

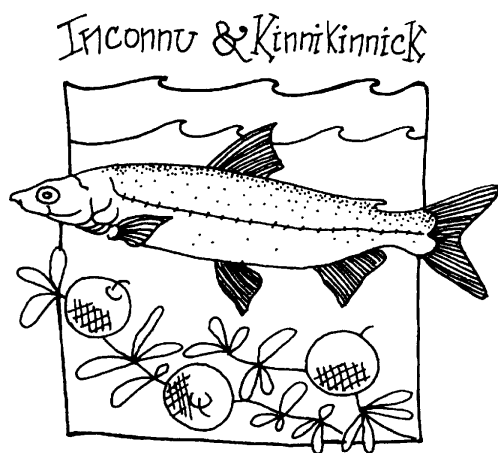
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# Module 1

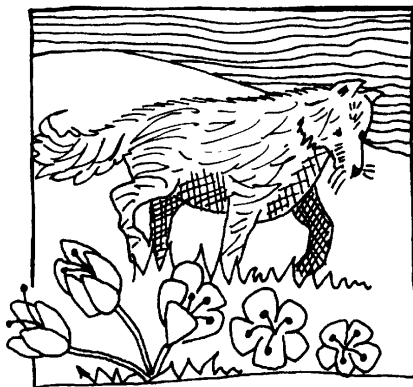
## Biodiversity:

### The Spice of Life

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coyotes & crocus



# MODULE 1. BIODIVERSITY: THE SPICE OF LIFE

## Learning outcomes

Activities (page) Curriculum connections	1-4	1-6	1-8	1-14	1-16
	Social Studies	Language Arts	Language Arts	Social Studies	Science
Science	Science	Science	Fine Arts	Language Arts	
Language Arts		Fine Arts		Social Studies	
Fine Arts				Fine Arts	
<b>Knowledge</b> — In these activities, students will learn more about:					
1. reasons for preserving biodiversity in their communities;		•		•	•
2. how human habitation changes biodiversity within a community;	•				•
3. terminology related to biodiversity;		•		•	
4. different perspectives related to biodiversity.	•	•	•	•	•
<b>Attitudes and Values</b> — Following participation in these activities, it is hoped that students will:					
1. express perceptions and feelings about biodiversity through the arts using all senses and expanding on their curiosity and wonder;	•	•	•	•	•
2. demonstrate empathy for all living organisms;		•	•	•	•
3. demonstrate an awareness and appreciation of aesthetic values of the natural world.			•	•	•
<b>Skills and processes</b> — Through these activities, students will practise their ability to:					
1. carry out investigations;	•			•	•
2. communicate and discuss issues;	•	•		•	•
3. work cooperatively.	•	•		•	•

## Activities legend

- 1-4 Biodiversity Stories from the Family
- 1-6 Biodiversity Stories from the First Nations
- 1-8 Biodiversity through the Images of Poets & Performers
- 1-14 Biodiversity Through the Perceptions of Artists
- 1-16 Reach Out!

## A WORD TO THE TEACHER

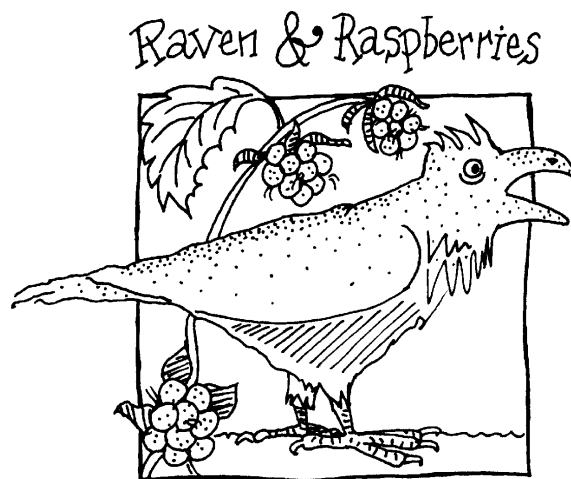
*Biodiversity: The Spice of Life* presents the heart and soul of biodiversity through the voices of First Nations people, poets, artists, musicians, scientists and your students. Use these activities to launch a unit or school theme on biodiversity; integrate biodiversity concepts in all subject areas and create empathy for life.

### Focus on student experience

1. Find out what your students already know. \*
2. Take a walk—through a park, the school grounds, a supermarket, or a museum. Record observations about the variety of things your students see and launch your study from there. Generate a set of questions on diversity from students.
3. Read ads in the newspaper from food stores or collect observations from television ads about the diversity of food products available.
4. Read an animal or plant story or novel. Use it as a springboard for a research project on a plant or animal. Go from there to other studies in biodiversity.

### \*Suggested questions

1. Have you ever heard the words *biodiversity* or *biological diversity*?
2. Can you name three animals in the world that are endangered?
3. What causes animals and plants to become endangered?
4. Why is it important to have protected areas in different parts of the Yukon?



## BACKGROUND

*In the end, we will conserve only what we love,  
we will love only what we understand, we will  
understand only what we are taught.*

