



Environmental Education Needs Assessment and Action Plan for Ecology North Northwest Territories

Report to:
Community Animation Program
EcoACTION 2000
Environment Canada

April, 2000

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Environmental Education Needs Assessment and Action Plan for Ecology North

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COMMUNITY ANIMATION PROGRAM

ENVIRONMENTAL EDUCATION NEEDS ASSESSMENT AND ACTION PLAN FOR ECOLOGY NORTH

DESCRIPTION OF PROJECT

Ecology North received funding from the Community Action Program to conduct an assessment of the status of and need for environmental education in Yellowknife and several NWT communities. The primary goal of the project was to develop a preliminary action plan to provide direction for future environmental education initiatives by Ecology North.

The project consisted of three parts:

- a survey of educators, and representatives of Aboriginal and environmental organizations, to identify what's already being done in environmental education (resources and activities), and what is still needed;
- development of a preliminary action plan for environmental education based on the survey results;
- development of a funding proposal for one of the projects identified as a priority.

Project Personnel

- Marianne Bromley
- Mary McCreadie
- Michelle Clusiau
- Alex Borowiecka

Steering committee

- Brenda Hans, Public Education Specialist, RWED, GNWT
- Barb Cameron, Education Curator, Prince of Wales Northern Heritage Centre
- Steve Daniel, Math and Science Curriculum Coordinator, ECE, GNWT

PROCEDURE

Needs Assessment

Educators

We attempted to contact a range of educators, from primary grades through post-secondary, including teachers and education administrators. We did this in the following way:

- met with the steering committee to identify teachers with involvement or interest in environmental education, and to develop a questionnaire for teachers (attached);
- had four leaders of workshops related to environmental education at the Yellowknife Educators' Conference distribute questionnaires to workshop participants--80-90 were distributed (2 returned);
- contacted teachers identified by steering committee (at least one in each Yellowknife school, as well as teachers in communities) and asked them to complete questionnaires;
- contacted district / regional superintendents for phone or in-person interviews.

We developed interview questions for organizations, then contacted Aboriginal and environmental organizations, GNWT personnel, and Adult Educators for phone interviews. We made follow-up contact if necessary.

We reviewed and summarized all responses (summaries attached for educators and organizations), then met with the steering committee to review results and discuss recommendations.

Based on the results of the assessment, we developed a draft action plan and recommended projects for proposal development. We presented the results and action plan to the Ecology North Board for review and decision on which project to develop the proposal for.

ACCOMPLISHMENTS

Contacts

We contacted 44 people in Yellowknife and the communities, and spoke with or received written responses from 36. This helped to increase awareness of Ecology North's philosophy and activities, and to let people know that we are interested in working with other groups. Educators, especially, were open to opportunities for working together. Several thanked us for making the effort to get in touch and conduct this survey, and expressed interest in follow-up meetings.

Results

We collected a significant amount of "baseline information" on environmental education. This will be a great help in providing direction as we increase our involvement in this area. An education committee has recently been formed. The information collected will help the committee and board focus on the topics and media where education/information is most needed. Results of the needs assessment are summarized separately for educators and organizations (both attached). These were condensed into an overall summary and recommendations, including an Action Plan (attached).

Proposal

This project has allowed us to develop a proposal for a project identified as a priority based on the information collected. This keeps the momentum of the work going, and helps us to act on the information collected right away.

PROBLEMS ENCOUNTERED

The main problem encountered was difficulty in getting responses. Of the initial 80-90 teacher questionnaires distributed, we received only two returns. This was done to potentially reach interested people we may not know about. Although we did not expect a large response, we had hoped for a few more returns! Timing was not the best (report cards, end of term, etc.). The lack of response was initially discouraging, as it seemed to indicate that environmental education is a low priority. We carried on as planned, contacting teachers with a demonstrated interest in environmental education. We received responses from many of those contacted directly, but had hoped for a few more.

We concluded that the questionnaire we developed for teachers may have been a problem, as it was quite detailed and required some time to complete. The steering committee discussed the

questionnaire at length at our initial meeting. We decided to go ahead with a detailed one, as a shorter one would not have provided the information we wanted. We may have sacrificed quantity for quality.

We encountered some problems in getting responses from Aboriginal organizations. Although several were open to our questions, others were quite mistrustful and reluctant to answer. A few did not respond after repeated attempts to contact them. This is probably understandable, as we have not had a lot of contact with these organizations, and they are unsure of our positions on environmental issues. Also the political climate is not especially tending toward cooperation at the moment.

DECISION-MAKING

The Ecology North board of directors approved the project, and turned it over to the coordinators (Marianne and Mary). During the survey stage, the coordinators made all decisions together, after discussion with each other and with the steering committee when appropriate. The board of directors decided which project to focus on for proposal development, based on the project summary and recommendations made by the coordinators. The board also reviewed, revised, and approved the suggested action plan.

EVALUATION

After some initial discouragement at the lack of response / interest, we were ultimately pleased with the outcome of the project. We feel that we achieved the objectives identified in our project proposal. We have collected information and made personal contacts that should help us increase our involvement in, and service to, Yellowknife and potentially some of the communities. The recently formed Education Committee will help provide focus and implement projects that emerge from this one.

