STEP Workshop February 6&7, 1981 Redland Junior High School

Friday, February 6

5:30 PM	Arrive in the Park Meet rangers, see movie Pahayokee
6:15 PM	Drive to Long Pine Key Campground and set up tents, eat dinner
8:00 PM	Drive to Main Visitor Center for movie Gentle Jaws
9:00 PM	Drive to Anhinga Trail for Night Walk Night Sounds activity-Ranger Debbe Wade
10:15 PM	Return to Camp

Saturday, February 7

5:30 AM	Sunrise Seton Watch Cinquains Rock Friends-Ranger Debbe Wade Environmental Study Activity- Ranger Paulette Hedeen
7:00 AM	Breakfast
8:00 AM	Brainstorming your Activity
8:30 AM	Leading your Activity
10:00 AM	summing it up, questions
11:00 AM	Committments
11:30 AM	Take tents down and head for home

By participating in this workshop, we hope that everyone will:

1) Develop a new understanding of and feeling for the Everglades
2) Find a way to act on their concern for the Everglades and the environment

STEP-STUDENTS TOWARD ENVIRONMENTAL EDUCATION

As I look back at our trips to Big Cypress and Shark Valley, I look back at all the good times we had. For some of us it was the first time visiting the Everglades, but for most of us it wasn't the first time and it won't be the last. This program has a very special place in our hearts. On these trips we've learned how to experience nature. We've gained the knowledge that we could not have gained if we were not in the field. And as the meaning of STEP suggests we participated in our environment.

On our first trip in January of 1980, we did the breaking in activities. These activities included Slough Slogs, Seton Sunrise hikes, and night bike rides. On our second trip we went on a canoeing trip to Indian Camp hammock. On this trip we had the magnificient experience to see a pygmy and diamondback rattlesnake. We also got to experience viewing Indian pottery made centuries ago and remains of old settlements in the hammock. On our way back to the entrance to Shark Valley, we got to see a female deer. The Seton sunrise hike was great. On a Seton sunrise hike, the idea of the hike is to remain perfectly still in a place for a certain amount of time. The man Seton, whom was the creator of the activity, would sit for hours in one spot. At times, birds would actually land on him. On this activity we were asked to write about our feelings out there at the time.

I feel that this experience has been one of the most enjoyable in my life to date. The program has meant so much to me and the manu others that have experienced it. We hope you decide to take this trip, so you can learn as much as we have.

This past summer I have been a Volunteer in park, thanks to the motivation STEP has given me.

Cindy Tanner

The Wilderness can remain with you and still remain behind, for the Everglades is neither rock nor shell, it's a vision in your mind. -unknown-

For those of you who enjoy nature and the outdoors, and yearn to learn more about this giant world of ours, I strongly advise participation in the STEP Program! I guarantee it will be one of the most memorable trips of your life!

My enthusiasm for the STEP Program is based on the various activities students are able to participate in during the trip. Few such activities include Slough Slogging, sunrise hikes, canoeing, and bike rides. There are also many opportunities to just sit, and listen to or observe the many sights and sounds of the Everglades!

The various feelings one gets from being this close to nature, listening to the millions of creatures on this giant earth, while sleeping beneath the cool sparkling blanket of the stars are undescribable. These are feelings that must be experienced by each individual, to be truly appreciated!

Linda Banks

STEP

I value the experience I recieved during my visit to the Everglades. I learned about our wildlife and about human nature. I also learned about animal nature. The Slough Slog and the early morning hike brought me closer to nature than I have ever been before. The rangers made the trip a worthwhile trip for us first timers to the Everglades. I hope that in the future this program can be extended throughout Dade County to students that have never seen or experienced the joyous wonder of the Everglades.

Nilsa Martinez

STEP-Students Toward Environmental Participation

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On our first trip in 1980, we did the "breaking in" activities. These activities included Slough Slogging, Seton Sunrise Hikes, and night bike rides. On our second trip we went on a canoeing trip to Indian Camp Hammock. On this trip, we had the magnificient experience to see a pygmy and diamondback rattlesnake. We also got to experience viewing Indian pottery made centuries ago and remains of old settlements in the hammock. On our way back to the entrance to Shark Valley, we got to see a female deer. The Seton Sunrise Hike was great. On a Seton Sunrise Hike, the idea of the hike is to remain perfectly still in one place for a certain amount of time. The man Seton, whom was the creator of the activity, would sit for hours in a spot. At times , birds would actually land on him. On this activity, we were asked to write about our feeling out there at the time.

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The wilderness can remain with you and still remain behind,
For the everglades is neither rock or shell,
it's a vision in your mind.
unknown

United States Department of the Interior
NATIONAL PARK SERVICE
EVERGLADES NATIONAL PARK
AND
FORT JEFFERSON NATIONAL MONUMENT
P.O. BOX 279
HOMESTEAD, FLORIDA 33030

IN REPLY REFER TO:
STEP 79/80

September 19, 1980

Dear STEP Participant:

Students Toward Environmental Participation (STEP) is a commitment of love for our environment, especially the Everglades environment, and an understanding of our place in it. If you share these feelings, come join Everglades National Park's STEP Program as you did last year.

Those of you who participated in last year's program are invited to come again. Remember that there are two areas to choose from, each having different dates. The Everglades Environmental Education Office will begin to schedule STEP Schools on Friday, September 19, on a first-call, first-serve basis. The STEP Coordinator should call the EE Office at 247-6211 x 220 to schedule a workshop. Please have one or two alternate dates in mind. Open dates which exist after September 30, will be filled with new schools, or schools desiring more than one workshop.

The important objective at this early date in the school year is to secure a schedule as soon as possible, and for each school to have a STEP Coordinator assigned. Once the schedule is finalized, someone from the EE Group will be assigned to work with your group. Once your group has reserved a date, I trust that every attempt will be made to organize a camp to attend during that date. Last minute cancellations or changes prevents other schools from participating in the program. The dates for this year's workshops are:

Long Pine Key Campground	Big Cypress EE Area
January 9-10	January 16-17
January 30-31	January 23-24
February 6-7	February 13-14
February 27-28	February 20-21
March 6-7	March 13-14
March 27-28	March 20-21
April 3-4	April 10-11

I look forward to a productive, enjoyable winter of STEP Workshops together. Once the schedule is finalized, one of us in the EE Office will contact you about your workshop.

Yours truly,

Michael D. Watson

Michael D. Watson
Environmental Education Coordinator

Year of the Visitor

ENVIRONMENTAL AWARENESS

JUNE 1978

MOMENTS TO REFLECT - THE EVERGLADES

The following are compositions written by those students participating in the STEP program in the Florida Everglades.

Mosquito
buzzing pest
flying buzzing sucker
an all around nuisance
insect

Kent Brooks

Mosquito
hypodermic insect
draining blood cells
my entire body itches
dracula-fly

Mike Watson
Ranger

Trees
tall green
shading the earth
providing oxygen for all
plants

Ron Saucer

Everglades
mother river
flowing rocky veins
life-giving, life-taking
cycle

Sandi Whitehead
Ranger

Swamp
beauty danger
protect preserve explain
important interesting intriguing fun
Everglades

Raymond Bieczkowski

Understanding
Mother Earth
awakening of relationship
man belongs to the earth
rennaisance

Tom Kulbartz
instructor

Earth
free beautiful
living growing remembering
being love caring faithful
unknown

Debbie Edwards

Fishes
slimey scaly
swimming breathing eating
small cautious weak senseless
fish

Randy Smith

Mosquitoes
small irritating
yet giving life
they shall be protected
insects

Jeff Coburn

Saw grass
green bending
blowing very freely
wish I was there
hwoooooooo!

Sue Biggs

Alligator
massive jaws
eating living swimming
frightened interested ugly fascinatin
gator

Roger Gordon

Universe
contains earth
boundaries of life forms
the prevailing life cycle
God

Mike Galyen

EVERGLADES

The Everglades is a nice place to visit
wouldn't in the world miss it.
There is one exception tho,
the mosquito.

Karla Burgoyne

The Everglades are a thing of Beauty as well as danger,
yet its appearance can be altered by a mere stranger.
Its existence relies on the insignificantly small.
For without them there would be no Everglades at all.

Don Delaney

Tranquility

To know it is a privelege.
It is the sound of unseen birds sharing a God-given talent;
The limbs and leaves being prodded by a gentle but persistent breeze
The swaying of a tree trunk against your back.
The ability to do nothing and think of nothing.
A Seaton watch on a warm afternoon or a clear summer night,
It is something only the priviledged can enjoy
A priviledge once lost, that can never be regained

Jim Mills
instructor

The Glades
    walking
Among the unique
    seeing
the unseen
    touching
the untouchable
    tasting
the food of nature
    feeling
a natural high
    the Glades

Steve Sliva
Instructor

Home
interesting truth
protecting believing defending
regret scary unbelievable awaken
America

Quincy Scott

Rain
cool wet
falling slowly to earth
soft and gently fine
precipitation

Tim Davis

Everglades
deceiving intricate
protecting reaching fighting
wary amazed interested stable
unique

Donnalee Yoho

Snakes
slender sly
hiding resting eating
afraid furious slimy cool
reptile

Anita Conrad

Everglades
hot fascinating
preserving protecting providing
glad that there its there
marshland

Lori pasley

Everglades
humid swampy
protecting caring managing
exciting dangerous pleasing understanding
life cycle

Brian Parke

Mosquitoes
small lively
searching biting reproducing
here they come run
blood-thirsty

Betsy Lambert

Insects
flying crawling
flying biting eating
have them wish they were dead
bugs

Russel Tapscott

Pine
ragged tall
reaching digging bending
color close nostalgia knowing
tree

Unsigned

Tree
shady beautiful
standing tall and slender
standing tall above everything
plant

Darla Burgoyne

Cry Of The Flower

When you can talk to a plant and
and have it relate back, you are
then on a true link with nature.

When you see a plant cry because
of man's destruction. Actually
hear it scream because of careless
fellow man.

You may see it fold into itself
cowering on every breath of air
breathable, knowing its end is
near.

Yet it still has some hope. Groups
just such as STEP are this special
hope. His one thread to his rightful
way of life.

STEP is like a different language
interpreter. It tries to show the
little flowers secret.

If STEP or just such a group should
fail so would man. If they fail all
mankind would cease to exist as we know
him.

Then there would be no one to hear the
flowers.

Unsigned

Everglades

This place where I was taken to see,
at first was nothing to me.
To my eye it all was wet grass
with hardly any class.
But through working in this land,
under an experienced guiding hand,
I was able to conceive
what many dedicated people believe.

Steve Winkler

Allaying many fears
and ignoring others
I stop
and slowly attune my senses
to the subtle sounds, sights and smells
of the land -and water-
which lay before me.

Close to convinced
of the harmlessness
of a clackling, rattling sound
I relax
and drink in the soft coolness of a slight breeze
as it ripples through the lush grasses
of a small pond.

My knees crisscrossed in the scorchin sun
begin to beg for some relief from the burning rays
as the droplets of sweat
begin to pour from underneath.

Seemingly sensing a slight bit of unconcern,
the skeeters cease their buzzing-
my ears instead catch the plip-plop of a grasshopper
making its way through a dense thicket of ankle high grass.

Tuning out the smell of the wonderously working insect repellent
I am aware of the aromatic blend of many plants
wafting in the wind.

I gaze about this sea of grass before me and marvel at the wonderous diversity and variety of nature.
Ever changing, ever evolving, ever there - its origin beyond man's grasp
Its future lying vulnerable in his hands.

Mary Kay O'Reilly
instructor

Everglades

The Everglades pretty, beautiful, unique
at times are beautifully mystique.
They are gators, gars, and bass are all alike
superstars in the wet world of grass.
Bees, bugs and mosquitoes bite, there not actually bad they"re alright.
They help keep the cycle of life that makes everything great.
Its great to preserve, nice to learn, and help Smoky not to burn.

