ACAP project area. (These may include reports prepared by government agencies or consultants.)

   _____
   _____
   _____

5D. SEABIRDS/WATERFOWL - cont'd

4. Use the following chart to list specific contaminants which have been found in seabirds/ waterfowl in the ACAP project area, the source(s) of these contaminants, if this is known (eg. the local oil refinery), and the source and date of the findings.

Contaminant Present	Type of Bird	Source(s) of Contaminant	Date and Source of Data

5D. SEABIRDS/WATERFOWL - cont'd

5. Use the following chart to identify and describe the main threats (eg. oil pollution, loss of nesting grounds, release of bilge waters from ships, etc.) to seabirds/waterfowl in the ACAP project area.

Type of Bird	Threat(s)

5E. MARINE MAMMALS

1. Use the following chart to list the types of marine mammals (seals, porpoises, whales, etc.) which are found in the ACAP project area, whether these mammals are migratory or non-migratory, and whether significant breeding areas are present. Indicate if the population is increasing, stable or decreasing, if this is known.

Type of Mammal	Migratory YES	Migratory NO	Presence of Significant Breeding Areas (Note Location)	Status of Population

2. Is there concern about the presence of contaminants in marine mammals in the ACAP project area?

   Yes ☐ No ☐

3. List the titles of any reports you know about which discuss impacts on marine mammals in the ACAP project area. (These may include reports prepared by government agencies or consultants.)

   _____
   _____
   _____

5E. MARINE MAMMALS - cont'd

4. Use the following chart to list specific contaminants which have been found in marine mammals in the ACAP project area, the source(s) of these contaminants, if this is known (eg. the local oil refinery), and the source and date of the findings.

Contaminant Present	Type of Marine Mammal	Source(s) of Contaminant	Date and Source of Data

5E. MARINE MAMMALS - cont'd

5. Use the following chart to identify and describe the main threats (eg. oil pollution, loss of breeding grounds, hunting, etc.) to marine mammals in the ACAP project area.

Type of Marine Mammal	Threat(s)

5F. INLAND MAMMALS AND BIRDS

1. Use the following chart to list the main types of inland mammals and birds which are found in the ACAP project area, and whether significant nesting/breeding areas are present. Indicate if the population is increasing, stable or decreasing, if this is known.

Type of Mammal	Presence of Significant Breeding/Nesting Areas (Location)	Status of Population

2. Is there concern about the presence of contaminants in inland mammals and birds in the ACAP project area?

   Yes ☐ No ☐

3. List the titles of any reports you know about which discuss impacts on inland mammals and birds in the ACAP project area. (These may include reports prepared by government agencies or consultants.)

   _____
   _____
   _____

5F. INLAND MAMMALS AND BIRDS - cont'd

4. Use the following chart to list specific contaminants which have been found in inland mammals and birds in the ACAP project area, the source(s) of these contaminants, if this is known (eg. agricultural chemicals), and the source and date of the findings.

Contaminant Present	Type of Mammal/Bird	Source(s) of Contaminant	Date and Source of Data

5F. INLAND MAMMALS AND BIRDS - cont'd

5. Use the following chart to identify and describe the main threats (eg. loss of nesting/ breeding habitat) to inland mammals and birds in the ACAP project area.

Type of Mammal/Bird	Threat(s)

5G. MARINE VEGETATION

1. List the main types of seaweed and coastal vegetation found in the ACAP project area.

_____
_____
_____
_____
_____

2. Use the following chart to identify and describe the main threats (eg. pollution, contamination, etc.) to aquatic vegetation in the ACAP project area.

Type of Vegetation	Threat(s)

3. Is there any commercial harvesting of seaweed in the ACAP area?

Yes ☐ No ☐

Species harvested? Irish Moss ☐ Kelp ☐ Other_____

4. State the importance of commercial seaweed harvesting:

☐ $/year ☐ # employed

5H. TERRESTRIAL VEGETATION

1. List the main types of terrestrial vegetation found in the ACAP project area.

_____
_____
_____
_____
_____

2. Use the following chart to identify and describe the main threats (eg. urban development, etc.) to terrestrial vegetation in the ACAP project area.