BUDGET

Project coordinator:	21 days @ \$300/day =	\$6300
Phone/fax:		\$ 300
Administrative overhead @ 5% of total =		\$ 400
TOTAL AMOUNT		\$ 7000

ENVIRONMENTAL EDUCATION NEEDS ASSESSMENT SUMMARY (Educators)

CONTACTS

We received responses from educators at the following schools and organizations:

- Mildred Hall Elementary School, Yellowknife
- J.H. Sissons Elementary School, Yellowknife
- N.J. Macpherson Elementary School, Yellowknife
- Ecole Allain St-Cyr, Yellowknife
- Ecole St. Joseph School, Yellowknife
- Ndilo Community School, Yellowknife
- William McDonald Junior High, Yellowknife
- Sir John Franklin High School, Yellowknife
- St. Patrick High School, Yellowknife
- Mezi Community School, Wha Ti
- Alexis Arrowmaker School, Wekweti
- GNWT Resources, Wildlife, and Economic Development
- GNWT Prince of Wales Northern Heritage Centre

We interviewed, or received written responses from, the following education administrators:

- Superintendent, Yellowknife Catholic Schools
- Director, Deh Cho Divisional Education Committee, Fort Simpson
- Yellowknife Campus Director, Aurora College

We contacted the following and did not receive responses:

- Range Lake North Elementary School, Yellowknife
- Weledah Catholic School, Yellowknife
- Superintendent, Yellowknife School District No. 1
- Superintendent, South Slave Divisional Education Council, Fort Smith

CURRENT STATUS: WHAT'S BEING OFFERED NOW

Yellowknife

Schools (including partnerships)

Curriculum links and classes

- There is some emphasis on the environment in curricula currently in use, especially science, though it tends to be limited to a few specific themes or units. Some teachers teach environmental themes in class; do outdoor activities to teach science curriculum ("Interactions in the Environment") (Carmen Gobeil, Jeff Seabrook).
- Grade 8 Outdoor Education class once /cycle (2.5 hrs) at Mildred Hall (Seabrook)
- Northern tree studies with RWED education specialist
- Project WILD activities on animal survival, interdependence, etc.
- unit on recycling (Heyck)
- teacher/student research on ethnobotanical studies of tobacco extenders by the Dene (Carpenter)

Organizations /Agencies/ Private companies

- Diavik Science Camp
- nature walks by Jamie Bastedo
- Metis Nation Youth Corps Program and Tulu Projects (travelling traditional waterways, recording Values at Risk)
- Wildlife Week open house at RWED
- displays, occasional talks at Museum
- Inukshuk Ventures summer programs (some components)
- some guiding / scout activities
- Gwich'in Science Camp
- Northern Contaminants Education Program (Metis Nation)--curriculum-integrated (7-9 science, 7-9 social studies, northern studies) lesson plans on ecology and contaminants issues.

Other Communities

- On-the-land activities with families--kids hunt and fish with parents and elders--supported and funded by school, without much input into "content" (Wekweti)
- all Deh Cho schools have some kind of on-the-land cultural program--either permanent and ongoing (Ft. providence, Ft. Simpson, Nahanni Butte) or one-time event. Focus is on land and culture, with Dene Kede as foundation.
- Ft. providence school working with RWED on forest management program, long-term forest monitoring.
- Ft. Simpson tree-planting program
- Dogrib youth-elder canoe trips following traditional routes, learning place names
- day trips to Beaver Dam with elder (Wha Ti)
- weekly Outdoor Ecology Club (Wha Ti)
- science classes held outdoors (Wha Ti)
- 2 land-based trips per year, 2-3 days each (Wha Ti)

CURRENT STATUS: RESOURCES USED

- Project WILD (//////)
- RWED WILD Times newsletters (///)
- Contaminants in Northern Canada Science lesson plans (NWT Metis Nation) (///)
- Focus on Forests (//)
- wildlife identification
- survival guides produced by Alberta
- team-building activities
- "Common Ground" mapping activities package by M. Bromley (unpublished)
- Dene Kede
- Rediscovery Program (Tim Wooldridge, Wha Ti)
- J. H. Sissons library collection
- "Ernie's World" video with Jamie Bastedo (by Ross Burnett, Gaia Productions)
- National Geographic videos and films
- Staff at YK baling facility
- staff at Museum
- human resources are most valuable--Yellowknife contacts, e.g. scientists, elders
- information from practising on-the-land skills

- GLOBE support material (must attend training)
- RWED and Environment Canada handouts (wildlife, trees, renewable resource use, tourism, household hazardous waste, composting, activity books)
- *Shield Country* by Jamie Bastedo
- Resource People for Science Education in Yellowknife, list by Brenda Hans, RWED 1999
- Project Rocks
- Natural history school programs, gallery tours, and Edu-kits (gr. 5-10) offered by Museum
- Internet connection to new Arctic Millennium Project
- Blachford Lake Lodge
- UNESCO Source Book for Science Teaching
- Internet

NEEDS

Resources requested (by number of requests)

- *land-based camps and/or programs*: semi-permanent facilities, out of town but not too remote (i.e. expensive); more Daring Lake / Tibbitt Lake types of camps; cultural inclusion; provide opportunities for more students and families to experience; and
- *resource people*: access to elders; established programs/lists would help teachers have better access to resource people; people to call about ideas; Internet-based, interactive “experts in the schools” program; access to local facilities on planned open days.
- *central facility* (ecology/environmental education centre) available to all schools, tourists, public: offer presentations, tours, outdoor classes, half-day or daylong programs for schools on natural history and environmental issues, information for visitors.
- *subject-integrated activity guides*: pick-up-and-deliver resources/lesson plans that help tighten links with curriculum and integrate environmental education (tied to culture) into all school subjects. Also other resources for teachers.
- *outdoor classes*: interpretive walks, on-the-land skills; work with elders--lots more TK. Make sessions long enough to be worth the trip. Sessions led by Ecology North (Wha Ti!)
- *Professional development workshops*: on-the-land instruction for teachers--quick, easy, appropriate activities for introducing concepts; lots more on TK and other culture-related information; training for teachers to develop units; integration of NWT curriculum and outdoor education; and
- *reference materials*: user-friendly, student-focused, on current northern issues and ecology; especially posters; how-to videos; usable keys for plants and animals.
- other: *Ecology North web site* that would provide information and activities that could be down-loaded by teachers--very helpful for communities; NWT-wide poster contests and other contests that get families involved.
- other: external resources that do not require extra programming by teachers--e.g. classroom presentations by experts, taking classes to outdoor programs, Internet resources.