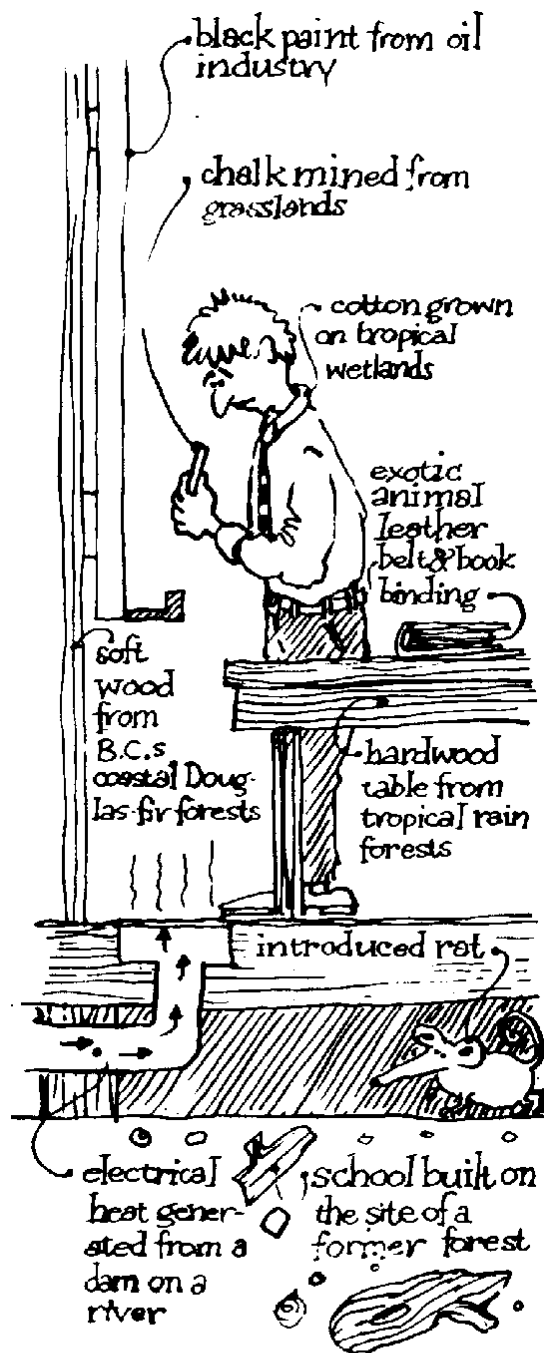
Baba Dioum

The Yukon—with its variety of climate and geography—is a home that is easy to love. It is also a home that we share with many other animals and plants. All forms of life have value and play a role in the cycles of life on the planet.

*Biological diversity*, or *biodiversity*, is a term used to describe the variety of life on Earth—plants, animals, fungi and micro-organisms. As a concept, it includes ideas related to the variety among these different living things, the processes by which they live and the interrelationships with the places where they live.

Our health, spiritual values and survival are dependent on conserving the variety of life on Earth. Everything we eat is a gift from the Earth—the result of an awesome combination of earth’s processes that involve millions of living things, large and small. Without worms, most soils would grow nothing. Without bacteria, garbage would never decay to provide food for plants. Without bears and wolves, sick animals would survive to infect the healthy ones.

Life on our earth is a balancing act that has been going on for more than three billion years. We humans think we have insulated ourselves from this balancing act with our heated homes, our supermarkets, our running water and electricity. But look around your home and school at the items we use that involve materials that were formerly living or that involve processes which affect the lives and homes of other animals. We need to understand how our lives connect with the lives of plants and animals in order to act in more caring ways toward them.



**Activity idea - examine the objects in your classroom & make the connections to biodiversity.**

Another really important reason for preserving plants, animals and their environment is that there is so much we don't know about them. We don't know whether a plant or insect carries a secret cure for cancer. We don't know how certain plants may contribute to the health of other plants; we don't even know how many living things there are on Earth!

Many scientists, artists, poets, storytellers, television producers and musicians write about their love for the living things of Earth and the places where they live. We can learn a lot from their look at *biodiversity*.



### Key points

1. We share our territory with many different plants and animals in many different climatic and geographical areas.
2. Learning and caring about the variety of living things and the places where they live is part of the study of biodiversity.
3. Our survival depends on preserving biological diversity.
4. We need to care about the living things in our world in order to protect them. To care about them, we need to understand them.

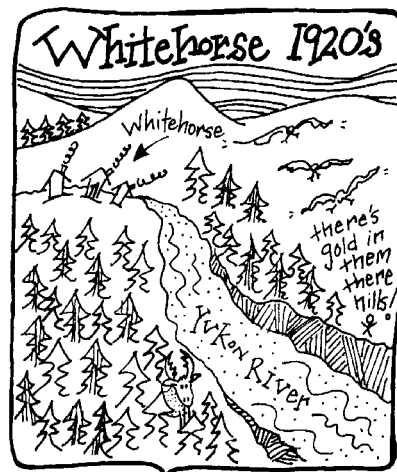
## BIODIVERSITY STORIES FROM THE FAMILY

### Aim...

To help you identify and discuss the changes which have occurred in your community over time and which may have affected its biodiversity.

### Ready...

Most Yukon communities have experienced changes because of technology, the increasing numbers of people and the effects of human activity such as mining, logging, farming, tourism, cars and housebuilding. Often these changes were made without considering the effects on the natural environment. The long-term residents in your community can tell you about these changes.

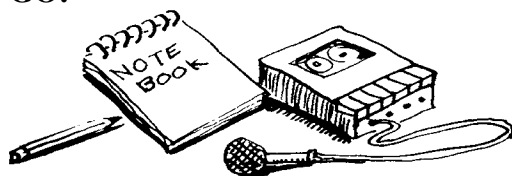


### Set...

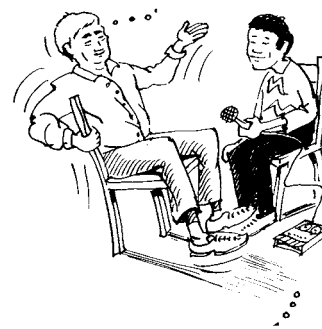
Prepare for an interview with two older people who have lived most of their lives in the community. Make the arrangements. Explain that you are doing a project on the human and natural history of your community.

For your interview you will need:

### GO!



Note:  
Make sure you have the person's permission to record them.