Brian Cannon

Put Before the activities

Earth

It is free for all seekers,
And beautiful for anyone who looks for her marvels.

The Earth is living through its plants and animals.
She is also growing through the knowledge of these same organisms.
She is also remembering the time of her life when things were a little simpler and cleaner.

Her being is our living.
If we show mother earth our love then she will care for us.
With this we have a faithful long-lasting relationship.

We seek and marvel at our earth for she is unknown by us her children

Debbie Edwards

Everglades is hot as you can see
just standing around picking bugs off me.
Mosquitoes are a pest and so is the fleas,
so the best thing to do is Seton watching in a tree.

Unsigned

The following are STEP activities designed by Georgetown High School students during the Everglades Workshop. All these activities are sensitivity-oriented and aid the student in recognizing his role in the environment.

Mary Kay O'Reilly, ~~instructor~~ - Identify and describe any part of the environment in three senses other than sight.

Sandi Whitehead, ranger - Fire is a part of the Everglades ecology. It is needed to burn back the hammock vegetation invading the pinelands.

In this activity the students form a circle. Two students are placed in the center of the pine trees. Two students outside the circle are the fire. The students in the circle represent the hammock vegetation. The fire students attempt to break through the ring to the pines. If they do, they become pine trees. If not, one pine tree becomes a part of the circle and two new fires are selceted and the game begins again. (The fires become hammock trees). Hammock students must attempt to tap the fires. If the fires are tapped they become hammock trees. Hammock trees are rooted and cannot move their feet. Also, two hammock trees must tap the fire at the same time.

Mike Watson, ranger - Find at least three kinds of leaf arrangements on plants and draw them. Compare them to other peoples' drawings. How many varietie of leaf patterns did the entire group discover.

Steve Winkler - Identification of foreign substances through sense of touch and smell. Substances are unfamiliar, but common. Eyes must be closed.

Russel Tapscott - Unscramble the animals' names. podowkrece, shroe, etc.

Steve Sliva, instructor - Each studet closes their eyes then imagines themselves as an animal of the Everglades. They tell of their birth, experiences through life, what they feel, what they have seen, and how they feel about the Everglades.

Jim Mills, instructor - Have each student select a 3x3 foot area and conduct an organism count.

Tom Kulbartz, instructor - Have each student touch three parts of the environment and rate them as to their degree of warmness or coolness.

Don Delaney - Imagine onself as an animal of the Everglades and tell others about the experiences there.

Betsy Lambert - Blindfold people one at a time then lead them to a certain place in the environment. Leave them there for a few minutes to get them aquainted with the surroundings then lead them back, take off the blindfold and see if they can find where they have been.

Brian Parke - Place everybody in a circle and blindfold them and get a natural thing the environment and pass it around. They describe the object using senses other than sight. Describe their feelings about the object.

LoriPasley - Write the words Everglades National Park and see how many words they ca make from them in five minutes.

Anita Conrad - Take a word and see who can find the most words out of the one word.

Donnalee Yoho - Take the group of students out into an area and blindfold them. Allow them to roam around and feel, smell, etc. the surroundings then bring them back to the building and tell each person to draw what they felt and heard.

Tim Davis - One person makes a noise. The other people in the group write down what they feel about the noise. Also sounds from the environment are used.

Variation on leaf games

Quincy Scott - Have the group go get a leaf. Have them tell the differences and similarities to the leaves of everyone elses groups.

Mike Galyen - Name all the birds that you see in five minutes.

Roger Gordon - Have the people sit down and face the Everglades. Close your eyes and try to picture what you cannot see blindfolded.

Susan Biggs - Have participants sit in a circle blindfolded, bring in a lot of natural objects one at a time and have them pass it around and tell what the object is.

Jeff Coburn - Split the students into two groups and give each a specific area. Then have them discover the insects in this area and identify them.

Randy Smith - Make as many words from the word environment that relate to the surroundings.

Debbie Edwards - Divide into teams and collect as many insects as possible in a given amount of time.

Ray Bieczkowski - Take a group along a trail and see how many adaptations each person can find in the organisms seen.

tree aw variation

Ron Saucer - Have each person pretend he is a tree and tell what is going on around him in the Everglades.

Kent Brooks - Select something in the Everglades and describe it. See who can guess the object first.

Darla Burgoyne - Charades - act out natural phenomona.

Brian Cannon - Using natural objects represent something from the Everglades and have people guess what is being represented.

The title for this course is Environmental Awareness. The following is a list of answers in response to the last question on the final exam which read, "What is the most important thing you learned environmentally in this course." Most of the answers indicate a new awareness of man and his relationship with the environment or how all things living and nonliving are related.

Steve Winkler - New processes in dealing with control of nature and prevention of technological take-over such as the ones introduced in the Everglades.

Jeff Coburn - That all animals no matter how big of a pest they seem to be to us they are important to the environment's ecology. That the extinction of animal species is our miner's canary.

Quincy Scott - To preserve and protect because if you don't they might not be here tomorrow.

Debbie Edwards - The thing I learned is that you have to look for beauty in the wild before you see it. And, that you have to sacrifice something from yourself to keep the animals alive.

Brian Parke - The thing I learned is that in the Everglades everything was dependent on each other, and you could interrelate with nature and feel you were a part of it.

Brian Cannon - To appreciate all living things because they may not be here.

Don Delaney - The most important thinf I learned was that the ecosystem's existence depended on the smaller things in these areas.

Darla Burgoyne - The most important thing I learned was how the most pestly insects or other animals were really important to all life cycles to continue. I did not realize they had as equal a role.

Anita Conrad - To protect your surroundings because they won't be there forever if you misuse them.

Kent Brooks - That all animals and plants have a purpose for being here. Because they are need to carry on the life cycle and if they were not there the lif cycly would be broken and everything else would die.

Karla Burgoyne - If one organism is taken away or destroyed in a life cycle then the rest of the life cycle or food web will be destroyed and also I thought becoming part of the environment not against it was very important and realize how much man does interfere with natural cycles.

Lori Pasley - To help preserve wildlife areas and to watch them because if something happens to them our health and well being is in danger too.

Randy Smith - The most important thing which was learned environmentally was that man was made to live with the world. Instead, he uses and produces at will without replenishing what he uses. He takes advantage of what of what is there without thinking about replenishing for the future. We learned not to take what we cannot use, like plants for experiments. We should use a little at a time instead of all at once.

Susan Biggs - That man was made for the Earth, the Earth was not made for man and also that man controls what happens to the Earth now, and it is his job to protect the natural areas and preserve as much as he can.

Betsy Lambert - That the Earth was not made for man, man was made for the Earth. Out of our ignorance we are abusing the land and not treating it "sacred" like we should and it is slowly losing its natural resources which are not replenished by man.

Ronnie Saucer - How to protect and maintain wildlife.

Donnalee Yoho - That everything no matter how small and simple or useless to man has its place. Man is just another animal on this Earth who is part of the food web and is not superior in importance to any other animal on this Earth. Each one has its place and when its gone it is a severe loss which can never be replaced .

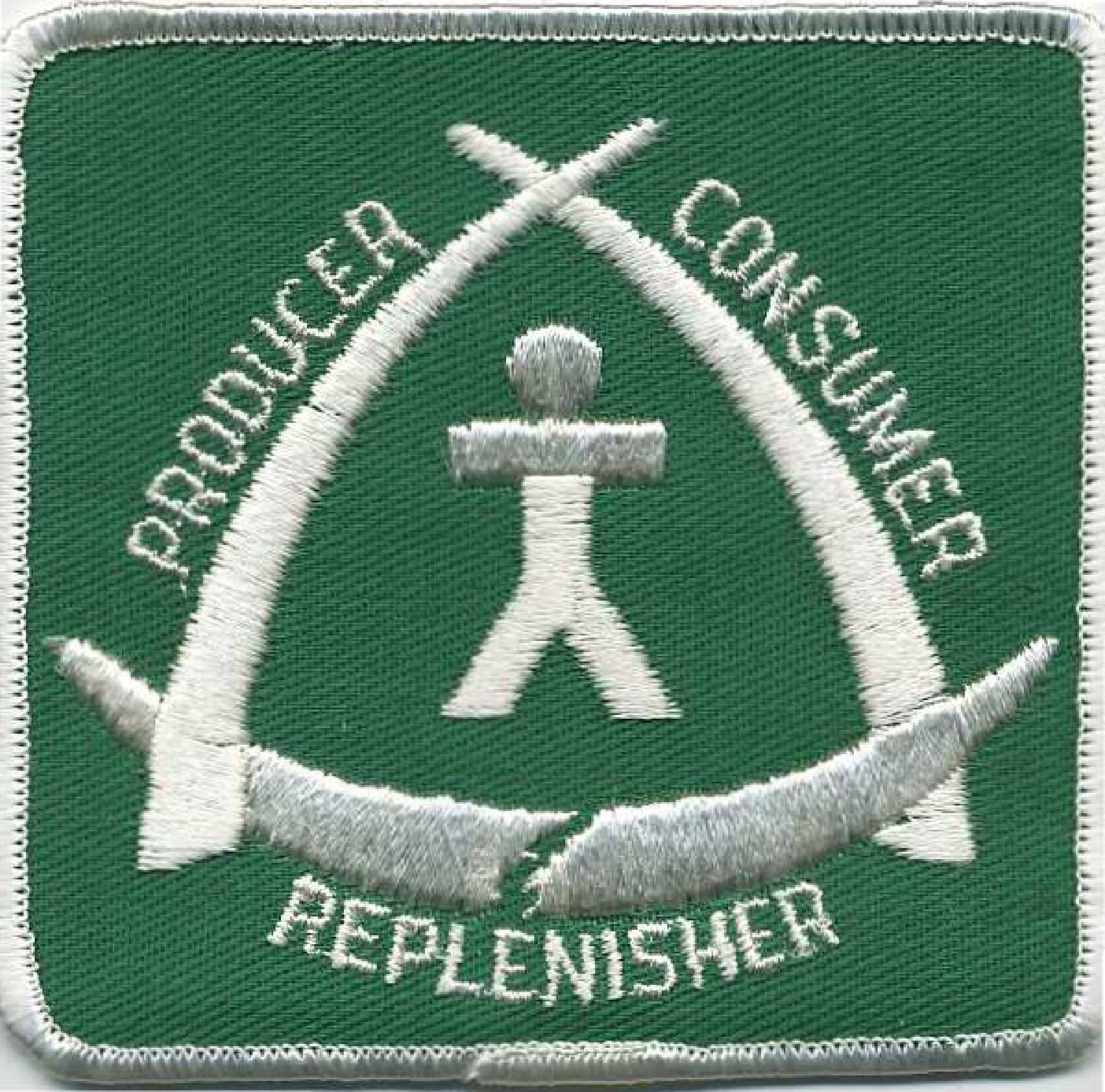
Tim Davis - The most important thing I learned was not to feed the animals because they become dependent on man for food.

Russell Tapscott - Everglades, it preserves plants and animals and has tours and programs in which you can take part.

Mike Galyen - That was because it gave you a different type of reaction in comparison to what you usually relate to animals with.

Ray Bieczkowski - O.K. to preserve the wildlife and plantlife.

Roger Gordon - That many environments are different but all the same in trying to keep the different ecosystems together as our last real Earth.


PRODUCER
CONSUMER
REPLENISHER

Kelly was"S" but she's home with the flu,
Charlie, our"T", had some homework to do,
Mandy,"P" prob'ly got lost on the way,
So I'm all of STEP that could make it today.