Type of Inland Vegetation	**Threat(s)**

5I. WETLANDS/MARSHES

1. Are there any wetlands, marshes or swampy areas in the ACAP project area?

   Yes ☐ No ☐

   (If YES, list the general location(s) of these areas, and complete questions 2-7; if NO, go to Section 6A.)

   _____

   _____

2. Would you describe the land in the ACAP project area as being well-drained, or would you say the drainage is poor?

   well-drained ☐ poor drainage ☐

3. Are the wetlands/marshes reclaimed areas?

   Yes ☐ No ☐

   (If YES, indicate who reclaimed them)

   _____

   _____

4. Are the wetlands/marshes Ramsar Sites? (See Glossary)

   Yes ☐ No ☐

5. Are wetlands/marshes important habitats or nesting areas for migratory birds?

   Yes ☐ No ☐

5I. WETLANDS/MARSHES - cont'd

6. Are wetlands/marshes being encroached upon by development?

   Yes ☐ No ☐

7. What kinds of wetlands/marshes are found in the ACAP area?

   saltwater ☐ freshwater ☐ both ☐

8. Has a wetlands inventory been conducted for the ACAP project area?

   Yes ☐ No ☐

   If YES, by whom? _____
   when? _____

6.0 Community Approach to Environmental Management

A) Community Education
B) Community Involvement and Participation
C) Community Environmental Groups and Associations

This section takes a look at the general approaches taken by your community to educate community members about environmental concerns. To answer questions in this section, talk to officials who are responsible for environmental planning and/or management at the municipal level.

6A. COMMUNITY EDUCATION

1. List any programs or initiatives which have been established to educate community members in the ACAP project area about environmental issues, by:

   a) municipal governments.

   b) regional government.

   c) the federal government.

   d) local environmental groups.

6A. COMMUNITY EDUCATION - cont'd

2. Are environmental issues or courses included as part of the regular curriculum in schools in the ACAP project area?

   Yes ☐ No ☐

3. Does the local media (newspapers, television, radio) regularly cover and/or discuss environmental issues?

   Yes ☐ No ☐

6B. COMMUNITY INVOLVEMENT AND PARTICIPATION

1. How would you describe the level of interest among members of your community in protecting the environment?

   very high ☐ high ☐ medium ☐ low ☐ very low ☐

2. List any environment-related activities or programs-in which a significant number of community members participated during the past year.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

6C. COMMUNITY ENVIRONMENTAL GROUPS

1. Use the following chart to describe any groups, associations or committees which are involved with environmental issues or programs in the ACAP project area. List the name of the group, association or committee in the left-hand column, and indicate when the group was formed and its area of interest or concern.

Name of Group	Date Formed	Group's Area of Interest/Concern

7.0 Summary-Key Environmental Problems and Issues

A) Use Conflicts
B) Key Environmental Problems

Now that you have taken a look at the sources of pollution and the environmental conditions in the ACAP project area, this section of the Workbook asks you to interpret your findings and highlight the major environmental problems in your community.

First, what in your view are the most obvious conflicts in uses of the ACAP project area? For example, is sediment contaminated due to agricultural practices affecting the shellfish beds which many community residents depend on for their livelihood? Or are recreational boaters disrupting the breeding grounds of harbour seals?

Second, you will be asked to list the most serious environmental problems in the ACAP project area. These are problems which will have to be solved if the quality of the environment in area is to be improved.

7A. USE CONFLICTS

1. List what in your view are the main use conflicts in the ACAP project area.

7B. KEY ENVIRONMENTAL PROBLEMS

1. In your opinion, what are the five most serious environmental problems in the ACAP project area? Use the left-hand column in the following chart to identify 5 serious environmental problems in the ACAP project area. Next, use the right-hand column to rank the 5 problems. The most serious problem should be given a ranking of 1, the next most serious a 2, and so on. If you think two problems are equally serious, give them the same ranking.