Ask the people you are interviewing the following questions:

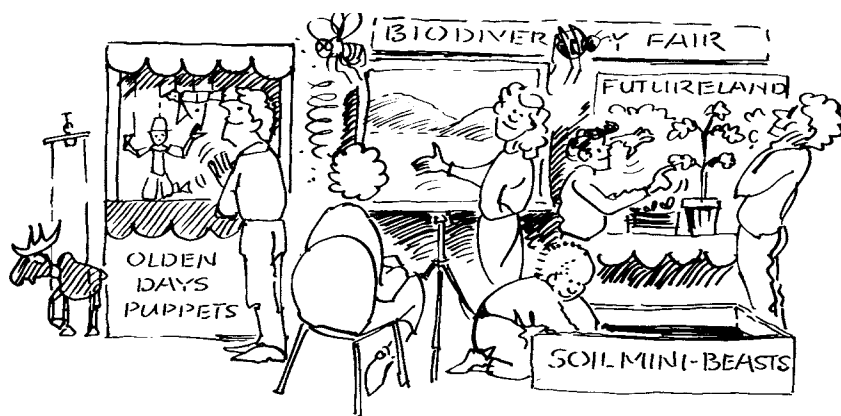
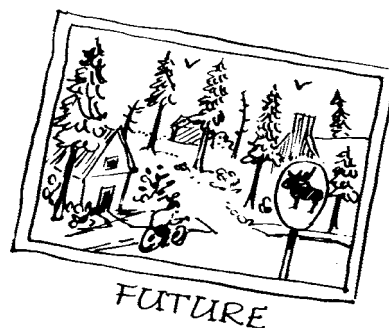
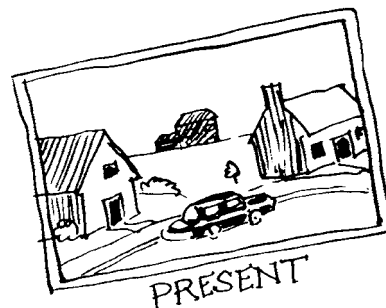
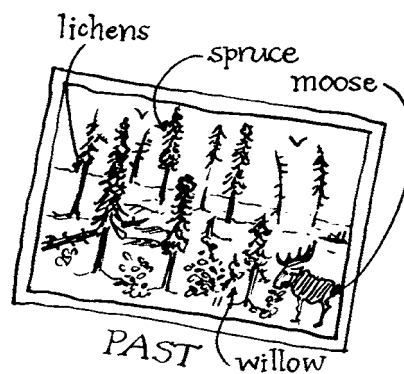
1. What was the land in our community like when you were younger? What kind of trees grew? What kind of flowers were there? What kinds of wildlife did you see? How did the natural life change from season to season?
2. What has changed as our community got bigger? Why did it change?
3. What changes would you like to see in the future? What would you like to bring back from your youth?
4. Add your own questions.

Record their answers carefully in your notebook. Even little details will be important for the projects you will do next.



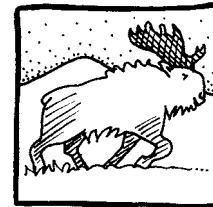
**Follow-up**

1. Now imagine that you have entered a time machine. Set the machine for a year when one of the people you interviewed was young. Draw a picture of what your community looked like back then. Draw a picture of what it looks like now. Now set the controls for a date sometime in the next century. Then draw what you would like it to look like in the future. Pretend you live in either a past or future time; write about a day in your life.
2. Create a past, present and future poster of your community. Here's how!!
  - Record the answers to your questions in an interesting frame or border you draw or create on the computer. Try to find some old photographs of your community; photocopy them if you need to. Organize your answers and photos on a poster under the heading The Past.
  - Take some photos of the way things in your community look now. Mount these on your poster under the heading The Present.
  - Next draw or describe a feature of your community which you hope will be preserved or restored in the future. It could be a feature in your backyard or it could be a more ambitious community project like a restored creek bed. Mount your drawings or write-ups on the poster under the heading The Future.
3. Present the results in a class fair and invite your interviewees into the classroom.



*Activity idea: Develop stories into puppet shows, slide shows...*

# BIODIVERSITY STORIES FROM THE FIRST NATIONS



## Aim...

In this story and song, you can explore the creation of animals which now inhabit the Yukon and the relationship between humans and animals.

## 1. *Game Mother*, as told by Mrs. Angela Sidney, Tagish (1902-1991)

### Ready...

First Nations stories are part of an oral tradition, where stories are told rather than read or written. This excerpt of a story comes from a tape recording and transcript of Mrs. Angela Sidney, a deceased First Nations elder from the Tagish and Tlingit ancestry of the *Deishetan* (crow) clan. The story was recorded by Julie Cruikshank in 1977.

### Set...

Try reading this story excerpt out loud. Imagine a setting: Perhaps people sitting in a circle around a fire or perhaps a moonlit summer night under the mountains around Bennett Lake.

***Game Mother***: This is an excerpt from a story of how game animals came to be.

*Here she start to grow, bigger and bigger and bigger like that. And she wouldn't go anyplace, wouldn't travel around. She was just so big.*

*Springtime, that's when the time animals are born. She told her husbands, "It's no use (waiting) because I'm no good to you people. You'd better go on your own. Just leave me right here. But make a better housecamp for me." That's what she told them. "If you want to, you can watch me from a long ways away, from on top of the mountain."*

*Anyway, they left. They hated to go, but they had to go anyway. They watched, I guess, all the time. I wonder what kind of fieldglasses they got, eh?*

*The first thing they know, moose was born. As soon as those husbands go, those animals came out! Moose had grizzly teeth too, they say. She called it back and she took those teeth out.*

Reference: Dan Dha Ts'edeninth'e (Reading Voices), 1991, Julie Cruikshank, Douglas and McIntyre Ltd. Vancouver, B.C. (Mrs. Sidney's story printed with permission from Julie Cruikshank)

## GO!

1. Locate and read the entire "Game Mother" story, as told by Mrs. Sidney. Locate and read other versions of this same story. Read other stories from aboriginal cultures about nature and the relationship between living and non-living things.
2. Invite a storyteller into your classroom to listen to their stories. What are the qualities of a good story? What does a good storyteller do to keep you interested?
3. What are the characteristics of a myth? Write your own myth about things in the natural world near you.



## 2. *Generation Hand Down*, written by Jerry Alfred, Northern Tutchone Nation

### Aim...

In this Northern Tutchone Nation song, you can explore how information about nature was passed down from generation to generation.

### Ready...

First Nations stories are part of an oral tradition-where stories are told (or in this case, sung) rather than read or written. This song was written by Jerry Alfred and is on Jerry Alfred and the Medicine Beat's album *Etsi Shon, Grandfather Song*, Juno Award Winner in 1995 for Best Music of Aboriginal Canada!

### Set...

Try reading the song out loud. Imagine a setting: perhaps people sitting in a circle around a fire or perhaps a moonlit summer night. Have someone play a beat on a drum as background music.