Information requested (by number of requests)

- *Traditional knowledge / links with culture* (requested by everyone): blend TK and environmental education; integrate with Dene Kede and Inuuqatigiit; hands-on learning with elders; ownership of TK; modules and resources.
- *Nature*: plants, animals, water, air, geology, geography, economic use; more for grades 2-3; more in French; usable dichotomous keys for local plants and animals; and

- *Environmental issues*: northern issues--arsenic, soil contamination, global warming impacts on the north, development issues, contaminants and health
- *Principles of ecology*: specific northern examples

IS MORE EMPHASIS NEEDED ON ENVIRONMENTAL EDUCATION?

Yes. Everyone who responded said yes (biased sample?!), some quite emphatically.

Obstacles

- *time!!!*: too much material to cover, not enough time. Add-on programs not likely to be used; must be integrated with subject material.
- *lack of funding / expense*: on-the-land education is expensive, especially transportation
- *logistics* of outdoor classes too difficult; kids can be hard to manage outdoors
- there are links in curriculum, but lesson content and approach is up to teachers. Some *teachers lack interest, confidence, experience*. Some responses that there is not enough emphasis in curricula.
- *not enough awareness* at Director level of the importance of environmental education.
- *links not made* between environmental education and culture-based education
- not enough relevant *curriculum connections* (grades 4/5)
- access to *materials in French*

Dreams

- outdoor facility for programs, not too remote
- traditional cultural camp where students spend time on the land without modern amenities
- outdoor education centre combining culture-based education and environmental education
- more art-based / performance-based programs
- more integration of TK
- Ecology centre with consistent funding and staff
- science fair on the theme of ecology

OPPORTUNITIES

- Dene Kede and Inuuqatigiit are land-based, and there is a drive in all schools to integrate these into all subjects. Culture-based education is directly linked to environmental education.
- There is a great need for northern “pick-up and deliver” resource materials that help teachers teach curriculum material and make links with land-based learning (culture/environment).
- Schools are open to partnerships. St. Pat’s facility-sharing approach.
- new science curriculum emphasis on environment and sustainable development (in the works)
- group of enthused educators with common interest in promoting environmental education, willing to pursue this work;
- benefits of coordinated effort over current ad hoc approach
- Internet: links to other schools, communities;
- e-mail allows promotion and planning ahead
- Local environment around all communities has so much to offer!
- greater awareness and cooperative attitudes developing with agencies
- education newsletters from RWED (WILD Times) and ECE science (EUREKA!) open to suggestions

Environmental Education Needs Assessment
Summary of Interviews
(Organizations)

The following organizations and agencies were approached, and 17 people were interviewed.

Environmental Organizations:

- Arctic Energy Alliance. Rob Marshall, Executive Director
- Canadian Arctic Resources Committee. Kevin O'Reilly; Research Director.
- Canadian Parks and Wilderness Society, NWT Branch. Lesley Wakelyn, Board Member.
- World Wildlife Fund. Bill Carpenter.

Adult Education:

- Adult Basic Education science curriculum working group. Donna Mulders (Yellowknife contractor), Dan Page (Iqaluit) and Joyce Gilchrist (Yellowknife).
- Adult Educator, Holman Island. Ron Wilson.
- Adult Educator, Tuktoyaktuk. Michelle Skanes.

Aboriginal Organizations:

- Dene Nation. Alison Armstrong, Environment Coordinator
- Dene Nation. Greg Bailey, Assistant to Allison and Youth Committee Coordinator
- Dogrib Treaty 11 Council. Ted Blondin
- Fort Liard Band Council. Shane Parish, General manager
- Dechi Leot'1 First Nations, Kirsten Knudson, Manager, Development Corporation
- Metis Nation NWT. Judy Farrow, Environmental director
- Gwich'in Social and Cultural Institute. Ingrid Kritsch, Yellowknife research office

Government:

- Health and Social Services, GNWT. Gillian Burles, Manager Health Promotion
- Health and Social Services, GNWT. Erica Mills, Contaminants consultant
- Health and Social Services, GNWT. Duane Fleming, Environmental Health Consultant

The following organizations and people were approached and did not respond or declined to be interviewed:

- Yellowknives Dene Band. Rachel Crapeau.
- Lutsel k'e Dene Band Land and Environment Committee. Brenda Parlee, Coordinator. Then Lucy Sanderson, Acting Coordinator when Brenda on holiday,
- Dene Cultural Institute. The new ED was contacted, but so far no inter-view.
- Zaby Nevitt, Dogrib Treaty 11 (Ted Blondin recommended that we interview Zaby as well).

Environmental Education Needs Assessment Summary of Interviews

WHAT ARE SOME OF THE ISSUES?

World Wildlife Fund:

1. Implementation of the protected areas strategy. Establishment of protected areas based on cultural and/or natural significance, and on ecoregion representation. Expand resource inventory so we know what is out there and what we want to protect avoid potential gaps: (Protected areas work underway includes Grizzly Bear and Scented Grass Hills near Deline, Horn Plateau near Simpson, Mills Lake near Providence, three sites in the Gwich'in area have been funded and there is a workshop planned for Wrigley).
2. Endangered species.
3. Toxicology, including contaminants.

GNWT & HSS:

1. Landfill operations
2. Air quality, drinking water quality. Food quality and safety - environmental contaminants, botulism, salmonella.
3. Injury prevention.
4. National issues - labelling genetically modified foods, country food.
5. Regional issues - e.g.; cord blood monitoring program in Inuvik; arsenic Stanton Health Board; THM Chlorine derivative in the water, Fort McPherson.
6. Food handling safety, regular water tank cleaning, sewage - traditional public health issues.
7. Health effects of natural gas and flaring preliminary investigation being done with the intention of being prepared to respond to questions and concerns of the community.
8. Risk assessment process use to determine, for example, safe consumption levels of particular type of fish in a particular body of water with certain levels of an environmental contaminant.