Take off From
Shel Silverstien's
"LOVE"

Students Toward Enviromental Particpation

Southwest Miami High
at
Everglades National Park

Compiled by:

Suzanne Banas

Drawings Copyed From:

Shel Silverstein

Leaves
Green, brown,
Rustling, falling, lying,
Peaceful, mellow, comfortable, free.
Leaves.

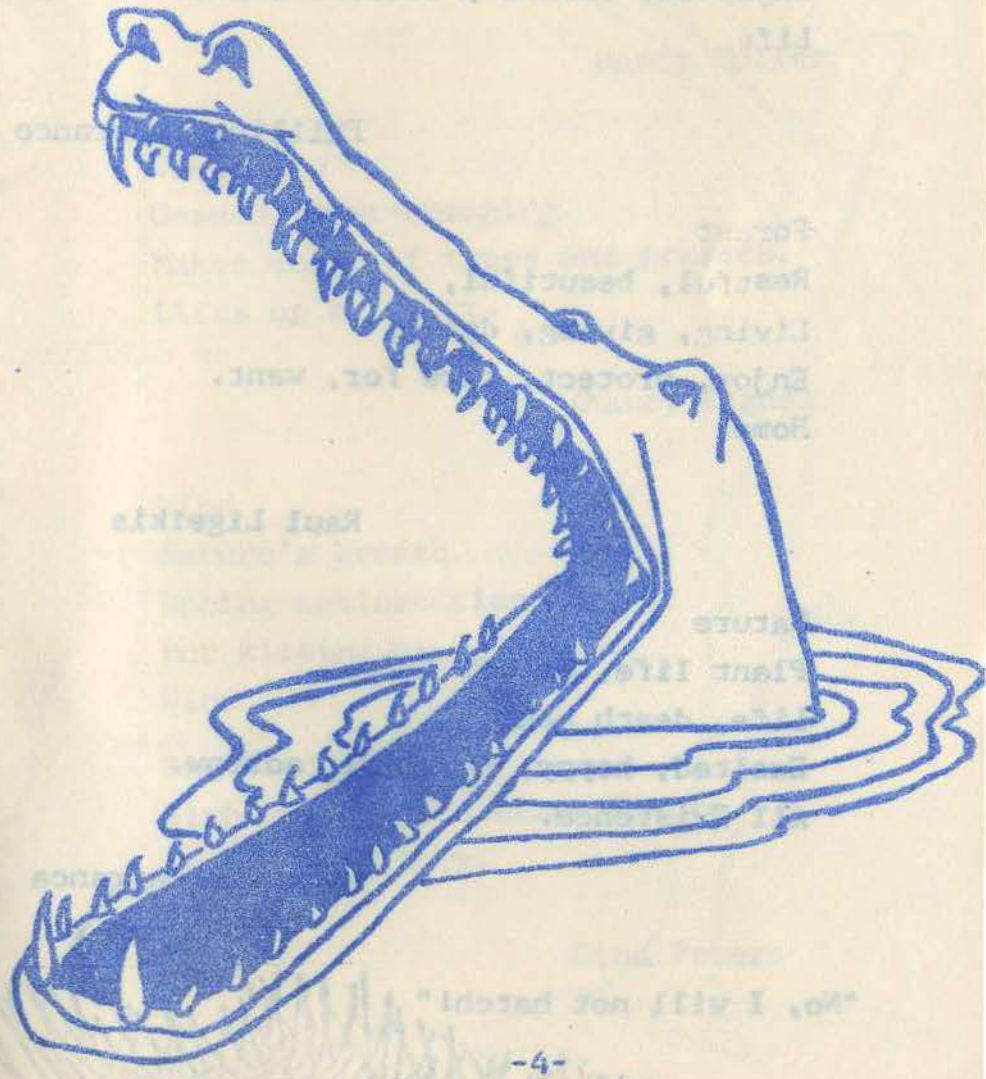
Patti Giannone

The sun rises above the horizon
Another day has come.
Death will be upon some soon,
But we won't know it
until its too late.
All the trees fight for sunlight,
But then the bulldozers come.
And now no one is fighting,
But everyone is dying.

Jeff Reagan

Exploring,
Working together,
Trusting each other,
Finding our own self.
Loving.

Jerry LaPlant



Life
The sound of bird voices.
Leaves falling thru the limbs.
Enjoying all living things around you.

Nature
Heartwarming, relaxing,
Educating, living, mystifying,
Enjoy it, love it, curious concern.
Life

Phillipe Lieurance

Forest
Restful, beautiful,
Living, giving, dying,
Enjoy, protect, care for, want.
Home.

Raul Ligeikis

Nature
Plant life, animal life,
Life, death gentle,
Excited, happy, thankful, sorrow.
All Existence.

Charles Marranca

"No, I will not hatch!"

Shadow
Dark obliteration
Engulfing my Everglades.
A shade of death?
No!

The wind bends my hair,
As the grass on the prarie.
Why is it I cannot see the grasses face?

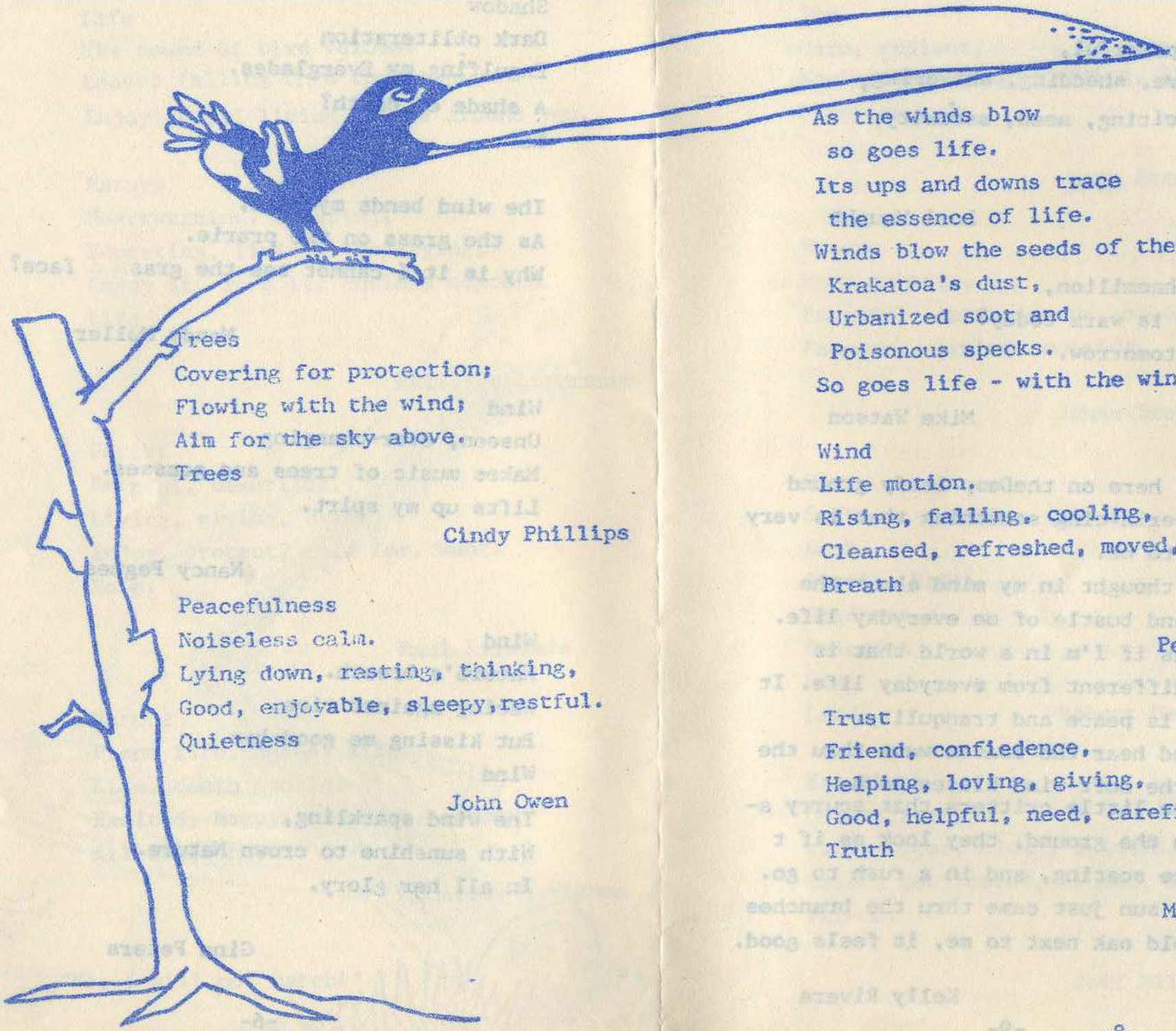
Mandy Muller

Wind
Unseen, ever-changing.
Makes music of trees and grasses.
Lifts up my spirt.

Nancy Pegues

Wind
Nature's breath.
Racing against time,
But kissing me good-bye.
Wind
The wind sparkling,
With sunshine to crown Nature.
In all her glory.

Gina Peters



Trees
Covering for protection;
Flowing with the wind;
Aim for the sky above.
Trees

Cindy Phillips

Peacefulness
Noiseless calm.
Lying down, resting, thinking,
Good, enjoyable, sleepy, restful.
Quietness

John Owen

As the winds blow
so goes life.
Its ups and downs trace
the essence of life.
Winds blow the seeds of them;
Krakatoa's dust,
Urbanized soot and
Poisonous specks.
So goes life - with the wind.

Wind
Life motion.
Rising, falling, cooling,
Cleansed, refreshed, moved, responsible.
Breath

Pete Quincy

Trust
Friend, confiedence,
Helping, loving, giving,
Good, helpful, need, carefree.
Truth

Milton Smith

Trees
Strong, powerful,
Protective, shedding, shivering,
Love, exciting, need, security.
Peaceful

Lori Vaught

Winter chaemilion,
Palmetto is warm today?
Be ware tomorrow.

Mike Watson

As I sit here on theDamp leafy ground
I am experinicing something that is very
amazing to me.
With no thought in my mind about the
hustle and bustle of me everyday life.
I feel as if I'm in a world that is
totaly different from everyday life. It
is . It is peace and tranqulity.
I see and hear the leaves wave thru the
air as the soft wind kisses each.
I see the little critters that scurry a-
round on the ground, they look as if t
thier ice scating, and in a rush to go.
Wow! the sun just came thru the branches
of the old oak next to me, it feels good.

Kelly Rivera

Sun
Warm, radient,
Moving, changing, raining, life giving
Sunshine

Mary Bergquist

Nature
Man, animals,
Peaceful, open, serene, colorful,
Freedom, sernity, outside.

James Brookins

Dirt
Soft
Dark
Sitting Still
Deadness
Peaceful
Home
Land

Robert Geldean

Excellent
Quiet, real,
Warm, clear, clean, relaxed,
Dazed, bewildered, amused, amazed
Far-out

Jeff Milton

Role playing with personification of the plants, birds, and animals. Everyone becomes one of the above classifications. Then the leader becomes fire. Everyone expresses how he or she feels about the approaching fire. Also express yourself in relationship to the web of life and how the fire will harm or benefit you.

Suzanne Banas

Each person in the group makes a trace of their left hand. Then the drawings Are put in the center and then everyone picks out their hand without looking at their hand.-It will be difficult for them to choose their hand even though it is w with you everyday.-Discuss why and pick out similarities and differences of their prints and then a partners.

Denise Cooley

Active

Cirle formation. A player tosses a ball to another and calls out "amimal, vegetable or mineral". The recipent of the ball must describe or act out the type called within a time limit.

Dianne Daniel

Take the group to clearing. Have everyone sit in a circle, and noticing the things around you(trees,wildlife). Describe their relation to man and to the envirment.