### *Generation Hand Down*

Long ago my grandfather spoke:  
As you look around you see the country all around you.  
The authority lies with Mother Nature.  
Animals too are like people.  
Information was handed down from generation to generation

*\*Thankful chant\**

In the evening the crow is talking  
Long ago people say that was bad luck  
It is a traditional Law.  
Information was handed down from generation to generation

*\*Thankful chant\**

The otter is like people too  
with medicine the otter is like a wizard  
they require a lot of respect  
The owl also speaks various languages.  
Information was handed down from generation  
to generation

*\*Thankful chant\**



Lyrics and photograph from *Etsi Shon, Grandfather Songs* courtesy of Jerry Alfred

### GO!

1. Listen to more songs from aboriginal cultures about nature and the relationships between living and non-living things.
2. Find a First Nations story and create your own music to play to accompany the story.
3. Find and listen to more of Yukon First Nations songs and music. Describe the story that is being told in the music and in the words.

# BIODIVERSITY THROUGH THE IMAGES OF POETS AND PERFORMERS

## Aim...

Poets, artists, storytellers, performers, composers, and songwriters often express deep emotions about the natural world. Read and reflect on:

1. poems by Carmacks resident, Don Marino, and the late Robert W. Service expressing how they feel about the wild places and spaces of the Yukon, and
2. writings from Matthew Lien about the wonder of wolves.

## 1. Wild places and spaces

### Ready...

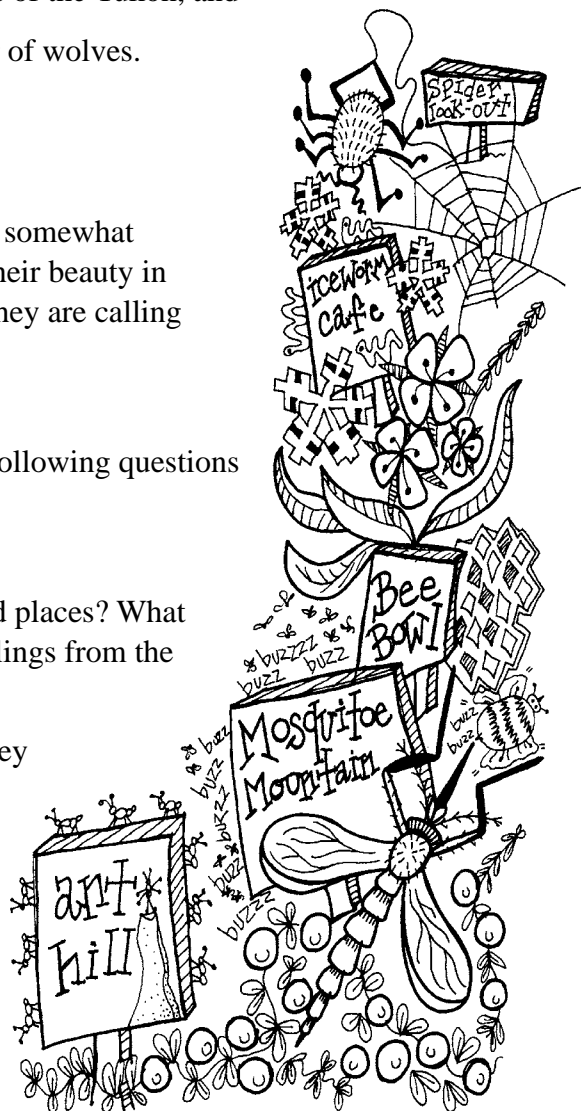
Wild places are ones of incredible beauty, but may go somewhat unappreciated by our senses until a writer expresses their beauty in gripping and beautiful images...follow these words...they are calling you...

### Set...GO!

Read the poems here, and be prepared to discuss the following questions within a group.

### Follow-up

1. How do these poems make you feel about wild places? What techniques do the poets use to evoke these feelings from the reader?
2. How are these two poems similar? How are they different?
3. Write your own feelings about wild places through poetry. Illustrate your poem.
4. Read other poems written about the Yukon.
5. Create your own poems imitating the rhythms used by Robert Service in his poems. Make up your own rhythms for poems.



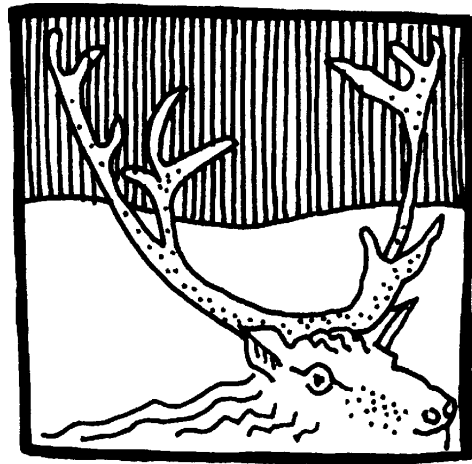
Reference: Steve Van Matre and Bill Weiler, *The Earth Speaks-An Acclimatization Journal*, 1983

**The Call of the Wild**, by Robert W. Service

Have you gazed on naked grandeur  
 where there's nothing else to gaze on,  
 Set pieces and drop-curtain scenes galore,  
 Big mountains heaved to heaven,  
 which the blinding sunsets blazon,  
 Black canyons where the rapids rip and roar?  
 Have you swept the visioned valley with  
 the green stream streaking through it,  
 Searched the Vastness for a something you  
 have lost?  
 Have you strung your soul to silence?  
 Then for God's sake go and do it;  
 Hear the challenge, learn the lesson, pay the  
 cost.

Have you wandered in the wilderness,  
 the sagebrush desolation,  
 The bunch-grass levels where the cattle graze?  
 Have you whistled bits of rag-time at the end  
 of all creation,  
 And learned to know the desert's little ways?  
 Have you camped upon the foothills,  
 have you galloped o'er the ranges,  
 Have you roamed the arid sun-lands through  
 and through?  
 Have you chummed up with the mesa?  
 Do you know its moods and changes?  
 Then listen to the Wild — it's calling you.