Development Related:

1. Diavik specifically. Impact of mining on everything - e.g., caribou migration
2. Mineral development issues.
3. National Parks - expansion or road development.
4. Oil and gas development in the Liard area.
5. Spin-offs from development; monitoring and mitigation (e.g. management of drilling muds), traditional knowledge studies etc.
6. Environmental assessment process - air quality, cumulative effects
7. Giant Mine - arsenic disposal/cleanup,
8. Darnley Bay - private sector push for resource development to go ahead

without full environmental assessment. people at local level want involvement with independent assessment'

9. Banks Island seismic activity

General:

1. Clean up of waste for e.g. barrels in Snare Lake.
2. Impact of Forestry.
3. Greenhouse Gas Emissions (GHG); global climate change. reducing emissions. GHG strategy - GNWT.
4. Energy consumption. How to reduce?
5. Iqaluit/Nunavut - big review re waste treatment.- lots of municipalities do this.
6. Iqaluit - car traffic, exhaust - 1100 vehicles and 40 km of roads
7. Changing water levels - e.g. GSL. (also other places - Iqaluit, Igloolik)
8. Adult Basic Education curriculum - habitat/habitat loss; mining and environmental issues; technology - negative/positive effects on the environment, pollution; weather -pollutants in atmosphere,
9. Sustainable development.
10. Caribou in local area of Holman - why have patterns changed - cyclic blip? maybe other reasons?
11. Making informed decisions (people need to be able to).
12. Shoreline erosion (Tuk). preservation of pingos.
13. Respect for the land - treat the land like it's your home.
14. Land use management.
15. Traditional knowledge.
16. Contaminants and health.

WHAT INFORMATION IS NEEDED?

Data collection:

1. not enough "ground" data - e.g. re caribou - RWED go twice a year in the air - need more work, more often on the ground.
2. better understanding about biodiversity and ecoregion representation for establishment of protected areas. Need basic surveys, base line data. Need long term studies, environmental inventory to figure out what's important outside human values - figure out how systems work. There is a tendency to say things are not significant if we don't know. There is a problem accessing data that IS available and a lack of analysis of this data. It is responsibility of government - 'public interest' to do this type of baseline work. lack of government staff doing this work..
3. long term monitoring studies
4. Information re global climate change - it has already started - how to adapt - e.g. permafrost degradation -how affects things like building and road construction, forest fire and changes in the tree line, difference in traditional lifestyles.

Assessment

1. need independent (non-industry, non-government) assessments - balanced input. need input from community, company, and independents. best info for people to make balanced decisions.
2. understanding ecosystems. understanding science - how it affects peoples' lives.
3. population ecology - e.g. caribou natural history - cycle of movement, food, etc.

Development related:

1. Need more people in the communities with a solid background in environmental issues and trained with skills in the environmental aspects of development.
2. lacking good document re history and changes for NWT as a whole. e.g. Sahtu know about impacts of uranium mining - others need to know. other issues. something to show history - learn from mistakes. good for students to learn re history of development.
3. kids think - open up mine, get job - not understand what job/what opportunities - kids not know what jobs available specifically
4. re seismic - know damage of conventional vehicles - didn't use non-intrusive methods - what are they?
5. how to respect land at the same time as have development.

Health:

1. do parasites thrive in contaminated environment?
2. pollution from the south - toxins - for people, animals.
Bioaccumulations.

Activism:

1. people want to know how serious things are - what to do personally - what required of decision-makers.
2. not good enough to just know - how to do something about it - e.g. advocacy, activism.
3. problem solving skills - go beyond complaints - what are alternatives, importance of long term, future generations, whole society perspective.

Traditional Knowledge:

1. strong-traditional knowledge element is important. importance of science and traditional knowledge. how to build on 'state of knowledge' - how to bring to schools. also need info re where been and how to connect with present.
2. an ongoing traditional knowledge project that involves gathering information from elders in the community.

Resources:

1. thinking re renewable resources vs nonrenewable resources - impact of

their uses - big picture re use of resources. e.g., garbage and waste used/produced by each person -cumulative of everyone - recycling/reduce/reuse.

WHERE DOES INFORMATION COME FROM NOW?

Environmental Review Process:

1. Working groups created around an environmental review for e.g. the Diavik working group, which includes people from each Dogrib community. Community representatives can take information to their community from their involvement in that group.
2. Information comes from water board hearings and from lawyers. Occasionally information will be shared at community meetings
3. Mackenzie Review Board process is a public process and is the source of information for people in the community
4. There is a NWT Contaminants Committee with representatives from different levels of Government, Aboriginal organizations, etc. They work together with the community representative to find an appropriate way to present results in the community. When the issue is more regional or territorial the risk assessment is carried out at the federal level. There are local contaminant reps in Sahtu, Inuvialuit, and Gwich'in, as well as Contaminant Committee reps who identify regional health issues.

Medium:

1. TV programs - not necessarily news. do people understand what they watch? some newspapers, some radio.
2. shift more to TV and especially Internet over past few years.
3. Dept. of H&SS tends to deal more with health boards and media resources - limited direct programming.
4. provides support to the regions - e.g. call public meeting re THMs in the water in McPherson.
5. contact experts.

Challenges:

1. limited information available now.
2. political slant to information - people not so interested - more interested in nature.
3. government does not protect 'public interest' - corporate agenda becomes the government agenda.
4. industry a big source - "exploitation" - good to have employment.
5. studies are implemented through needs of industry - know more than we did before -mostly due to development - resource oriented, not environmentally oriented - things are valued as a resource. industry info can appear to be more than it really is.
6. skim critical areas - 10% population show up for a forum - few can understand brochures too much technical jargon - produced by industry.

7. much info not understood, not usable, not geared to community people, not recognize the audience - needs to have practical application. people realize that just because you can't see something doesn't mean its safe.
8. education tends to be in response to issues as they arise.
9. information provided in response to requirements based on a project by project approach in many and varied ways.
10. piecemeal information - e.g. Environment Canada, GNWT, etc.
11. lots out there, but not really used. info hidden, put on shelves.

Other Sources:

1. advocacy groups (like EN) - see this as education - broaden quality of debate.
2. biologists provide information in communities - do people understand??
3. technology helps - e.g. remote sensing, helicopters. creating databases.
4. schools - kids take things home.
5. through elders.