John Eifert

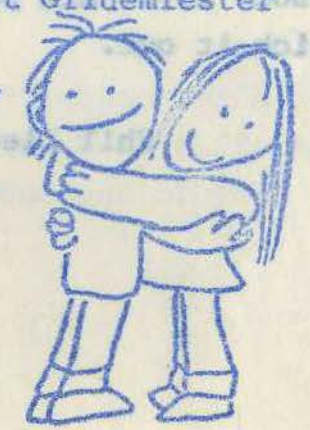
Each person pick up some object around him. Identify with the texture, shape, and other characteristics. Express in one sentence your feelings about the object.

Patti Giannone

In any open area,lay on your back and think about how it would feel to be a cloud. How does a cloud compare itself with the SPICE strands (patterns)

Kurt Gildemiester

Pick out five different types of leaves and draw them. Point out their similarities and differences and functions.



Jeff Milton.

ing structures, patterns and different plants. Discuss relationship of the water and express feelings about it. Try different water enviroments.

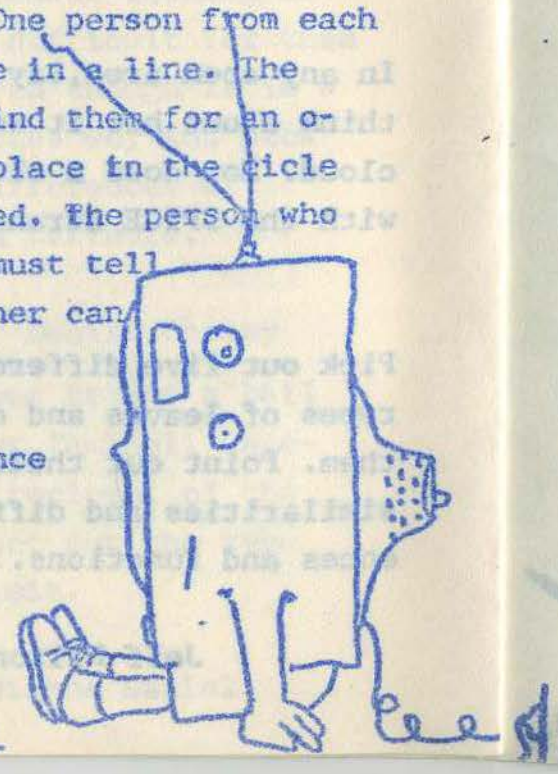
Paul Gendron

Have the group split up in teams of two and look for things that is out of ordinary. Afterwards the teams tell about their object and explain why it appeals to them. Try to relate it to thier lives.

Jerry LaPlant

Pair off the gruop. One person from each pair sit side by side in a line. The partner searches behind them for an oject. This oject is place in the cicle that has been reformed. The person who pick out the object must tell about it so his partner can pick it out.

Phil Lieurance



Discuss evolution and adaption and give examples. Then have the kids find a living thing and ask them to express how this thing might change if their enviroment changed.

Raul Ligeikis

Lay down in a field and look up at the clouds, moving and many differnt forms. Everyone should pick out something in a cloud that looks like something in our envirment.

Charlie Marranca

Each person goes out pick out object of the same type. Bring them back and tell the likeness and differences between them. What is learn from this. No one is all alike or all different?

John Owen

Students choose a small object or a small area. Describe it three different times, each time without one of your senses

Each person tells what part of the program was thier favorite and why. Have each person explain how different they feel being in nature's world than man's.

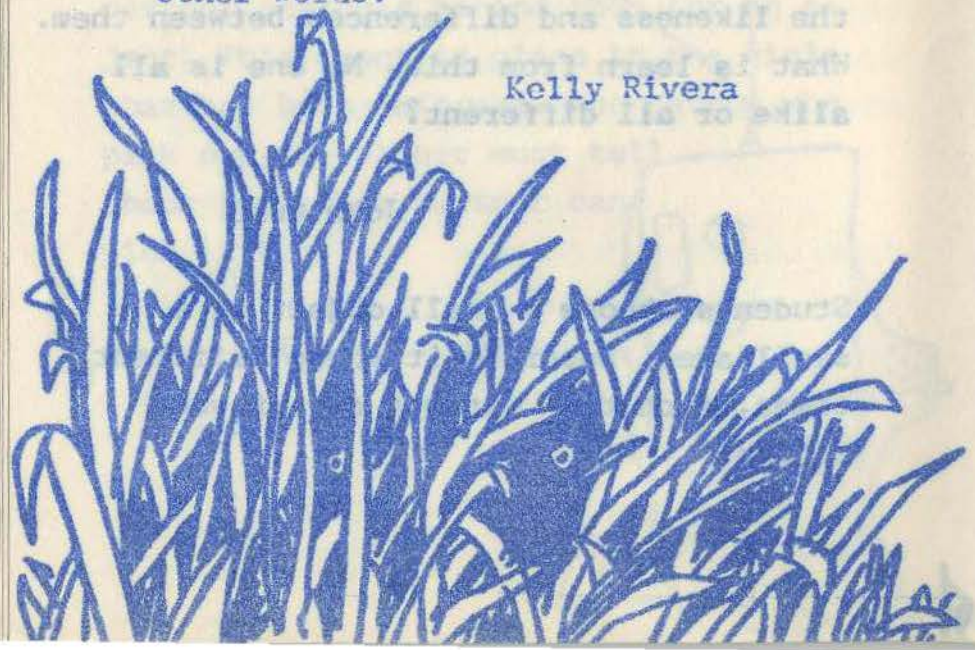
Cindy Phillips

Look at an object. Anything. Study what happens to that object and relate your observations to how nature operates.

Jeff Reagan

Cicle formation and have each kid write down the word Everglades on their cards. Let them find how many words than can get from it. Try other words.

Kelly Rivera



Everyone gather around in a group. One person assumes an identity of an object. Then acts it out, the others try and find out who or what he is. He can answer yes or no.

Milton Smith

Pick an object and study it. Try to realte to it. Tell the gruop about it.

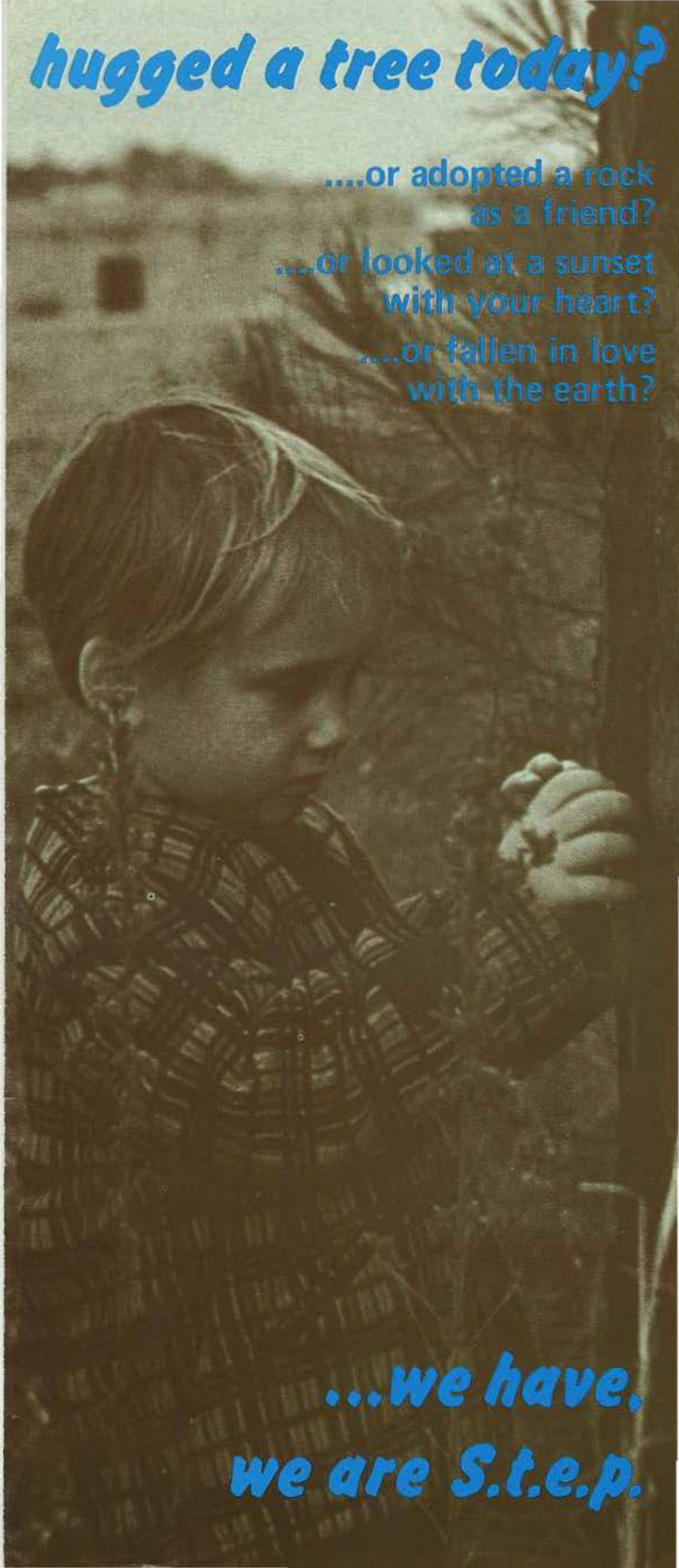
Kerry Thompson

Give the students a list of animals that they could see on a walk. Have them watch out for them. At the end of the walk have them act out what they saw. The others have to question to find out what the person is.

Lori Vaught

Leader gathers leaves or objects. Then has someone diescrbe it to the group w/o showing it. The gruop draws what they hear. Then compare drawings with objects,

Mike Watson


hugged a tree today?
....or adopted a rock as a friend?
....or looked at a sunset with your heart?
....or fallen in love with the earth?
...we have,
we are S.t.e.p.

Step STANDS FOR STUDENTS TOWARD ENVIRONMENTAL PARTICIPATION

Step MEMBERS ARE HIGH SCHOOL STUDENTS WHO

- build an AWARENESS and understanding of themselves and of the environment
- COMMUNICATE to others that awareness and environmental understanding
- make a COMMITMENT to help others develop an environmental ethic
- better the environmental quality of their communities by their direct involvement through ACTION

Step IS AN ENVIRONMENTAL AWARENESS/ACTION PROGRAM FOR HIGH SCHOOL STUDENTS ASSISTED BY THE NATIONAL PARK SERVICE AS PART OF ITS ONGOING ENVIRONMENTAL EDUCATION PROGRAMS.

Students who participate in special training sessions become STEP members. They then can join with students in other schools and build area-wide and regional STEP organizations ready to work with younger children through Environmental Study Areas, to train teachers in using the out-of-doors as outdoor classrooms, to push for environmental reforms in their school and community demonstrating a balanced environmental ethic.

Step AWARENESS LEADERSHIP TRAINING

I. Awakening a SENSE OF DISCOVERY

Familiar places and things take on new life when we use all our "eyes" – our senses—to rediscover them. Our senses, as learning tools, add a 4th dimension to all our environmental experiences

II. Finding a SENSE OF ORDER in our world through the STRANDS

S- Similarities and Varieties

P- Patterns

I- Interaction and Interdependence

C- Continuity and Change

E- Evolution and Adaptation

III. Recapturing a childlike SENSE OF WONDER

. ."What is the grass?". .How could I answer. . ?

. . from SONG OF MYSELF by Walt Whitman

IV. Sharing a SENSE OF PLACE

.....This extraordinary place is an example of nature at it's best. The trees, leaves and endless sky are all a part of my life.....