	ENVIRONMENTAL PROBLEM	RANKING
1.		
2.		
3.		
4.		
5.		

Appendix-Personal Environmental Survey

A) Waste Management Practices
B) Water Use
C) Energy Use

A. WASTE MANAGEMENT PRACTICES

1. Have you ever heard of the 3Rs -- reduce, re-use, recycle -- of waste management?

   Yes ☐ No ☐

2. Some communities collect recyclable materials from homes or have centrally-located recycling depots. Do you put your recyclable materials -
   - food cans and bottles, newspapers, etc. - at the curb for pick-up or take them to a recycling depot?

   Yes - I put material at the curb ☐

   Yes - I use a recycling depot ☐

   No - I don't recycle ☐

   No - There is no recycling program or depot in my community ☐

3. Do you try to reduce the amount of garbage you produce or re-use some of the things you would otherwise throw into the garbage?

   Yes ☐ No ☐

4. Many charitable groups will gladly accept your discarded items. By donating your unwanted clothes, toys and household items, you can help reduce the amount of garbage being sent to landfill sites for disposal. Do you give your unwanted items to a charitable group so they can be re-used by someone else?

   Yes ☐ No ☐

A. WASTE MANAGEMENT PRACTICES

5. Do you try to reduce the amount of disposable items (lighters, paper plates, diapers, etc.) you purchase?

   Yes ☐ No ☐

6. Durable long-lasting goods may cost a little more initially, but in the long run they will last longer and that means you will not have to throw them away when they break or are no longer useful. A good example is rechargeable batteries. They cost more initially than single-use, disposable batteries, but over time they cost you less since you will not have to replace them as often. When you make a purchase do you think about how long the product will last?

   Yes ☐ No ☐

7. Disposable drink bottles and cans are not a good choice for the environment. And refillable beverage bottles are better for the environment than recyclable containers. Do you buy refillable bottles and return them to the store for a refund?

   Yes ☐ No ☐

8. Repairing a broken item means that it will not end up in a landfill site and you will not have to buy a replacement. When something you own breaks do you throw it away instead of repairing it?

   Yes ☐ No ☐

A. WASTE MANAGEMENT PRACTICES

9. The packaging that comes with food and other consumer goods ends up in the garbage. Manufacturers realize that a growing number of shoppers are starting to avoid excess packaging. Have you ever avoided buying something because it had excessive packaging?

   Yes ☐ No ☐

10. Some of the products we use around our homes can be hazardous to the environment if they are not disposed of safely. These products include things like insect sprays, oil based paints, furniture polish, and toilet bowl cleaners. Do you know that left-over, unused amounts of products like these are called Household Hazardous Wastes?

    Yes ☐ No ☐

11. Some people are not sure how to dispose of motor oils, oil based paints, solvents, cleansers and other household chemicals -- some of which are toxic and explosive - so they flush them down the toilet, pour them down the drain or send them to landfill sites for disposal. Do you ever dispose of your Household Hazardous Wastes by flushing them down the toilet or pouring them down the drain?

    Yes ☐ No ☐

12. Do you take your Household Hazardous Wastes to a special depot in your community?

    Yes ☐ No - no depot in my community ☐

A. WASTE MANAGEMENT PRACTICES

13. Baking soda and vinegar mixtures can often be substituted for cleansers around the home. Do you use these and other environmentally-safe alternatives to Household Hazardous Wastes?

Yes ☐ No ☐

Many of these alternatives cost less too.

14. Some of the things we put in the garbage - fruit and vegetable peelings and scraps, lawn and garden waste -- can be composted easily in your own backyard. Composting is the process of letting organic waste such as lawn clippings and apple cores decay. The result is compost, a nutrient-rich soil conditioner that can be used in gardens and it is a good replacement for other commercial lawn products. Do you compost your organic waste?

Yes ☐ No ☐

WASTE FACTS

- After using paint thinner and turpentine, let the solids settle on the bottom of the container, then pour off the liquid and use it again and again.