General:

1. Decision-makers rely on bureaucracy - important to work with these people too - e.g. co-management bodies. - increase capacity to make better decisions.

HOW TO BEST PROVIDE INFORMATION?

Medium:

1. A combination of media. Needs and preferences vary from community to community.
2. Community meetings are the best way to share information - everyone goes. Also assemblies held in the community.
3. Public forums pretty good - focus on hunters and trappers, community corporations.
4. Workshops, presentation, radio, etc. - work together with the community to find an appropriate way to present info - prefer interactive medium and try to avoid just providing written information.
5. Schools and school curriculum.
6. Information to schools - another way to get info to adults.
7. Print, radio, workshop or meeting, newsletters, postal system, etc. Etc.
8. A radio (or whatever) in aboriginal languages.
9. Radio station not used much in some communities.
10. Use oral tradition.
11. Activities - hands on. Need interaction. Game kinds of things.
12. Hands on. Component to go out on the land.
13. For teachers/facilitators - need discussion guide - to go with things that already exist.
14. Something door to door - large part of population not go to forum or meeting. Metis Nation surveys show that one-to-one personal communication is preferred method.
15. Some use of Internet.
16. Websites and Internet more accessible. Small communities different - people want printed materials, videos. Depends on audience. Yellowknife has

more options than smaller communities.

17. Visual media are better--posters and videos.

18. print media are least popular.

Process:

1. initiate work at the community level - build capacity. e.g. workshops in the community.

2. Establish community connections over time. Contact key people in the community to talk about issues of concern and find out if there is interest in the community. If there is interest - visit the community, host a workshop bring along qualified resource people who can answer specific questions.

3. traditional knowledge important - can't just walk into community and get info - critical to gather this info. local researchers - people more free to give info, become involved.

Challenges:

1. depends on audience, message, and delivery. budgets also affect. education communications, public education.

2. Provide information in aboriginal languages

3. Use a grade 4 to 6 level of literacy for general public,

4. interpretation - too many terms for people with ESL. Providing information in language suitable for translation, and finding interpreters familiar with technical terminology are both difficult.

5. info overload now - not time to read, let alone think. difficult to be selective. need key points - this is difficult - consider context, different backgrounds, and perspectives.

6. awareness of cross-cultural issues and conceptual differences is important.

INVOLVEMENT IN ENVIRONMENTAL EDUCATION NOW?

WWF - very developed education program and lots of resource materials they can make available to the communities, including textbooks, information pamphlets, etc. has developed a school program called "Schools for Wildlife: Celebrate the Arctic" to be directed to teachers and youth leaders. Two newsletters - Working with Wildlife and an International Bulletin.

Fort Liard Band - would like to train and employ local people in the process of establishing an environmental company (Nahendeh.) in order to provide environmental services.

Interested in maintaining the ability to have a traditional lifestyle - not living in the past, but having the skills to live on the land if they choose. They have an on-the-land camp at Fisherman Lake where there are cabins and they do seasonal programs with the youth where elders are sharing information and skills.

AEA - pamphlets, TV ads, workshops (energy management - aimed at decision-maker people; building systems operator course - technical for facilities operators and maintenance staff).

Dene - infomercials re contaminants in 5 schools - kids get info and write script and do filming - put together for 1/2 hour show as well as use separately. another project - poster contest - prize money for science related resources.

CARC - advocacy perspective. operate at policy level. Northern Perspectives. website. mailings to raise money. partner in projects e.g. Lutsel k'e with Brenda Parlee.

ABE - science curriculum, special workshops/projects. general lack of resources, books, etc.

Dogribs - WKSS involvement. traditional knowledge committee (Alicia and researchers do work). canoe trips - ID grave sites, place names, stories, etc.

Metis Nation - very involved in environmental education, especially about contaminants and health. Front-line training for northern community professionals dealing with contaminants and health/nutrition. Northern Contaminants Education Program for schools. Has developed numerous resource materials. Addresses all environmental concerns of members.

PARTNERSHIP WITH ECOLOGY NORTH??

- WWF is open to partnership with Ecology North and has funding available to Aboriginal organizations/communities. Would consider funding partnerships with EN - but would require some resources to come from EN. WWF is not interested in considering work in areas outside their mandated focus.
- Gov't department could see the possibility to maybe partner on resource material development or provide support through participation in public meetings.

ENVIRONMENTAL EDUCATION NEEDS ASSESSMENT SUMMARY OVERALL SUMMARY AND RECOMMENDATIONS

The greatest needs and opportunities seem to be in the following areas:

- *connecting environmental education and traditional knowledge / culture-based education* the need most consistently identified by educators.
- *providing information on northern natural history and northern issues*
lots of interest in northern nature; issues related to sustainable development, and information that will allow informed decision-making. Topics identified as priorities:
 - basic natural history and ecology of the north: wildlife, water, rocks, plants, etc.
 - climate change: implications for the north
 - impacts of mineral, oil and gas development
 - forestry, especially effects of fire

Delivery approaches / media which should receive primary consideration:

- *development of programs*
great demand for hands-on, experiential, outdoor programs, from half-day to residential camps; ideal to have planned programs--e.g. series of events scheduled and promoted in advance so teachers can plan to use them.
 - *short programs*: potential for multiple audiences--schools, public, tourists--e.g. RWED day camp, series of nature hikes with various themes; also professional development workshops for teacher; NWT-wide contests.
 - *long programs*: e.g. camps--great demand, especially for on-the-land experiences that are not too remote (i.e. expensive), that incorporate traditional knowledge, access to elders, and hands-on "real" science. Need partners. One model that is well established is the Rediscovery Program (Barb Cameron, PWNHC, is quite interested in this).
- development of educational resources and materials
 - Internet-based: e.g. Ecology North Web site with educational info and activities that can be used by teachers, Aboriginal organizations; flexible; wide-reaching.
 - curriculum support resources for teachers: Is this a role Ecology North should take on? Maybe it shouldn't be our role, but it seems there is a need which is not being filled. Pro-development materials *are* being developed and promoted for schools by mining, oil and gas industries. Would need solid funding, and cooperation with educators from earliest stage of development.
 - *educational posters*: apparently well-received by schools and communities
- public forums: provide information on issues from multiple perspectives; promote awareness and discussion, encourage informed decision-making.
- development of environmental education facility: lots of demand for this, but obviously not within our means for now; merits consideration as long-term goal with partners.