...from MY SPECIAL PLACE by Wm. Coughlin

Step...awareness

In STEP we are striving for a kind of awareness that is not defined in specific knowledge about automobile exhausts or sanitary landfills, but an awareness that helps a high school student learn to live in harmony with a natural world and within a human society. Only after this sensitivity can ideas such as land-use planning, energy conservation measures and population control have real meaning—when they are seen as a part of a greater whole.

With this awareness training, high school students are prepared to act as resource people for elementary schools in taking the younger students on Environmental Study Area encounters. Students can set up "Environmental Learning Places" on school grounds and share this awareness with younger students, peers, and teachers using much of the same materials taught in the training sessions.

Step...action

STEP's environmental action programs are bounded only by the needs of their communities and by the energy of the members. STEP students are not "pollution headhunters". They operate as Volunteers in the Park (VIP's) and environmental interpreters in National Park Service areas and in state and community parks; they investigate and monitor water quality and study issues surrounding environmental legislation; they testify at public hearings and lobby for needed environmental reform; they dialogue with industry when environmental violations are suspect. Without "making waves", a soft drink bottling company was persuaded to fulfill its recycling promises by not depositing bottle collections in sanitary landfills; community recycling centers were begun, operated, and turned into profitable community enterprises; government funds were withdrawn from a wastewater treatment facility until contract violations were corrected; 10,000 tiny pine trees were planted along highway access ways to provide a sound barrier.

"STEP is a commitment of love for our environment and an understanding of our place in it."

Since STEP's institution in 1971 by high school students in Atlanta, Georgia, over 20 states have active programs near National Park Service areas and in educational communities. The overall effect of the STEP program is making tomorrow's leaders today's teachers—not making occasional waves, but a steady "ripple" toward developing an active citizenry with a new environmental ethic.

STEP is a loosely structured umbrella organization in order to allow each group the maximum freedom to adapt the program to its own individual needs and those of its community.

The National Park Service — STEP symbol illustrates how effective we've been as producers and consumers on this earth, while failing in our responsibility to replenish this same earth. The sign of kids who care.

PRODUCER CONSUMER REPLENISHER

For more detailed information on the National Park Service STEP Leadership Training Course, the environmental education curricular materials used by STEP members (the NEED K-8 Series), and specific projects STEP members are involved in, write to

Funds for the procurement of this booklet were provided by a S.T.E.P. grant from the Office of Environmental Education.

Grant director is Anita Hocker, Environmental Education Specialist, Sarasota County Schools.

A STEP Anthology

A STEP Anthology

In fantasy I walk
an endless path and find a
blue egg called peaceful

-Vicki Weglowski

***

Artwork, layout, editing, typing and inspiration for this booklet were provided by Merlien Wilder King and Charlotte Tremel, Environmental Education staff of the Florida Audubon Society.

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S.T.E.P.

Students Toward Environmental Participation

On October 11-12, 1975, some ninety high school students from throughout the state of Florida participated in an environmental education workshop designed to enable them to teach environmental concepts and values to younger students.

The students learned their lessons well. Their poetry reflects the beauty, sensitivity, and humor with which they approached their talk. The environmental study activities reflect their understanding and love of the environment as well as the elementary aged students they will teach.

We provide this anthology for your enjoyment and your enlightenment.

Carla Palmer
Vice President/Education
Florida Audubon Society

Beautiful Day

What a beautiful day!
It's nature in all its glory
Looking upward - all was upward.
What a beautiful day!

- Jeff Kosik

It's a warm and beautiful day
I say as I watch it pass away.

The birds are singing,
And the bees are buzzing.
The sun's rays shining all around
As I sit and await the sun to set
At my back.

I say it's a beautiful day.

-John Bent

Trees

They will be here forever
They will be here longer than man
They really do alot
But mostly they just stand.
They stand alone
Or they stand in number.
They stand to house birds, insects,
and even man.
And trees, like man, serve an
important part of life.

-Rudy Patton

***

Reclining on a Tree

Entering the shady grove
I lacked a place to sit;
I looked around, hoping
Nature has provided me with it.
I first sat on the leafy ground,
But needed something more;
So I turned to that which blocked
the heat,
And set myself at the tall tree's feet,
And viewed the nearby shore.

-John Montgomery

A Live Oak, like people
They start from a small seed
Though physically different
They are the same.
They grow in stages as we do
And like us, they grow
To be very tall and strong.

But their time comes
As with us, when they die,
But if you think about it
Are they really dead?
For if you look at a dead oak
You see other living organisms
Living on the nutrients in the tree
And other organisms feed on these
Smaller ones-
And if it weren't these, where would
We be?

-Dan Netherton

***

The old oak stands so worn and tall
Sometimes you wonder what keeps it
from falling,
Because it has long since lost
its greenery.
It stands like a symbol of what
it used to be
But has long since lost all its
beauty
And seems to be dwelling from
day to day
Like so many people of today.

-Ray Pendleton

***

Birch

Its lush leaves licking skyward
When brushed by the browsing breeze
It's brown, ringed bark bristling
As fall makes its visit to the trees.

Forming and changing their wardrobe
Adopting the contour of the time
The tree has a memory for fashion
Each year does its dance of the clime.

-Susan Bostelman

***

Trees, trees, beautiful trees.
Trees, trees have beautiful leaves
Of yellow, green and grown.
Start from the top and then fall down.
Some trees also have beautiful blooms
Which fall to the ground like leaky
balloons.
But remember all trees big and small
Are beautiful to see for all.

-Lance Milnes

***

It was one bright and sunny morning.
The wind was blowing at a strong pace.
The Spanish moss was dancing in the
live oak trees.
The trees were draped with long
strings of moss.
The wind blew stronger and stronger
And the moss danced much faster.

-Kevin Waters

Bowing and bending
Gracefully swaying,
The trees speak to me
In whispers of age old wisdom.
Of the things they have seen
and endured
And of things to come.
For to me,
A tree represents an eternity

-Kim Mulder

***

Old Mr. Oak
With your grey beard
Hanging low and think-
How can it be
That you've been here so long
Never moving-
Never speaking-
Yet you endure?

Old Mr. Oak
Your skin is old and wrinkled
And your arms are bent and gnarled-
How I wish
That I could share
Your knowledge of the ages.

-Charles Laurel

***

A tree to me is very special
It's not only shade or a thing
to climb
A tree seems to talk and listen
to everything you say
Each tree has its own little
personality
A tree is a very special thing.

-Kerry E.

Wind & WATER

Sometimes warm, sometimes languid,
Time flows as with the cool water
Of a lake or the gentle rustle
Of a breeze.
Is what we see or what we feel of time,
Immortal?
Or of consequence only this moment?

-William Pendola, Jr.

***

The glass surface half hidden
by the ghostly mists.
The silent hyacinth reflecting
downward, outward.
The glistening boardwalk creaking
with my footfalls.
The newborn air sweet and cool
refreshing in its stillness.
The sky cotton candy pink
promising warmth and light.
The calm water disturbed by
expanding circles to the shore.
The first breeze scatters the
lazy mist and wakens the
water from its sleep.
The lake - awake - stirring
to greet the hastening dawn
of a new day.

-Bob Smith

The lily pads drift around the lake
   Just to see what they can see.
The wind is their director, he knows
   Where he wants them all to be.
They never really seem to care
   Which direction he shall blow,
For whatever way the wind chooses,
   That's where they shall go.

-N. Steele

***

Wind-
Blowing through the trees
Makes me happy, I like it.
Gently touching me.
It feels good

Bent oak trees
With the Spanish moss hanging from
them, gently glowing in the breeze.
It makes them look rustic.
I like to sit and look-
just at all the beauty it can create.

The sun shining on my
Paper reminds me of all the warmth
In the world.
The wind lets me feel open - free.
An ant takes all my lonesomeness away.
Cold damp ground helps me feel secure.
But here comes someone.
Will he become my friend and
Let me share this with him?

-Jeanette Drake

The wind is blowing soft and free,

Listen...

Listen to the birds singing

Soft and free.

-Linda Squires

***

As a cool breeze blows and
Slowly the mist rises over the lake,
I feel as if a veil is being lifted.
I can see things I never saw before.
I feel as though I'm being reborn
Into a world I never dreamed so beautiful.

-Susie Karash

***

The wind can blow
   The wind can die
But even though the wind goes away
   Don't worry yourself, if will be back
Some other day.

-Rodney Wilkerson

***

Lily pads gently drifting
   Down the lake
While the refreshing Autumn
Breezes rustle leaves.

-Teresa Ryan

Creatures

Ode to an Ant

Oh tireless little Brother
You work to find the others
You toil all day
In many a way.
Some people they say
We should keep you away.
There's only one way
It's Mirex they say.
If they have their way
We get no say.
We need you like all others
Oh tireless little Brother.

-Ernest Bostelmam

***

The Gator

I had a little gator
That wouldn't lay an egg
So I poured hot water down her leg.
The little gator begged
The little gator prayed
The little gator layed a hard boiled egg.

-Fred Bohm

***

Blackbird

On a post under a tree
A large blackbird was
Staring at me.
I took a step and stopped to look.
He frowned at me
And his head shook.

-Susan Seybold

***

Butterflies

Butterflies...
quiet, constant motion
searching in the fields
flitting from flower to flower
probing for nourishment.
Even at rest...
a quickening pulsation
anticipates future movement.

-Belinda Perry

***

The air
The birds
The grass
The trees
The log I'm sitting on
The Sun through the mist
The bee about
My lizard
Oh where did he, or was it a she, go
Off in the grass
To join the ants.
The fat lazy ants.

-Rick Berrette

Spider

Lonely spider, spin your web
With its unstick radii and
Crossward gummy strands.
Wait for the fly
Who's flying by,
And catch him and strangle him
In your shiny web.
Carefully you watch your step
Sure to not trip and fall
Walk towards your stranded prey
And eat him or wrap him up
And hang him upon your strandish mantle.

-Vincent Roach

***

nature

I sit in the shade and listen; listen
to the sounds of the living;
the birds, the bugs as they fly,
the wind in the trees. I see
the tiny little flowers, I feel the
moss and the grass; it's all so
alive, real, but almost a dream.
There're so many little tiny
things that make up this big area,
this world. In the distance
I hear voices, I don't see the people
but I feel their presence.
I want to know them, want to
share this feeling, this place,
this love. I want to know them
and how they feel. I hope to share.

-Annette Coggins

Earth Mother

Who are you with a baby between your
knees?
Your eyes look out across the marsh
Your ears hear the sounds of the
coot and gallinule
You smell the earth
You long to feel at one with the
ground on which you sit.

But who are you?

You come wrapped in the cares of
a world that shows you nothing
You deny your true feelings to
live in that world.
You feel yourself sinking under
the weight and cares of that world

How simple to be earth mother -
how peaceful

It is easier to be mother of all the
earth than to be the mother of man.

-Carla Palmer

***

I felt the sunshine
Lightly on my cheek.
I felt the cool and lovely caress
Of the shade trees at their very best.
I felt the wind blow
Cooly on my face.
Open up your heart,
Let Nature take its rightful place.

-Larry Hammer

***

The skies calm
The water clear
The sun shining
I am near.

-Anthony Reese

***

My spirit is free:
I feel as though any moment
I could lift my wings and fly:
I see a butterfly-
My freedom is as his!
I wish this feeling could last
forever.
If only everyone in the world
could have this as I.

-Claudia Cooper

***

As the butterfly flies
It looks so carefree
So it never has to cry
No wimpers and no tears
Unlike you and me

-Darrell Tidwell

Be thankful for what you can see
But if not sight, what?
Sound
Wind
Smell
Touch
All of these increase your awareness
But sight is more precious than most
So, look, see, observe - study.
While you can.