Have you known the Great White Silence,  
 not a snow-gemmed twig aquiver?  
 (Eternal truths that shame our soothing lies.)  
 Have you broken trail on snowshoes?  
 mushed your huskies up the river,  
 Dared the unknown, led the way, and clutched  
 the prize?  
 Have you marked the map's void spaces,  
 mingled with the mongrel faces,  
 Felt the savage strength of brute in every thew?  
 And though grim as hell the worst is,  
 can you round it off with curses?  
 Then harken to the Wild — it's wanting you.



Have you suffered, starved and triumphed,  
 grovelled down, yet grasped at glory,  
 Grown bigger in the bigness of the whole?  
 “Done things” just for the doing, letting  
 babblers tell the story,  
 Seeing through the nice veneer the naked soul?  
 Have you seen God in His splendors,  
 heard the text that nature renders?  
 (you'll never hear it in the family pew.)  
 The simple things, the true things, the silent  
 men who do things —  
 Then listen to the Wild — it's calling you.

They have cradled you in custom  
 they have primed you with their preaching,  
 They have soaked you in convention through  
 and through;  
 They have put you in a showcase;  
 you're a credit to their teaching —  
 But can't you hear the Wild? — it's calling  
 you.  
 Let us probe the silent places,  
 let us seek what luck betide us;  
 Let us journey to a lonely land I know.  
 There's a whisper on the night-wind,  
 there' a star agleam to guide us,  
 And the Wild is calling, calling . . . let us go.

**Poem #13**, by Don Marino

Have you watched the sun start rising  
when it's not yet been to bed  
Or wore the winter darkness  
when it wouldn't rise instead?

Seen morning light turn liquid  
Gliding down the mountain's flank  
And the air takes on a texture  
That you saw - and felt - and drank?

Drank in that mist all scented  
With the moss and cranberry  
Did you find it even sweeter  
With the mountains there to see?

Have you heard an eagle screaming out  
His joy for where he is  
Or heard the cranes a-bragging  
On the summer place they live?

Have you played an Arctic Grayling  
'Til at last you set him free  
'Cause you really, really need him  
And he's got somewhere to be?

Have you seen the salmon dying  
That its children might know life  
Then heard the Windsong keening  
On her Piccolo and Fife?

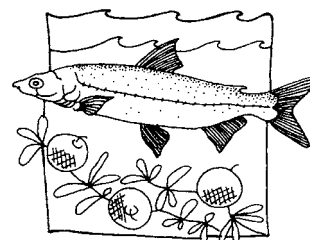
Have you camped where God gets lonely  
And a Loon cry fills your soul  
Heard the breezes singing  
Of the beauty they extol?

Have you heard that winter's coming  
From the honking of the goose  
Slept beside a fire fed  
With ancient stunted spruce?

Or laid awake a watching  
Dancing veils in the night  
And known that it's her lover  
Who inspires the northern lights?



Have you met a tree  
with secrets  
From a century of life  
That scorned your  
insignificance  
Your petty, daily strife?



Have you felt your scalp a-prickle  
When the wolves are singing out  
Your senses swelling  
'Til you had to let them out?

Have you found a camp that sheltered men  
Whose tools were made of stone  
Who might be predator - or prey  
Depending who's at home?

Have you seen the birch spill crimson  
Down a palette redolent?  
The artist never hurrying  
But never indolent.

Played hide and seek with caribou  
Or dodged a feeding bear  
Or heard the clash of antlers  
Tossing echoes through the air?

Have you seen the moon embroidered  
On a satin winter night  
Felt a pang of sorrow  
When it's chased off by the light?

Have you looked to see who won or lost  
All written in the snow  
Or found a hint of magic things  
No man will ever know?

Have you searched for crystal sculpture  
In a glacier cast of frost  
Then took the time to marvel  
At the legend of Bifrost?

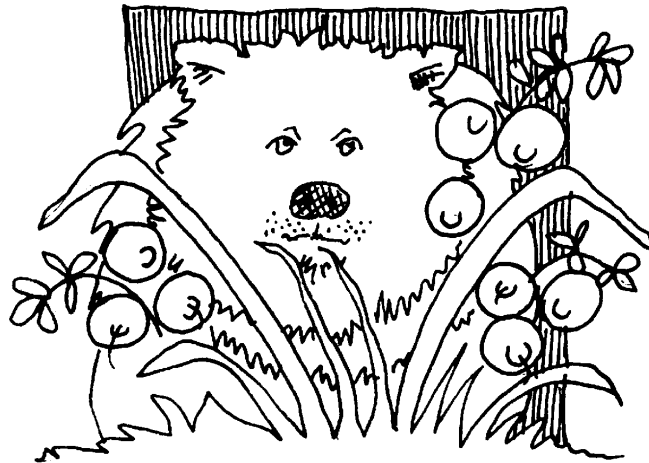
Have you tried to face the Arctic wind  
That humbles mortal man  
That drives you to a hidey-hole  
Take quarter where you can?

Have you tramped a trail on snowhoes  
'Til your muscles burn and scream  
Then traded brush for overflow  
And cursed its very name?

Have you waited for the promise  
Of the crocus claiming spring  
Did you know the worst was over  
When again the wee birds sing?

Have you felt the New come sprouting up  
All sweet and fresh as rain  
Did it fill you with a feeling  
That you never could explain?

Do you wonder if I'm crazy  
Since these things are gold to me?  
Then I doubt you'll understand it  
But you have my sympathy.



### Words of wisdom from Don Marino

*I have been told that a picture is worth a thousand words. How true. But that should not diminish the fact that a few well-chosen words can conjure a thousand images and feelings. A few ill-chosen words can cause a disaster.*

*Communication, be it between a child and parent or two world leaders is such a critical part of our lives. The exercise of reading poetry, to me, can be an exercise of learning to listen to another human being. It is my belief that first you hear, then you listen, and finally (hopefully) you might understand. You may or may not agree, but you just might understand.*

*Writing poetry has too many wonderful benefits to list them all. It might encourage you to improve your vocabulary. It might compel you to strive for clarity. It might licence you to share a thought or feeling. It might even give you a peek at something inside yourself that you didn't know was there. My favourite is easy. For me, it is a pleasure, pure and simple.*

Don Marino lives in Carmacks, Yukon.