Means: how do we do any or all of this?

- *consider user-pay approach*: time to make ourselves sustainable and to give our work some value? this may be the way to go. Encouraged by project steering committee. Schools have money for programs, especially culture-based e.g. it costs a lot to go to Blachford camps, but a few classes do it. Tourists will also pay.
- *actively develop partnerships*:
 - *schools*: teachers and administrators seem open to suggestions; St. Pat's open to facility-sharing arrangements with community groups--i.e space in exchange for programs.
 - *other organizations*: depending on the project, potential for partnerships with Dene Nation, NWT Literacy Council, Prince of Wales Northern Heritage Centre, Arctic Energy Alliance, other ENGOS
- *research funding opportunities*: in particular for "up-front" funding that will allow us to develop programs/projects that can be delivered on a user-pay basis, making us sustainable in the long-term. Can we get our charitable status renewed?
- *consider separating education and advocacy*: i.e. start a separate organization focused on environmental education. A last resort, perhaps, but needs to be considered, especially if Ecology North is unable to renew its charitable status. Advantages of this approach:
 - should be able to get a charitable status for education
 - would allow involvement of people who tend to be "scared away" by the advocacy side of Ecology North, especially when our position is unclear, and government employees who would like to be involved but face conflict of interest.
 - strong education can support advocacy by providing information.Disadvantage: a lot of work to get started!

General guidelines and things to keep in mind for all projects

- Be clear about our message
- Be clear about our objective--what do we want to achieve with each project?
- Be clear about our audience
- Be clear about our capacity--is the project "sustainable"? Start small and build on successes.
- Choose an appropriate means / medium: pay attention to literacy and cross-cultural issues.

Suggested projects for short-term consideration

- training for interested members to learn how to develop and maintain a Web site. Participants would be required to put one information item or educational activity on the Web site, and offer some volunteer time for updating the site.
- develop a curriculum-integrated resource package for teachers on climate change and implications for the north.
- develop an information package for policy-makers on the same topic.
- develop a modest program that could be offered to schools, tourists, public--e.g. a series of several walks and/or presentations on local natural history and ecology; a series of presentations / interactive activities that discuss impacts of development and economic alternatives; sustainable living...?
- coordinate a public forum on ???--climate change, mineral development, alternative economics, sustainable living....
- work with NWT Literacy Council to develop relevant materials.
- develop educational poster(s)--on what topic, what message?
- sponsor contest for Yellowknife / NWT schools that will involve families--theme, message, objective?
- research and develop supermarket tours to focus on issues of globalization vs. local economies.

ENVIRONMENTAL EDUCATION ACTION PLAN

Next Steps

- Board review results of assessment.
- Choose a short-term project for proposal development.
- Continue and build on video series, natural history activities, newsletters, volunteer potluck.
- Focus on Earth Week to raise awareness of Ecology North, northern natural history and environmental issues.
- Pay attention to public response to Earth Week and evaluate success of different activities.

Short-term initiatives

Board of directors

- Considering results of environmental education assessment, discuss and agree on Ecology North's role and focus in environmental education.
- Decide on appropriate approach(es) to environmental education and take action to implement and build capacity
 - user-pay: develop "pilot" program for summer, fall
 - seek funding (fund-raising committee)
 - determine if charitable status is possible
 - develop database of funding sources
 - maintain schedule of proposal deadlines for government programs and remind board and members (through newsletters, e-mails)

- create new organization to focus on education
 - find out what's involved
 - meet with other interested educators

Education committee

- Discuss environmental education role, focus, priorities with Board.
- Actively recruit new members--phone members who filled out environmental education volunteer survey.
- Coordinate initial project if proposal is accepted.
- Actively develop partnerships
 - set up initial meeting with interested educators (see list with project report) before the end of the school year. Determine level of interest, commitment, focus, priorities.
- Identify several priority projects that we can successfully carry out during next school year (school-related or not).
 - seek funding, partnerships, and/or volunteer commitment

Long-term initiatives

- Develop ideas for connecting environmental education with traditional knowledge / culture-based education.
 - discuss with Dene Nation, educators, PWNHC
- Consider involvement in larger, longer-term projects e.g. camps, Rediscovery Program, development of facility.

Name / e-mail	Organization	phone (w)	phone (h)	fax	
Jeff Seabrook Jeff_Seabrook@learnnet.nt.ca	Mildred Hall 7/8	873-5811	920-2414	920-2931	**
Arlene Bell	Sissons 4				
Ruth Bennington Ruth_Bennington@learnnet.nt.ca	Sissons 2	873-3477	873-6326	873-4535	**
Carrie Cummins	Sissons K-5				
Carmen Gobeil Carmen_Gobeil@mail.ycs.nt.ca	St. Joseph 4				
Yasemin Heyck yasemin_heyck@learnnet.nt.ca	NJMcP 5	873-4372	873-2458	873-4638	**
Brigitte Bergeron	Allain St-cyr 2/3				
Wade Carpenter w_carpenter@learnnet.nt.ca	Sir John bio, env. sci.	669-0773	444-1354	873-3630	**
Warren Cummins	St. Pat's sci, WL	873-4888			**
Pete Hardy peter_hardy@ycs.learnnet.nt.ca	St. Pat's sci 10-12	873-4888			
Gordon Breen	Wm Mac, princ				
Clive Whitfield clivewhitfield@hotmail.com	Wekweti (Snare L.)	713-2100		713-2200	**
Tim Wooldridge	Wha Ti, Mezi Community School				
Kern Von Hagen	YCS, supt				
Barb Cameron	PWNHC	873-7551		873-0205	**
Wendy Stephenson	PWNHC	873-7551		873-0205	
Brenda Hans	RWED	873-7779			**
Nolan	Deh Cho DEC				

Swartzentruber

Judy Farrow

Metis Nation

Ingrid Kritsch

GSCI

Environmental Education Needs Assessment and Action Plan for Ecology North Northwest Territories

Appendices:

Environmental Education Needs Assessment
(Survey Form)
Financial Statement
Proposal for Funding for New Project

Report to:
Community Animation Program
EcoACTION 2000
Environment Canada

April, 2000

ENVIRONMENTAL EDUCATION NEEDS ASSESSMENT

Ecology North wants to assess the needs associated with environmental and land-based education in the NWT. The information will be used to create an action plan for the development of environmental education materials, resources, and/or activities.