-John Tripp

***

As I sit here on this bench
I see things moving all around.
With the wind blowing through
my hair
I can still hear little animals
everywhere.
I see little ants running around
over the leaves, and down
in the ground.
On the ground are some little
berries that have fallen from
the trees where there is a
squirrel eating some nuts.
The forest is a nice place to be
For you can always feel free.
The birds and the butterflies
Fly very high
And the others roam all around.
But there's one thing good,
They are free.

-Denise Murphy

Trees standing tall
A quiet breeze
Blowing-
Creatures of all types
Socializing in their crazy ways
As the lazy sun hangs in the sky
Watching it all peacefully.

-Sandi Tyndal

***

Thinking, talking, looking at things
Sitting in quiet, hearing birds sing
Stop for an hour, a day, a weekend
The wounds of our earth to
sew up and mend...
The message is clear and not easy to do
We might lose all beauty before
we are through.

- Julia Tripp

***

I can't see how anyone
Could help but "dig"
A place where nature has
So much to give.
The sound of a bird in morning flight
The sound of a hoot owl late at night.
What person could ask for more
Than to be away from cars, horns and
and noisy stores.
It's the things of nature I wish to see
A happy person I wish to be.

-Bobby Cross

Just lay back,
Relax...
To be here is like in Wonderland.
  The quiet sound of laughter.
Let the sun warm you.
The wind cool you.
You can think about the day's events...
You can think about what is to come.
  Or...
You can, like me, think about someone.
Someone who is far away.
  quietness...
  thinking...
  beauty...
Things that make this place
  what it is.

-Elizabeth King

***

A place of beauty.
Could I have been here before?
Maybe years ago
In thought or song.
The place is within me
Yet quiet and still.
Sometimes I think I've lost it
But,
It's always been there.
It is times like now
When I see beauty in myself,
Not cluttered up by bright lights
  or noise
But coming from inside to shine on
  its own.

-Laurie Nagy

***

When you're in the forest you
  feel so good.
The flowers and the trees
  are all blowing in the breeze.
It's so quiet, and peaceful
  all day.
And then at night it's the same way.

Doesn't it hurt to know that this
might all be changed one day.
Maybe the people of STEP might
  save the day.

-Craig Anderson

***

The draped green hues that reside here
  in casual repose
Can draw me back to a time when
  prehistory's power stalked here-
When the long trunks were the
  armored necks of reptilian
  competitors-
When the waving moss was quivering
  ferns stirred by the breath
  of long dead predators-
And not the passing of today's wind.

-Bill Redfern

***

Branches of trees,
Sway along with the breeze
  in the warmth of a summer day.
While catepillars crawl
  in the morn of the dawn.

-Debbie Raho

Mushroom

Amber jewel
Glittering pool
of dew caught up in rising
Once just bark
fertile and moist
And now a diamond from nothing.

Almost hidden by brush
Now its gold leafing shines
Provided by nature to
Sooth mens' souls and open others eyes.

A cricket's home, a squirrel's meal,
a man's wonder, and nature's jewel.

An amber flow from under the oak
With the polishing dew making
the mushroom shine.

-Joe Petrulionis

***

I think myself very lucky
To see things as beautiful as these
The swaying of tree branches
The humming of the bees.

The tranquility of the water
With its glimmering, peaceful way
The current gently moving
Ever moving by the day.

The song of the bird calling
Loudly calling with all its heart
To its mate, least they be
Apart.

The warmth of the sun comes shining
through
Rays shining through the trees
Yes I am most lucky to see things
As beautiful as these.

-Melanie Wink

I have before me:
the world
of the wood
trees and the grasses
of the lake
lilypads on
glistening waters
float
friends surround me
not people, not faces
the wood and the lake
one of nature's best places.

-Linnie Hanford

***

Cedar drifts lazily through the
air, my nostrils trap the
fragrance.
The greens of the forest suddenly
interrupted by screaming, yellow
buses.
The calls of the birds and wind
through the leaves are silent
next to noises; shouting, talking.
A leaf falls on my lap.
Nature litters her floor with
things of nature, meant to fall.
Man litters nature's floor with
ugly abominations created by
him destroying nature.
Life is often forgotten, its meanings,
its truths.
Time and worries have precidence.

-Shelly des Islets

Nature is a fresh cool morning
Where the sun shines on the
lakes and the shadows of trees
are among us.
Nature is a high flying bird as it
flies over all God's creations.
Nature is a bee as it goes from
flower to flower gathering pollen
to thrive on.
Nature is a large city with cars, buses,
trains and congested people.

What is nature? You decide.

-Bill Pyle

***

The morning light dances across the oaks
The fireflies slip back into their
hollows
You're awakened by the sound of lively
jokes
Breakfast - one by one you follow.

The birds sing
The squirrels play
The morning would bring a
bright new day.
The sun rises higher
The birds still sing
You gather wood for the evening fire.
What a beautiful thing to hear a
bee fly by
To smell the air
To see an eagle soar high

Is it fair?
To tear this down to build a road
or build a town.
Steal the lily from the toad?
Take the tree from the birds?

If so
They will not know
How much they lose.

I hope I never hear the news
That where before there was a tree
In reality there is no more.

-Joey Lewis

***

The sky is blue
The clouds are white
The sand and surf
Are oh so right.

It's beautiful
All this surrounding me
When a gentle breeze is glowing
Through the cypress trees.

You know the time is right.

-Neysa Tice

***

Tree fantasy
breathing
then down to roots center of tree
up tree
Out looking at limbs and leaves then

Bird fantasy
breathing
then flapping take off to
a place where things good things
happened
Fly land find a place you like.

-Linnie Hanford

Life

Why is life so short?
Maybe we move too fast
   Or try too hard to make it last.

Should we sit down and
Enjoy what we've got
   Or strive to get more?

Should we take away what nature gives
Or try to prolong it, help it live?

Should we help each other
Solve our problems
However immense they are?
And live together peacefully
Which is much better by far?

-Jim Bishop

Peace, a word without ending,
A place where beauty is one's
Own imagination,
Where life is too great to express,
And time is but a word that has
No meaning.

To find such a place is to
Explore yourself,
To know is to feel and dream.
Take time to find yourself.
It might be greater than expected.

-Tammy Kase

***

You may have forgotten
But I haven't a friend.
Filed away in my memory
To be kept forever
Are the loving and encouraging words
You spoke to me
So many times
When I needed them.
And now at those times
When I feel lonely and forgotten
I am reminded of your word
And am lifted up once more.

-Leanne Dahlstrand

***

The bell will ring,
The wind shall blow,
The birds will sing,
The trees shall grow.
Will these things I do know
Keep existing when we do go?

-Bennie Spurlin

I Listen to the music
The music of the birds,
I watch the dragonfly...
As he does the dance of life.

The wind rushes past me
Then stops...
It's an odyssey of life
And I am in the middle.

-Don Vidussi

***

Why do ants work so hard to build cities
Underground or in trees?
And why do they have the ability
To lift something many times
Their own weight and carry it
Long Distances.

Why? What is the purpose of life?
Why does life exist?

-Steve Voegelin

***

The serenity of love
Is it yours or is it mine
Can it be shared between us?
Or is it only serene to thyself.
Can it be taken away or is it not whole.
Will the love we share today disintegrate
with time.
Dreams are wonders of tomorrow-
Will our love become a dream
Of tomorrow asking for eternity?

-Lorrieann Goetz

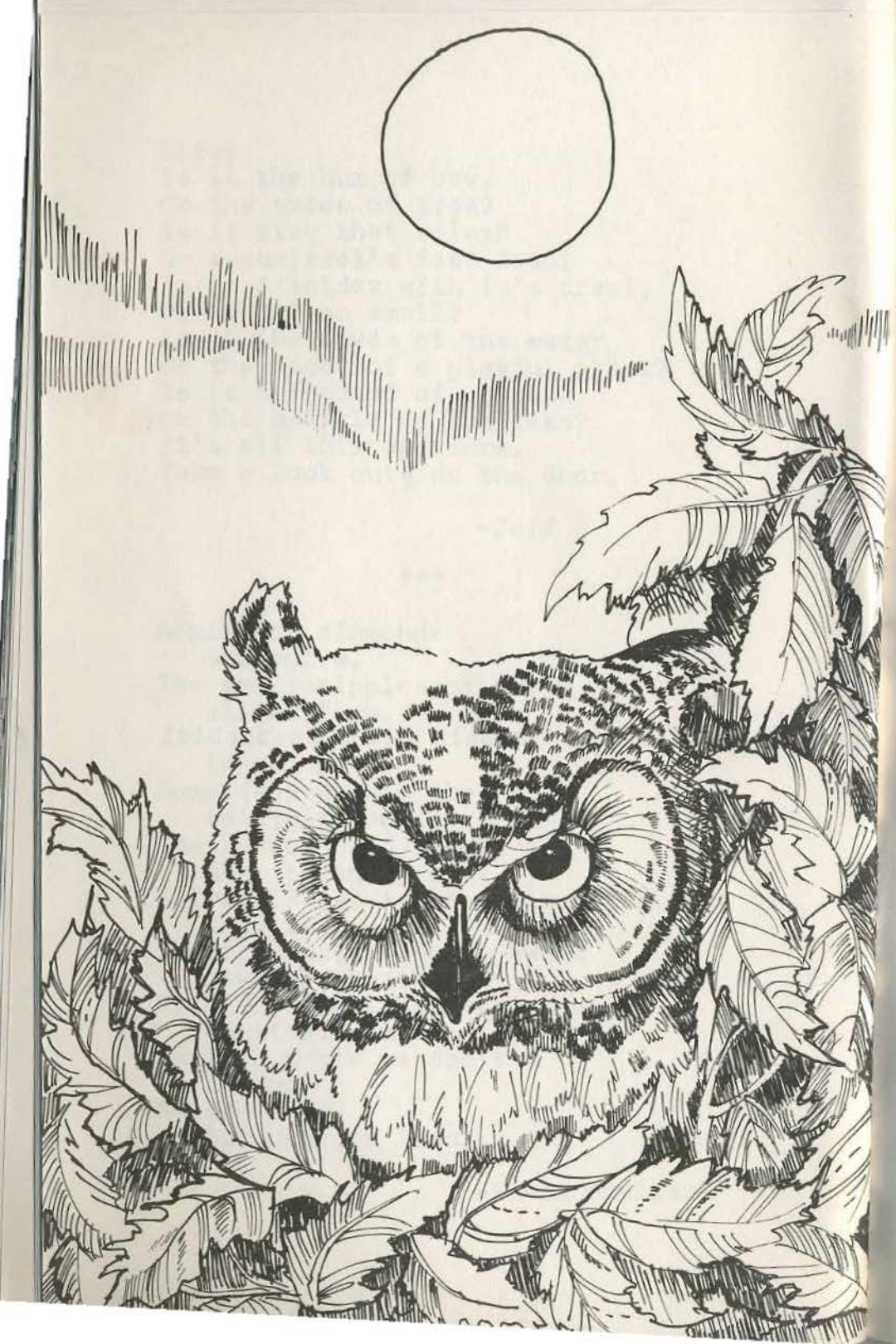
Life?
Is it the hum of bee,
Or the shade of tree?
Is it fish that splash
Or a squirrel's fast dash?
Is it a spider with it's crawl,
Or an ant so small?
Is it the waves of the water
Or the sight of a playful otter?
Is it the sound of a snake
or the sparkle on the lake?
It's all this and more.
Take a look outside the door.

-Jeff

***

A million diamonds
set aglow,
The small ripples of the
silent flow.
Iridescent world hidden
in our own
Down deep within the
twilight zone.
The shadows and shapes
move silently by
Silver images as in their world
they fly.
Their forests sway in sweet
rhythmic beat
With the gentle current they
constantly meet.
In this world we don't
belong
We can enter
but not for long.