*Sigh*  
*\*~\**

## 2. The Wonder of Wolves!

### Ready... Meet Matthew Lien, Performer...

Musician, performer/composer/producer, Matthew Lien expresses his views on wolves through his love of music.

Since the age of 7, Matthew Lien spent much of his time near Haines Junction, on the edge of Kluane National Park. He began to play the piano when he was 10, and continued developing his musical skills without formal training from that time on. As a composer, performer, and producer, he earned Yukon stature with the release of his first solo album, "Music to See By". His second album, "Bleeding Wolves" is a collection of epic pieces full of texture and colour, which celebrates the beauty of nature, life and love and questions some of the cataclysmic dealings of humankind, as conveyed in the album's title track. With 3 Aurora Awards and an East Coast Tour with Susan Aglukark behind him, he has completed national and international tours focusing on Wildlands Project and the Caribou Commons Project. His hope is that, through his art, he may help to make this world a better place for all the life within it.



### Set...GO!

Read Matthew's personal viewpoints on wolf ecology and the inspiration for some of his music.

### Wolves and the Chain

*All things living together in nature are connected like a chain. Everything is equally important, from a tiny berry, to the strongest bear. If you remove one thing from an ecosystem, it would be like removing a link and breaking the chain. Often when we observe nature, we are impressed by how animals behave together, within a social structure that is a lot like our own. One animal that strongly displays this social structure is the wolf. Wolves live together in groups called "packs". Within a pack you will often find parents, grandparents, children (called "pups") uncles, aunts, and friends of the family. Wolf packs live, work and play together much as we do. In the natural world they are very important. In a way, they are the caretakers of the animals they hunt. When wolves hunt they will often chase a group of animals until a weak or unhealthy animal falls behind. By hunting this way, wolves help to keep the herd strong and healthy. When we think of*

WOLF & WOOLLY LOSEWOLF



*how some people hunt, it is often the biggest and strongest animal that is hunted. If we take too many of the strongest animals, only the weak ones will be left to breed, making animal groups unhealthy. Wolves also reflect their environment. If there are not enough animals to hunt, they will not have many pups because they would not be able to feed them. When the animals they hunt have become plentiful again, they begin to have pups. This helps to maintain the balance of nature and the strength of the chain...*

## The Chain Without the Wolves

*I am a musician living in the Yukon Territory. When I write music it is often because there is a feeling inside of me that I want to express. Sometimes it is happy and sometimes it is sad. When I wrote the song, “Bleeding Wolves”, it was because I felt very saddened by what was happening to our natural world. In 1992, it was noticed that in some areas in the Yukon there were not very many caribou and moose. Most people agree that these areas had been over-hunted by people for many years. It was decided that, instead of letting the moose and caribou recover by not letting people hunt them, it would be faster to remove the animals that are also hunting the moose and caribou. So people were sent out to find packs of wolves and shoot them. This would leave more caribou and moose for the people to hunt.*

*Wolves are an important part of the ecosystem. If we remove too many of them, we weaken a link in the chain. If we remove all of them, the chain will be broken. But, what I feel is equally important is that we treat them with respect. We should not cause wildlife any more pain than we as a people already have.*

*In the song, “Bleeding Wolves”, there is an instrument that sounds very bright and clear, almost like a wolf’s howl. With this instrument, called a soprano saxophone, I wanted to express what I thought a wolf would feel if it saw its friend shot from an airplane. My hope is that if enough people hear this sound and are saddened by it, then maybe we will come together and let nature heal by itself, as it has for thousands of years.*



## Follow-up

1. Think of all the things a wolf does in a day. It will wake up, drink from a stream, go hunting, play with friends, and much more. Pick one thing that a wolf does, and write some words about it. This could be like a poem that rhymes or just a few sentences.
2. Think of how to put music to your words. Maybe you could think of a melody to sing the words with, or maybe you just want to speak the words with rhythm while playing a drum or slapping your leg to the beat. Make it a solo piece just for you to perform or get some friends to join your band. I wouldn't recommend setting your guitar on fire though (without asking your teacher first).
3. Congratulations! You have now composed a song. Next, you need to create an album cover for your CD. (My “Bleeding Wolves” cover is shown above.) Try using pictures from a magazine that you can then write your name on, and the name of your song. You may want to try drawing your own picture. Remember, the picture does not always have to be a wolf. For instance, if the song is about a wolf drinking from a stream, then a stream might make a good CD cover, or a glass of water with a straw. Let your imagination guide you. In the end, what is important is that you are expressing what you feel, not what you think someone else wants to hear. If you do this, then you can't go wrong!

Information written by Matthew Lien; image courtesy of Matthew Lien and Whispering Willows Records Inc., Whitehorse, Yukon

### 3. What's That, Habitat?

#### Ready... Meet Remy Rodden, Environmental Educator and Eco-Performer...



Yukon teachers may recognize Remy Rodden for his involvement in Yukon's environmental education community. For the last couple of decades, he has been Environment Yukon's coordinator for environmental education and youth programs, and was a founding member of the Environmental Education Association of Yukon (EEAY).

But he is also known as a singer-songwriter with an environmental focus. You may see him at festivals, concerts and schools around the territory and beyond. His CD release *Think About the Planet* is known as a "not-for-kids-only album of environment and conservation songs...for fun and for learning.

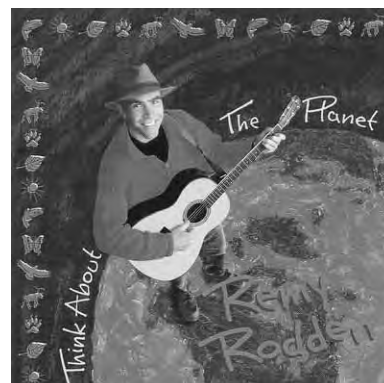
Remy has found that music and singing are effective ways to enhance environmental learning. Singers tend to remember the content of the songs better than simple memorization, he says, and the melody helps the words go to a "deeper place" that may encourage lasting positive environmental behaviours.