Ecology North is a nonprofit, grassroots organization that promotes environmentally sustainable living. Education is one priority of the organization. We broadly define environmental education to include northern ecology, natural history, conservation issues, and links between the environment, health, culture and lifestyle choices. We have identified two trends that indicate possible needs associated with environmental education: 1) more interest in integrating environmental education in school programs; and 2) public input to decisions about land use and resource development, that should be based on diverse perspectives, and that considers real options and alternatives.

Please complete this questionnaire. Your input as an educator is essential and appreciated. Please return this questionnaire to your workshop facilitator at the Educators' Conference.

OR - Mail/Fax to: Marianne Bromley, Box 1177, Yellowknife, NWT X1A 2N8
Fax: 873-6379 BY DECEMBER 10, 1999

GENERAL INFORMATION

Your Name: _____
School & Community where you teach: _____
Grade(s) you teach: _____ Subject(s) you teach: _____
Language(s) of instruction: _____

YOUR INVOLVEMENT IN ENVIRONMENTAL EDUCATION

1) Many schools offer environmental education activities. Examples are: land-based culture and/or science camps, classes as part of the curriculum (eg. Environmental Studies, Wildlife Management), school/class projects (recycling, energy conservation), extracurricular clubs, special events (field trips, celebrations).
Please list all the environmental and/or land-based education activities you've been involved with in the past 3 years. (Don't limit your answers to examples given above).

2) From your list in question 1), please choose the 3 activities you liked best, and for each activity identify: purpose, age group, frequency, how initiated, resources required, and why you liked the activity.

Name of Activity: _____
Purpose of Activity: _____
Age Group involved: _____
Frequency of Activity: _____
Who/how activity initiated: _____
Resources required (people/materials): _____

Why did you like this activity? _____

Name of Activity: _____
Purpose of Activity: _____
Age Group involved: _____
Frequency of Activity: _____
Who/how activity initiated: _____
Resources required (people/materials): _____

Why did you like this activity? _____

Name of Activity: _____
Purpose of Activity: _____
Age Group involved: _____
Frequency of Activity: _____
Who/how activity initiated: _____
Resources required (people/materials): _____

Why do you like this activity? _____

3) Please list all the resource materials you have found valuable for environmental education activities. (Examples are: Project Wild Teacher's Guide, RWED Wild Times newsletters, Contaminants in Northern Canada, Science Lesson Plans).

WHAT INFORMATION IS NEEDED?

4) Identify up to 4 topics or themes where more information is most needed for you and the students you teach. Please give specific examples.

- Nature (eg. plants, animals, water, air, geology geography)
Specific example(s): -----

- Principles of ecology (eg. food chains, populations, carrying capacity, cycles)
Specific example(s): -----

- Environmental issues (eg. resource development, contaminants, waste)
Specific example(s): -----

- Traditional Knowledge
Specific example(s): -----

- Links between environment, health, culture, lifestyle choices
Specific example(s): -----

- Other -----

- Other -----

HOW SHOULD THE INFORMATION BE DELIVERED?

5) Identify up to 4 resources that would be most helpful for you and your students to have effective environmental education activities. Please give specific examples.

- Subject-integrated activity guides (eg. Project Wild)
Specific example(s): _____

- Reference materials
Specific example(s): _____

- Thematic newsletters
Specific example(s): _____

- Outdoor classes
Specific example(s): _____

- Land-based camps
Specific example(s): _____

- Central facility (eg. ecology centre)
Specific example(s): _____

- Resource people
Specific example(s): _____

- Professional development workshops
Specific example(s): _____

- Other (please describe) _____

- Other (please describe) _____

6) Is more emphasis needed on environmental education? yes no
If yes, what are the obstacles? What opportunities would provide more emphasis?

If no, why not?

7) Is there anything in the area of environmental or land-based education that you have dreamed of doing, but for one reason or another have been unable to do? Please describe your idea(s), obstacles and/or opportunities.

8) What opportunities, if any, do you envision for partnerships between Ecology North, schools and other organizations involved with environmental education?

Do you have any other comments?

We anticipate having a focus group to discuss the issues in this survey in more detail. If you are interested/willing to participate in this discussion, please tell us how we can contact you and when you are most available.

phone (home/work): _____

fax: _____

email: _____

When most available: _____

Thanks for taking the time and energy to complete this questionnaire.

Ecology North.

This project is funded by Environment Canada and Health Canada through the Community Animation Program

Essentially we are trying to find out if there is a need for more education/information on the northern environment and environmental issues, what kind, how it should be delivered, and what Ecology North's role could be.

Questions for environmental NGOs, e.g. CARC, CPAWS, World Wildlife Fund:

- 1) What are the major environmental issues that your organization is addressing or wants to address?
- 2) How can we (ENGOs collectively) best inform/educate the public about these issues?
- 3) Are you involved in providing environmental information/education now? How?
- 4) Do you see opportunities for partnership with Ecology North in this area? What kinds of projects? What form of partnership? Examples might be developing funding proposals together to work on joint projects, providing in-kind support (time, supplies, distribution of materials or information, other creative possibilities...!)