-Sheri Fueller



DAY'S END

Here I sit on a log from a tree
Thinking of a poem to come to me.
It has to be good and has to be sweet
And not to mention
It has to be neat.

But---

If this poem writing doesn't
Turn out to be a piece of pie,
At least no one can say-
I didn't try.

-Keith Smith

In the morning as the day begins
   As of the sunrise,
To each and every
   Day it lends.

To see the sun rise
   Yes it is a sight.
But just as beautiful is
   the sunset, at night.

As each day goes by
   'til tomorrow ends,
The sun will rise
   The sun will set.

Yes, we all know why.

-Anita Blackwelder

***

As the sun grows low in the sky
You get the feeling that you belong
   As a part of this world.
Your mind wonders and you find
Yourself in a totally different world.

The water is calm
And you feel a sense of prolonged
   Happiness.
But the day cannot go on forever
But will continue the next day.

-Jeff Tilton

ESA'S

Environmental Study Areas

Attempt to find an insect that has hidden himself in his habitat or a plant that has its own defense.

--Rudy Patton

You are a man or woman hunting in the wilds and about to fire the shot that would kill a wild animal (a deer), but before you fire you hear someone yell "Stop" in a loud voice. You discover that it is the deer speaking. What do you think it would say to you? What would you say to it? This is a good chance to discuss gun control vs. keeping animal populations in control.

--Ray Pendleton

Pick out some object in the surroundings. It can be a plant, a tree, an animal, an old log, anything. Take a few minutes to write down as many words as you can that seem to say what this object means or seems or is to you.

--William Pendola, Jr.

Blind-fold Walk: Choose partners. Decide which one is to be the leader and which one the follower. Everyone will have the chance to be both. Blindfold the follower. The leader takes his/her partner to 5 different trees. Get to know these trees so that when the blindfold is taken off you can go to those same trees.

--Belinda S. Perry

Take the group to the oak tree in the boys' camp and ask the members to sit in a circle around the base. Try to think about what the tree has lived through and if it could talk, what would it tell you.

--Joe Petralionis

Ask the kids to look for something in nature. Upon returning they will describe what they saw with gestures with their hands. It will be timed to see who can guess in the least amount of time.

--Kevin Waters

You are a group of explorers and have landed in a hitherto undiscovered land. There are no humans around, no edible animals and only plants that are questionable. Your store of food has run out and you must devise a way to find out what plants and what parts of them are edible.

--Vicki Weglowski

Have the participants examine and collect living organisms. Have each person discuss how each organism varies and its specific importance to man.

--Rodney Wilkerson

Go out and make a list of all plants and trees that have more than three uses.

--Melanie Wink

Everyone try to be a different animal and tell about the way of life and the environment your animal lives in, and what he eats.

--Anita Blackwelder

Let everyone lay flat on their back and look at the clouds to see how many different animals shapes there are.

--Anita Blackwelder

Take a group to the woods, blindfold one person at a time, take him to a bush, plant or tree. Ask him to feel it, smell it, then describe it while blindfolded. Try to guess the name.

--Craig Anderson

Take a group on a ¼ mile hike. Ask them to notice the variety of animal and plant life. Use the SPICE approach.

--John Bent

Ask each person to find a spot from which to watch the clouds. Look for different animals and plants in the cloud formations. Discuss in a group what each person saw.

--Rick Berrette

Find and/or draw anything an animal uses as a home. Discuss how the animal might have made the home. Also discuss the relationship between the animal, its home and the environment.

--Jim Bishop

Ecology Relay: Number off into two teams. Each team will be given an object to find- (ex. team A - grass, team B - leaves). Each team member must find a different type of grass or leaf. The team that finishes first is the winner.

--Fred Bohm

Go into an area where human sounds are absent. Listen to the sounds of nature while lying back in the shade with eyes closed.

--Ernie Bostelman

Climb a tree, build a playhouse, and listen to the birds.

--Laurie Bostelman

Find an oak tree. Touch the tree with your head and feet all around. 1.) How are we like trees? 2.) What does a tree need or require for growth? 3.) What do we need? 4.) What do we give to a tree? CO_2 5.) What does a tree return to us? Oxygen. 6.) How does a tree help to clean streams and rivers? Summarize.

--Susan Bostelman

Touch-Textures: Bring back for each of the following - slimy, hairy, smooth, rough, slick.

--Susan Bostelman

Name off evidence of man in your immediate environment. 1.) How has man improved the environment? 2.) How has man impaired the environment?

--Susan Bostelman

Go into a wooded area to examine a tree noticing all the different kinds of animals and plants living together. Notice how many things help the tree, hurt the tree, and make their homes in or on the tree.

--Jeff Brishwell

Take a group to a nice spot. Have them close their eyes and listen to the sounds - manmade and natural sounds. Which sounds were here years ago? What sounds are perhaps going to be here 10 years from now?

--Annette Coggins

Go to the dock by the lake. Close your eyes and concentrate on your breathing- how it goes in and out of your body. After relaxing like this, imagine you're at the root of a tree, then imagine you're climbing the tree observing the bark. Then imagine yourself in the branches and climbing to the top branch. Look all around.

Climb down. Ask those in the group to share how they felt and what they saw.
--Claudia Cooper

Take a class snorkeling to observe the wonders of marine life.
--Bobby Cross

Relating a mushroom to art. Look closely at a mushroom - notice the texture, patterns, colors.
--Sara Crouch

Find an insect or evidence of an insect. 1.) What is the insect? 2.) Where does it live? 3.) What kind of protection does it have?
--Michelle des Islet

Animal Communication: Have the group stand outside and listen for animal noises. What animals can you hear? What could they be trying to say to each other? Do you suppose the birds are chirping just because they are happy? What could a mother cat be saying when she licks her kittens? When do animals communicate the most? How do bees communicate? To tell where the flowers are?
--Jeanette Drake

Collect seeds. What plants did the seeds come from? How do the seeds travel from place to place?
--Kerry Evans

During the course of your lifetime you have had the opportunity to step on or, in other various ways, mutilate a pine cone. This time we'll examine the inside. Starting from the bottom, slowly take it apart noting the different parts.
--Sheri Fuller

Select something in nature. Put yourself in its place. Decide what language it would use. How would it dance and sing? Decide what you think it might do or want to say or represent.
--Lorrie Ann Goetz

Ask everyone to listen carefully for about two minutes. Explain which way is north. Blindfold each person individually. Ask him to discern which way north might be. Ask each person to listen, feel the direction of the sun, and remember what they hear.
--Larry Hammer

Ask each person to pretend they are a bird or tree - fantasize. Write haiku or cinquain about the fantacy.
--Linnie Hanford

Ask each person to pretend to be an animal. After 10 minutes ask each person to describe a day in the life of this animal as best they can. ex. "I am a racoon. I woke up this morning and..."
--Susan Karash

Discuss the ways some animals have evolved and yet are so close to their prehistoric ancestors. Find information on these animals - lizards, alligators, birds.
--Tammy Kase

Pick six flowers. Smell and feel each of them. Blindfolded, smell and feel them again and try to name them.
--Lindy Kerr

Look at the animals and life in the water compared to that on land. Note the differences. Note where the trees are, the water hyacinths, the ferns and snails.

1. Do the trees like water? Note the trees' overhang over the water.
2. What does the overhang tell you about the trees' water needs?
3. How wet are the ferns?
4. Why do the hyacinths bunch together?
5. Why are the hyacinths different colors?
6. Why is there so much moss?
7. How does moss grow?

--Beth King

Discuss how water erodes soil and how tree roots hold the soil together.

--Jeff Kosik

Describe ESA. Take the group into an open place to find insects, leaves, flowers, etc. Discuss why these things are located in that particular area.

--Lynda Squires

Take the group into a wooded area. Pair off. One member of each pair is blind-folded and led to a tree or plant. He must rely on his senses of touch and smell to distinguish the type of plant.

--Charles Laurel

Walk down the trail behind the girls' cabins and spot 5 things that contribute to the particular community; describe how they contribute. Which things are best suited to this environment?

--Joe Lewis

Briefly describe methods of survival. Talk about what natural foods to eat, how to build a shelter. Ex. pine nettle tea, heart of the palmetto, ants.

--Lance Milnes

Go to the water's edge. Observe the floating weeds and animal life of the weeds. Note the

adaptability of life to unusual situations.

--John Montgonery

Discuss where you would find insects in their natural habitat. Specifically, observe the gigantic spider web and spider down by the lake.

--Kim Mulder

Pollution: behind the girls' cabins notice the old stoves, shingles, etc. What would you do if you had the chance to do something about this problem?

--Denise Murphy

Pair up with someone you don't know very well. Talk for 5 minutes and learn as much as you can about the other person. Then each person looks for something in nature that reminds him of the other person. Explain why.

--Laurie Nagy

Snakes: inform people about snakes. Talk about how they are part of our environment. Some snakes are poisonous, but most are not harmful. Discuss how snakes kill other rodents and keep our environment balanced.

--Dan Netherton

Find a spot within the boundaries of the study area that you feel good about. Sit down, relax, close your eyes and listen for five minutes. Count the different sounds, smells. How far away can you hear? What do the smells remind you of? Write on a piece of paper or whatever how this activity made you <u>feel</u>.

--Carla Palmer

Ask each person to find an animal or insect and bring it back in 10 minutes. Ask each person to explain where the animal was found, what it eats, where it lives, what eats it.

--Debbie Raho

Have the people go outside to watch some flowers and the insects that are on them. Have them realize the relationships between flower and insect. Note how each insect is adapted differently for his own flower. Also see how the insects are attracted by the flower. Is there any competition between insects from certain flowers? How do the insect and flower benefit? I would choose the area near the lake because of the hyacinth blossoms and the yellow flowers.

--Richard Raione

Have all the kids go into the woods to find some kind of plant, animal or insect, but they can't talk or tell their friends what they saw. Upon returning, ask each person to act out what they saw without uttering a sound. Time each person - the one who has his animal guessed in the least amount of time wins.

--Bill Pyle

Have the students walk down the trail behind the girls' cabins. Describe different kinds of plants and the area they are in. Describe their similarities and differences.

--Bill Pyle

1. Sensitivity exercise - students form a tight circle with one student blindfolded with arms crossed in the middle. Student is pushed back and forth from member to

member. Builds trust.
2. Group picks a student up and elevates him above their heads. Participant observes from a different elevation.
3. Pairs of students are picked; one is blindfolded while other leads him to different objects to "see" with his hands.

--Bill Redfern

Bird Habitat: Find a place to observe birds. Note how they build their nests in different kinds of trees. Why do birds build in particular places? Safety. What do they eat? Nuts, berries, worms. Do their habitats help them escape from their enemies? Height, their ability to fly.

--Anthony Reese

Your ESA is anyplace where man has made his presence known. Try to explain the way it would have been if man hadn't been there. Was the way it was better for man? for nature?

--Vincent Roach

Have the group discuss what life they are observing in their ESA. They would be assigned a project on one of the things they discussed in order to explore observations in greater depth.

--Teresa Ryan

Have the kids find a pine cone and ask them to make an animal from the pine cone. Discuss how a pine cone develops and how animals feed off the seeds.

--Stacy Schmidt

Dig two holes, one under a decaying log and the other in the sunlight. Note the differences in the areas explored.

--Susan Seybold

Legend of the Date Nut Palm:

Once there was a small Hawaiian family consisting of a small boy and his parents. The family had been living on the island for many days and they had no food, water or shelter. When night came the family lay down under the date nut palm and went to sleep. During the night the boy had a dream. In his dream the date nut palm spoke to him in the form of a beautiful lady. She told him that if he split her bark he would have sweet liquid to drink fo quench his thrist. The fronds, her lovely branches would provide the family with shelter. The fruit of her tree would give the boy and his family food to eat and for warmth her wood would be burned. Her bark itself would give his family clothes. In the morning the boy told his parents of the dream and what the beautiful lady had said. Then the boy and his parents followed the instruction and were able to remain alive.