#### Set...GO!

Remy's song "Bio-Diversity" (lyrics opposite) provides a simple introduction to the concept of biodiversity. Have students listen to the song (available online, see below) and/or read the lyrics. Encourage a sing along with the chorus, or have the class or choir learn the song and present it at a school assembly for April's Yukon Biodiversity Awareness Month or Earth Day, April 22. It'd be a challenge for one of the children to read out or memorize the long lists of plants and animals!

#### Follow-up

1. The lists of plants and animals are taken from the CITES (Convention on International Trade in Endangered Species of Wild Flora and Fauna). Have students each pick one of the species listed and do a research project and presentation on their special animal or plant, explaining why it is on the CITES list. (Note that Module 4 of this resource covers Endangered Species/Endangered Spaces in greater depth...come back to this song when you do that section!).
2. Have children write their own song about a biodiversity topic of their choice, set to the tune of a familiar song like "Mary Had a Little Lamb". Songs can be presented to their classmates or in a school assembly, or even recorded for a collection to send home to parents.
3. Invite Remy into your classroom to sing a few songs. He is able to lead environmental music sessions as part of his education role at Environment Yukon. Call 667-3675 to contact Remy.





## Bio-Diversity

lyrics © 1997 Remy Rodden from the album *Think About the Planet*

*Bio-diversity,  
Mother Nature sings this song  
Bio-diversity,  
I hope that you will sing along*

Bio means life (as in biology)  
Diversity means lots of variety  
Healthy ecosystems need different living things  
And if you listen closely you can hear them sing

*Bio-diversity,  
Mother Nature sings this song  
Bio-diversity,  
I hope that you will sing along*

‘Cause every living creature has its place  
They need food, shelter, water, space  
So let us do our part to help them all survive  
By keeping their habitat alive

black bear, grizzly bear, smallmouth  
salamander, barn owl, pallid bat, golden seal  
and stoneroller, Squanga Lake whitefish,  
walrus and king rail, blue racer, red root,  
hop tree, beluga whale, heart-leafed  
plantain, soapweed and sea otter,  
green sturgeon, Athabaska swift

whooping crane, swift fox, spotted owl,  
spotted bat, blackstripe topminnow,  
Ord’s kangaroo rat, wood bison, wood  
poppy, mountain plover, great auk,  
Englemann’s quillwort, blue ash and  
Cooper’s hawk, marbled murrelet,  
right whale and colicroot, grey fox,  
loggerhead shrike

*Bio-diversity,  
Mother Nature sings this song  
Bio-diversity,  
I hope that you will sing along*

‘Cause every living creature has its place  
They need food, shelter, water, space  
So let us do our part to help them all survive  
By keeping their habitat alive

hairy-nosed wombat, timber wolf and  
grass owl, dove flower, bog turtle,  
pitcher plant and rock fowl,  
Madagascar boa, peregrine falcon,  
black coral, grison, weaver and dolphin,  
coelacanth, bush dog, bobcat and  
bullfrog, crocodile and hippopotomus

aardvark, egret, blue whale, manatee  
ocelot, sea cat, panther and parakeet, rat  
snake, pearlfish, bandicoot and jaguar,  
armadillo, antelope, cockatoo and condor,  
bird-winged butterfly, red leg tarantula,  
aye-aye and monkey-puzzle tree

*Bio-diversity,  
Mother Nature sings this song  
Bio-diversity,  
I hope that you will sing along*

Listen to this song online, at the same page  
you can get PDF versions of this learning  
resource:

[www.environmentyukon.gov.yk.ca/  
educationyouth/backyard\\_biodiversity.php](http://www.environmentyukon.gov.yk.ca/educationyouth/backyard_biodiversity.php)

## BIODIVERSITY THROUGH THE PERCEPTIONS OF ARTISTS

### Aim...

Meet two Yukon visual artists who portray their love and understanding of biodiversity in their art.

### 1. Meet Joyce Majiski, printmaker and papermaker

#### Ready...

*My life has taken me from the jungles of Borneo to the houseboats of Kashmir and from the Great Barrier Reef to the Beaufort Sea. As nomad women do, I carry my wealth with me. As an artist, this wealth is my inner perceptions, and the ability to convey a thought through visual means. The inspiration and connection I feel with nature fuels my creativity and colours the way I see the world. (Joyce Majiski)*

Joyce has lived in the Yukon since 1984. She has worked as a wilderness guide and a field biologist as well as running two guiding businesses with a friend for 15 years. In addition to that, Joyce has developed a career as an artist. Since 2001, she has been focusing mainly on her artistic career. Some of the projects she has worked on involved a collaboration with a Scottish artist, where she made an on-line e-book and a 20 minute partly animated film. Joyce was commissioned to do a large installation of 30 copper birds for the Canada Winter Games Centre. The images on these birds were etched with ferric chloride, which also makes them etchings. Joyce shipped six of the birds to a studio in Vancouver and printed them on sheets of 10 foot by 4 foot paper. These are in the largest monoprints that she has ever printed. So far, she has exhibited these monoprints in Dawson City and Point Reyes, California. Joyce plans to do more projects with artists in other countries in the future.

#### Set...

Read about Joyce's work with printmaking techniques.

*Although I use many printmaking techniques (such as lithography, silkscreen, collograph, monoprints) the one I use the most in my work is etching. To do etchings, you use acids and metal plates to make the image, inks and an etching press to make the print. Most printmakers work in collectives or shared studios because the equipment is too large and expensive for one person to own. This is one reason why I have travelled to different studios to work.*

*When I do etchings, I like to print them on my own paper. I make my paper out of old cotton clothes and I add natural materials such as lichen, pine cones, grasses and other things with cellulose. This way there is a relationship between the image and the materials I use.*



*One of the simplest printmaking methods is actually a rubbing. The following is a way to combine a walk in nature with observing things that you can make a copy of with this rubbing technique.*

### GO!

1. When you go walking in the woods, look at the colours of the trees, and the sky and the other things around you. Imagine how everything is connected - we all breathe the same air, we all walk on the same ground. Look at the details and see how they fit into the whole picture.
2. Take a piece of paper and some charcoal or crayons and try making “rubblings” of different textures, tree barks, leaves on a hard surface, rocks, lichens, anything. Rub the charcoal on the paper and see what happens.
3. Cut shapes out of the rubbings and glue them onto another paper. You can paint around them and create your own story of what you see. Have fun!