Questions for Aboriginal organizations and others needing information on environmental issues:

- 1) What are the issues you are dealing with regarding the environment?
- 2) What kinds of information/education do you need to make informed decisions about these issues?
- 3) To inform members of your community/organization about these issues, what delivery method is best: audio-visual (TV, radio, video); print (what format?); workshops or education programs?
- 4) Currently, where do you get the information you need to address these issues?

**Community Animation Program
Final Financial Report**

Name of Group:
Ecology North

Address:
5013 - 51st Street
Yellowknife, NT X1A 1S5

Project No.

Funds spent as per approved budget:

Expenditures	Community Animation Program Authorized Budget	Amount Spent	Balance
A. Personnel	21 days @ \$300/day	\$6300.00	\$700.00
B. Travel			
C. Materials	Phone/fax \$300	\$ 52.97	\$647.03
D. Equipment			
E. Rent/Utilities			
F. Evaluation			
G. Other (Specify)	\$400 (Administrative overhead)	\$ 400.00	\$247.03
Total Budget	\$7,000	\$6752.97	\$247.03
Interest Earned			
Total	\$7,000	\$6752.97	\$247.03

Signature of Designated Signing Authority:

A. Barwick

April 6, 2000

Teresa L. Chilkowich
Project Officer – EcoAction 2000
Community Programs
Prairie and Northern Region
Environment Canada
#200, 4999 – 98 Avenue
Twin Atria #2
Edmonton, AB T6B 2X3

Proposal and Request for Funding

Organization Requesting Funding:

Ecology North
5013 – 51st Street
Yellowknife, NT X1A 1S5

Telephone (867) 873-6019
Fax (867) 873-9195
E-mail econorth@ssimicro.com

Description of Ecology North:

Ecology North is a non-profit volunteer organization whose mission is to protect the environment by promoting environmentally sustainable living through environmental education and involvement of communities in the northern regions of Canada. Ecology North has a history of 29 years of promoting awareness of northern ecology and conservation issues and the core values of the intrinsic value of the land as it relates to the experience of people with nature and the maintenance of quality of life.

Over these years Ecology North has sponsored natural history activities and promoted environmental education and conservation. Throughout all this the responsibility that we all share for the environment has been emphasized. Ecology North is run by volunteers and addresses issues primarily at the community and Territorial levels, as well as addressing national concerns and those of a cross boundary nature.

Project Background:

Ecology North received funding from the Community Animation Program, EcoAction 2000, Environment Canada, to conduct an assessment of the status of and need for environmental education throughout communities in the NWT. The project required the development of an action plan for environmental education in the NWT based on the survey results.

The project consisted of:

- Surveys of educators, representatives of Aboriginal and environmental organizations
- Development of a preliminary Ecology North action plan for environmental education based on the survey results
- Development of a funding proposal for one of the projects identified as a priority

Recommendations from the report highlighted the following:

- Connecting environmental education and traditional knowledge
- Providing information on northern natural history and northern issues
- Delivery of programs
- Development of educational resources and materials
- Public forums
- Development of environmental education through a facility promoting environmental education

Description of Project Proposed for Funding:

A list of possible projects was developed during the study and reviewed by the Ecology North Board. Of the list of possible projects outlined in the report one was selected. The project was selected at the Board of Directors meeting on March 8, 2000.

The Board selected a project that would assist in the training of interested members in the development and maintenance of a Website for Ecology North. As part of their training participants would be required to put one information item or educational activity on the Website, and to offer volunteer time for updating the site. Trained personnel would subsequently be available to train other members, and to set up a program for updating and monitoring. Funding would also provide for the establishment of the site throughout the training period. Training would be provided through a contract with a local consultant.

This project would bring together many of the recommendations and other projects proposed in the report as outlined following.

- The Website would be a step in enhancing and strengthening our focus on environmental education by Ecology North for students, teachers and the general population throughout northern communities. Curriculum support would be provided and partnership with schools would be increased.
- Access to traditional knowledge would increase. This would be complemented by information from the communities. This information would be available to, and complemented by teachers, students and Elders.
- Development of the Website would also assist in contacting volunteers for assistance in other projects undertaken by Ecology North.

- Awareness of Ecology North would grow as a trunk with the Website providing branches throughout northern communities. This would assist Ecology North in becoming a stronger NWT wide organization and permit links to other environmental groups in northern regions, as well as links throughout the north regarding environmental issues. This is important because of distances involved and the isolation of some communities. Links to southern areas and the ability to communicate with them would also be enabled by this development.

Process:

The consultant would conduct training sessions with two course participants and would assist in the design of the Website in collaboration with the participants, monitoring the development of the initial information items to be put on the Website.

Specifics of the site design and pages would be monitored and approved by the Board of Directors of Ecology North.

Budget:

<i>Task</i>	<i>By</i>	<i>Cost</i>	<i>Comments</i>
Website Training	Consultant	40 hrs.@ \$50.	\$2000. Introduction to Website
Website Training	Participants	40 hrs.@ \$50.	\$2000. Introduction to Website 2 @ \$25/hr per participant
Website Design	Consultant	20 hrs. @ \$50.	\$1000. In collaboration with participants as part of training
Website Design	Participants	30hrs. @ \$60.	\$1800 With consultant as part of training 2 @ \$30/hr per participant
Program Development, Training of Members	Participants	40 hrs. @\$60.	\$2400 2 @ \$30/hr per participant
Upgrades for computer required for Website development and maintenance	For Ecology North Website Program		\$2500
Project Administration			\$ 585 At 5%
Total:			\$12,285

Schedule:

Dates will be determined on notification of funding and availability of consultants. Following are estimated time frames.

Website training	2	weeks
Website design	1.5	weeks
Program development	2	weeks
Training of other members		ongoing

Conclusion:

Ecology North has had a successful history in increasing awareness of and responding to environmental concerns in the NWT and Nunavut since 1971. As a grassroots non-profit organization relying on volunteer energy Ecology North has worked on conserving the northern environment by promoting ecologically sustainable living.

Funding of this project will assist in disseminating information on northern environmental issues and contributing to the health of the northern environment and its residents.

Contacts for further information:

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