- In the hierarchy of the 3Rs, it is better to reduce the amount of waste you generate; re-use as much as possible; and after you have reduced and re-used, then it is time to recycle.

- According to the most recent Environment Canada statistics, each Canadian generates approximately 1.8 kgs of garbage each day.

- Canada, along with the United States, are among the world's largest generators of garbage on a per capita basis. That means we are among the most wasteful people on the planet.

- Many items that we buy - disposable lighters, razors, diapers, and paper plates -- get used once and then become “instant garbage."

- Most of us have used hazardous chemicals around the home. These include cleansers, paints, pesticides, barbecue starter fluid, toilet bowl cleaner, furniture polish, pool chemicals and many, many more. Most of these hazardous wastes do not break down in the environment and can be harmful to the environment if not properly disposed of. They could pollute lakes, streams, ground water and eventually your drinking water.

WASTE FACTS

- Recent Household Hazardous Waste figures (1989) indicate that each month, in the average city with a population of 100,000, 3.75 tons of toilet bowl cleaner are discharged into the city's drains. An additional 13.75 tons of liquid household cleaners and 3.44 tons of motor oil are also put down the drain.

- The following list provides some more environmentally friendly alternatives to some of the hazardous products you may be using now around your house:

PRODUCT	ALTERNATIVE
abrasive cleaners or powders	a lemon dipped in Borax
ammonia-based cleaners	vinegar, salt & water mix, baking soda in the bathroom
mothballs	cedar chips, potpourri
rug cleaner	baking soda
oil based paint	water based paint (latex)
rat poison	live traps

These are just a few examples of alternatives which are better for the environment. Contact your provincial or federal environment ministry for a complete list of alternatives.

B. WATER CONSERVATION PRACTICES

1. Do you think about conserving water as you go about your daily routine at home?

   Yes ☐ No ☐

2. When you brush your teeth or shave, do you let the water run continuously, or only turn it on when you need to rinse?

   Yes ☐ No ☐

   Turning the water on only when you need it will save litres of water every time you brush.

3. The average toilet uses 20 litres of water for every flush.. Reducing the number of flushes reduces the amount of water being used. Do you flush your toilet frequently?

   Yes ☐ No ☐

4. Have you put bricks, water-filled plastic bottles or other objects in your toilet tank to displace water and reduce the amount of water being used every time your toilet is flushed?

   Yes ☐ No ☐

   If your household toilet is more than 10 years old you might consider replacing it with a newer, more water-efficient model.

B. WATER CONSERVATION PRACTICES

5. Showering uses an average of 20 litres of water a minute and is one of the biggest consumers of household water. Have you installed a low-flow shower head to reduce the amount of water used for every shower?

   Yes ☐ No ☐

   Low-flow shower heads help conserve water and energy, and save money too!

6. Leaking taps in the home can waste thousands of litres of water each year. Do you make sure you turn off the tap completely and repair dripping taps?

   Yes ☐ No ☐

7. You can have a ready supply of cold drinking water waiting for you if you keep a jug of cold water in your fridge. This will eliminate the likelihood that you will run the tap and waste water. Do you keep a pitcher of water in the fridge?

   Yes ☐ No ☐

8. The average dishwasher uses 35 to 45 litres of water per cycle, no matter how many dishes are in it. Do you wait until the dishwasher is full before turning it on?

   Yes ☐ No ☐

9. You can save water when you cook just by thinking about how much water you really need. Do you cook vegetables in just enough water to cover them?

   Yes ☐ No ☐

B. WATER CONSERVATION PRACTICES

10. In the laundry room you can save water by adjusting the water setting on your washing machine to match the size of the wash load. Do you reduce the amount of water required if you are doing a small load of laundry?

Yes ☐ No ☐

11. Washing your car with the hose running can waste about 400 litres of water. Do you wash your car with a bucket and use the hose to rinse only as needed?