Information written by Joyce Majiski; photo courtesy of Joyce Majiski

## 2. Meet Anne Macaire, potter

### Ready...

Anne Macaire was born in California in 1950. When she was 18 she began moving north. Her first stop was the University of Washington where she studied art. Then, after a ferry ride up the Inside Passage, she settled in Haines, Alaska for a few years. In 1971, she kayaked from Haines to Skagway, walked over the Chilkoot Pass and entered the land that was to be her home and source of inspiration, the Yukon. In 1974, she began studying pottery. Her primary interest was in making functional pottery that people could use everyday: bowls, cups, plates, and vases. She lived for many years with her husband and two young sons in a remote part of the Yukon bush on Frances Lake. Here she made pottery with clay she dug from nearby banks. Her exploration into the wilderness around her inspired her art and led to work in casting and collecting animal tracks.

### Set...

*My work in ceramics touches nature on many different levels. The most basic is the clay itself. Pottery is an ancient craft. Until modern times, potters were dependent on the clay that was found closest to their community. Styles of pottery were determined by the diverse clays the pots were made from. I like the idea of working in this tradition and dig the clay I use myself. Along roads, cut through by bulldozers, clay deposits are exposed and easily accessible. It seems like magic every time I open the kiln and discover that I have turned this dirt, dug from along the roadside, into pottery.*

*For me, nature is the ultimate aesthetic experience: a dry grass stalk arabesquing in the snow, a green spider crawling on a red willow twig, the flight of a tern, the speckle and blush of a trout. Like the*





*pretty stones the boys and I find on the beach and fill our pockets with, I want my pots to reflect the common beauty that is always with us if we look. Nature is also repetition. Variations on the same theme are endless: the pine cones, the pussywillows, the waves on the shore. Repetition in the workshop holds a similar fascination for me. When I find a form I like I want to do it over and over again. Each one is the same and yet each one is different, like the forms in nature.*

*My work with animal tracks is very different than my pottery, although both use clay. With pottery, nature inspires me to interpret its beauty. The connection between nature and the final product may be subtle and not always obvious to the viewer. With animal tracks, it is my intent to copy nature as closely as possible. I make plaster casts of animal tracks I find along muddy creek beds or sandy beaches and press them into wet clay slabs. The different tracks create a fascinating study in contrast: the bulky plodding of the bear juxtaposed with the nimble antics of a weasel, the aimless jumble of swans on a sandbar with the purposeful stride of a bull caribou. For me the natural world is an infinite source of beauty. The diversity of plants and animals, the simple and complex forms that are everywhere around us, are an ongoing source of inspiration.*

*(Anne Macaire)*

## GO!

1. Find a clay deposit (the cliffs around Whitehorse are an excellent source). Mix the clay with water and feel the difference between it and garden dirt. The clay particles are much finer. Make something. Add Ball clay (1/4 to 1/3) from a pottery supplier to make the clay more “plastic” for forming pinch pots and slab boxes.
2. Collect a series of things from nature (half a dozen spruce cones, seed pods, rocks, flowers from the same species). Think about how they are similar and different. Choose a favorite and figure out why you chose it. Draw it.
3. Look for animal tracks. This is an especially good activity when there is snow on the ground. Identify the animal that made them. A Field Guide to Animal Tracks by Olaus Murie may be helpful. Observe what the animal was doing and how it moves.
4. Find tracks in the mud or sand. Mix plaster to the consistency of pancake batter and pour it into the tracks. Let it set up. These are interesting to collect in themselves or can be pressed into set clay tiles and fired in a kiln.

Information written by Anne Macaire; photo courtesy of Anne Macaire

## REACH OUT!

### Mostly Science

1. Display the results of your animal study as part of a school science fair on the theme of biodiversity.
2. Observe one aspect of biodiversity in your community throughout the seasons. Keep a record of your observations on one thing, e.g. a tree, a plant, an animal, a bird, a wildlife tree.
3. Imagine you could take a space ship to the nearest star, many, many light years away. What would the earth be like when you return? Remember that millions of years ago one of the most advanced life forms was the trilobite!
4. Take a walk through the supermarket. Pick the fish or vegetable section. Observe the diversity of food you find there. List the different kinds. Then research where they come from. Make lists of some of the common things we grow or raise on our farms or in backyard gardens. Research where they come from originally, e.g. potatoes, tomatoes, wheat, turkeys, corn, spices.

### Mostly Language Arts

1. Write animal poetry or shape poems. See *Project WILD*, p. 85, “Animal Poetry.”
2. Read stories about the early European pioneers in your community. How did they feel about the land? How did they feel about the wild animals with which they shared the land?
3. Read novels with a biodiversity message: *Tracking Triple Seven*, *Watership Down*, *Incident at Hawk’s Hill*, *My Side of the Mountain*, *Klee Wyck*. What are the biodiversity messages in these novels?

### Mostly Social Studies

1. In your study of aboriginal or ancient cultures, read their myths and study photographs of their art about nature. Compare the messages about nature from these stories with the messages about nature that you get from your favourite comics, movies and TV shows.
2. Make a collection of newspaper articles related to an environmental issue in your community. Try to get as many viewpoints as you can. Follow the inquiry or problem-solving process to recommend alternative solutions for the issue. Identify some consequences of your suggested solutions.
3. Research the use of a plant that we use as a drug today.

### Mostly Fine Arts

1. Visit an art gallery. Compare the ways different artists present images from nature.

2. Invite a writer or an artist who features wildlife and landscape as part of his/her work to speak to your class. Ask them to talk about what inspired them to pursue art. Ask them to talk about the way they use language, colour, brush strokes, etc. to achieve the effects they wish.
3. Find musical lyrics which speak about the environment and biodiversity.

**Challenge**

Develop a Readers' Theatre presentation based on the poems and stories about biodiversity written by members of your class. Perform your show for the rest of the school. Perform for a senior citizens' home, a municipal council or another community group.