Yes ☐ No ☐

12. Rainwater is perfect for watering your garden. Do your collect the rainwater from your eavestroughs and use it outdoors around your home?

Yes ☐ No ☐

13. Longer grass keeps moisture better and will require fewer waterings than short grass. Do you water your lawn frequently, even if it does not really need it?

Yes ☐ No ☐

14. If you own a pool or outdoor hot tub, do you use an insulated cover to reduce the amount of water that is wasted through evaporation?

Yes ☐ No ☐

WATER FACTS

- Fresh, clean water is essential to life and our everyday lives.

- Just 1 per cent of all of water on earth is fresh water - the rest is saltwater in seas and oceans. And 99 per cent of the flesh water on earth is frozen in the polar ice caps

- The usable supply of water is shrinking due to the increasing demand, pollution, declining water tables and prolonged droughts.

- Every week about 10,000 litres of water are used by the typical Canadian family of four. Add another 2,000 litres to the weekly amount of water used in the summer due to car washing and lawn watering.

- When each of us are done using water in our homes, we generally return it to the environment in a worse state.

- The water supply for many Canadians is re-used - that means it has already gone through a purification plant at least once and it will go through a purification plant again, after it goes down the drain.

C. ENERGY CONSERVATION PRACTICES

1. Do you try to conserve energy as you go about your daily routine at home?

   Yes ☐ No ☐

2. Have you upgraded the insulation in your home to make it more energy efficient?

   Yes ☐ No ☐

3. Keeping your home heated when you are not there, or when you are asleep, wastes energy. When you leave your home, or when you go to bed, do you turn your thermostat down?

   Yes ☐ No ☐

4. When you purchase new appliances do you look for the most energy efficient ones?

   Yes ☐ No ☐

5. Do you take steps to ensure your furnace, fridge, stove and every other energy-using device in your home is maintained to provide peak performance and energy efficiency?

   Yes ☐ No ☐

6. Do you turn off the lights and other appliances when you no longer need them?

   Yes ☐ No ☐

C. ENERGY CONSERVATION PRACTICES

7. Clothes can be washed in cool water, thus saving the energy that would otherwise be required to warm the wash water. Do you wash your laundry in cool water?

Yes ☐ No ☐

8. Drying clothes on a clothesline saves energy since you will not need to ~n the dryer. Do you dry your clothes outside on a clothesline?

Yes ☐ No ☐

9. If you have a dishwasher, do you open it before the dry cycle and let the dishes air dry?

Yes ☐ No ☐

10. Car pooling reduces the amount of gas being used and is better for the environment. When you are going somewhere with a group of friends, or co-workers do you all go in the same car instead of driving separate cars?

Yes ☐ No ☐

11. Cars use a non-renewable energy source - gasoline. Do you ever choose to walk short distances instead of driving?

Yes ☐ No ☐

12. Do you consider gas mileage when purchasing a new car?

Yes ☐ No ☐

C. ENERGY CONSERVATION PRACTICES

13. Do you use public transportation instead of your own vehicle?

Yes ☐ No ☐

14. An open damper in a fireplace chimney will allow warm air that has already been heated to escape and allow cool air to come into your home. Do you make sure that the damper is closed when the fireplace is not in use?

Yes ☐ No ☐

15. If you have a pool or hot tub, do you keep an insulated cover on it so that you do not lose the water that has already been heated?

Yes ☐ No ☐

ENERGY FACTS

- There are a number of things you can do around your home and in your personal life that will conserve energy and save you money.

- Improving the insulation and sealing any cracks where air may escape from or enter your home can go a long way to reduce the amount of energy required to heat and cool your home.

- Regular maintenance of household appliances will help save energy. For example, cleaning the coils on the back of your fridge and having your furnace cleaned regularly will ensure they both run efficiently and do not use more energy than is necessary.

- Ninety per cent of the energy used to wash clothes is used to heat the wash water. You can save energy by washing in cool water. If you have a dishwasher you can save more energy by air drying the dishes instead of using the dry cycle. Just turn your dishwasher off before it goes through the dry cycle.