1. What ways are trees used?
2. How many trees can you name that have more than one use?
3. Name three uses of trees around you righ now.
4. How can you save trees today?
5. If you were a tree, what would hurt you most?

--anonymous

To Mike,

MY STEP WORKSHOP #2

Fifteen people:
Full of life and living and loving -
Personalities evolving, adapting,
Taking on new forms -
Touching bodies, mingling minds,
Taking communion without sacrament...

... Two days gone,
Energy run out.
Instead of changing forms
There are scattered cold encapsulates ~~of~~ of
Once warm bodies:
Pencil scratches on white paper -
Empty envelopes with addresses -
Memories imperfectly pressed in my mind's surface,
Fading with time;
Like tracks of panther in soft mud,
~~The~~ Losing their identity with the ~~beneath~~
~~losing Impressions fading with the~~ steady washings
Of summer rain.

-Norma


STEP
STEP
STEP
STEP

STUDENTS TOWARD ENVIRONMENTAL PARTICIPATION

EVERGLADES NATIONAL PARK
ENVIRONMENTAL EDUCATION PROGRAM

MIKE WATSON

COORDINATOR

ART WORK AND CREATIVE WRITING IN THIS GUIDE ARE THE WORK OF STEP MEMBERS FROM SOUTHWEST MIAMI, GEORGETOWN, & MIAMI SPRINGS HIGH SCHOOLS.

Cry of the Flower

When you can talk to a plant and have it relate back, you are then on a true link with nature.

When you see a plant cry because of man's destruction. Actually hear it scream because of careless fellow man.

You may see it fold into itself cowering on every breath of air breathable, knowing its end is near.

Yet it still has some hope. Groups just such as STEP are this special hope. His one thread to his rightful way of life.

STEP is like a different language interpreter. It tries to show the little flower's secret.

If STEP or just such a group should fail so would man. If they fail all mankind would cease to exist as we know him.

Then there would be no one to hear the flowers.

unsigned

A HISTORY OF MAN'S ENVIRONMENTAL THINKING

In order to understand what is happening to our environment we can take a look at the different attitudes man has had throughout history. Our attitudes today are a product of nearly 3000 years of philosophy concerning God,gods, man, and man's role on earth.

In many eastern religions and in western aboriginal religions, different units of the environment had different deities protecting them. These gods were appealed to and appeased before a tree could be cut or a stream could be dammed. Man held a feeling of reverence toward nature and was an equal with the other creations inhabiting the earth.

Modern western thought is a derivation not of oriental or American aboriginal ideas, but a distillation of Judaeo-Christian philosophy. In this frame of thought, man is seen as having a mandate to subdue the earth and its creatures, and of having dominion over all creatures. In this sense, man need not hold any reverence for nature.

We need to completely rethink our "conquer the frontier" ideas and develop an understanding of man as a part of the earth, not superior to it. This may be the only way to mobilize people to take action in our present ecologic crisis. We see STEP as a means to reshape people's perception of earth.

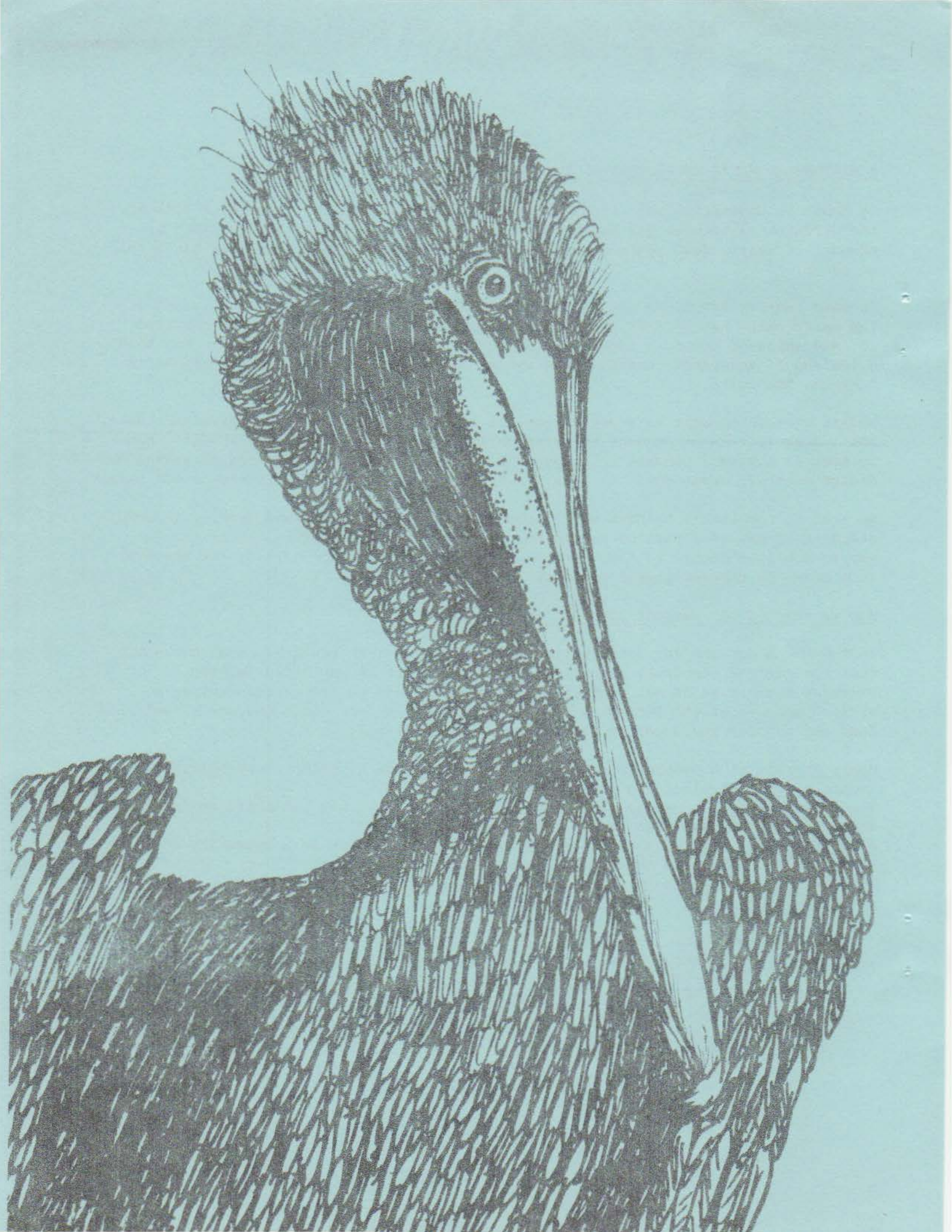
How we reached our current state of awareness:

In the U.S. a concern for conservation emerged in the 19th century. Some men saw that the earth's resources were limited and could not be exploited forever. Everyday activities of man were placing a great strain on the environment as a whole. Because of the following persons' ideas, a concern about the use of national land and natural resources in the U.S. gradually developed.

Henry Thoreau -- a prophet before his time, whose love of Walden Pond helped him create a sense of place and a total view of the world.
Theodore Roosevelt -- whose deep love of the West helped him establish reclamation and conservation laws when he was President
Aldo Leopold -- gave us a new land ethic, "when we see land as a community to which we belong, we may begin to use it with respect"
STEP and YOU -- present day people who care and will take action

The trees, the birds, the sky, the sun,
All living, growing, and giving as one
To you and to me the men of this earth
Our home, out land, the place of our birth
So lets do as they do and give in return
Live all in harmony and thus we shall learn
That we are it and it is we
So protect and love; that's the way it should be.

Traci Davis



STEP ENVIRONMENTAL AWARENESS LEADERSHIP WORKSHOP

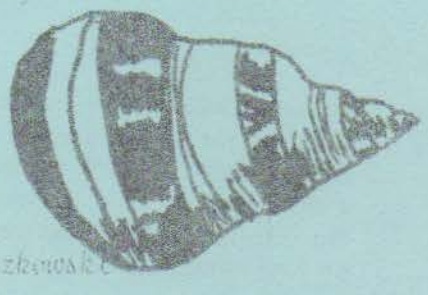
Can you look at a sunset with your heart as well as your eyes? Have you ever fallen in love---with the earth? We think the true meaning of love is to give more than we take. If you share these feelings, come and join us. We call ourselves STEP (Students Toward Environmental Participation), and we care.

As I sit here on the damp leafy ground
I am experiencing something that is very amazing to me.
With no thought in my mind about the hustle and bustle of
everyday life
I feel as if I'm in a world that is totally different from everyday life.
It is. It is peace and tranquility.
I see and hear the leaves wave thru the air
as the soft wind kisses each.
See the little critters that scuttle around on the ground, they look
as if they're ice skating, and in a rush to go.
Wow! The sun just came thru the branches of the old oak next to me,
and it feels good.

Kelly Rivera

* Members of STEP begin by becoming environmentally aware themselves.

By participating in the STEP 10 hour Environmental Awareness Leadership Workshop, people become aware of the wholeness of the earth and learn to relate to nature in a personal manner. They not only learn the interdependence of all living things, they also learn to use the senses and practice self expression. They introduce themselves by finding a natural object they identify with and describing it to the group. Instead of name, rank, and serial number, this tells your personal story. Step members try to feel the connection with the past represented by the earth below and the sky above. We are the present! More than anything else, STEP is a positive attitude toward the earth and its future.



swamp
beauty danger
protect preserve explain
important intriguing interesting fun
Everglades

Raymond Bieczynski

* One of the major functions of STEP is to communicate our awareness to others.

In the past, STEP members' communicating has mainly been with elementary school students, the adults of the future. We also reach parents indirectly through the attitudes and actions of their children. The STEP members have run elementary awareness workshops on their own, and have been teacher's aids for elementary school groups visiting Everglades National Park's environmental study areas (ESA's). High school and junior high students, teachers, and community leaders have been very responsive to STEP ideas too, and walks have been led in ESA's for these grpups. During the 10 hour workshop, STEP members are led in activities in different Environmental Study Areas to increase their understanding of the ESA's. Later in the same workshop, the members create their own activities for ESAreas. It is this personal set of activities that members use when they become leaders. Included in the activity section of this guidebook are many STEP-member-created activities.

You and I trusting,
Leading each other thru life.
On us Spring has dawned.

We speak for the trees
Talking; showing people how.
Will they ever hear?

Suzanne Banas

* After awareness and communication comes commitment and action.

Commitment. The most important thing I learned in this workshop was:

-to preserve and protect because if you don't they might not be here tomorrow Quincy Scott

-you have to sacrifice something from yourself to keep the animals alive Debbie Edwards

-to protect wildlife areas and to watch them because if something happens to them our health and well being is in danger too Lori Pasley

Action takes many forms. STEP members do their own thing, and the results often make important changes. As a result of one STEP group's action, the Environmental Protection Agency brought suit against businesses that were polluting a creek near a high school in Atlanta. Others have formed ecology clubs, recycling centers, their own Environmental Study Areas.....the projects are bounded only by the imagination of the members.

Your commitment may also lead you to a career of environmental action. Perhaps our sample resume would help you start to record your working experience. Any activity you participate in, such as being a teacher's aid, would be valuable to record. Our sample resume and evaluation forms are on the following two pages.

STEP IS A COMMITMENT OF LOVE FOR OUR ENVIRONMENT AND AN UNDERSTANDING OF OUR PLACE IN IT.

STATEMENT OF CAREER INTERESTS

_____

_____

_____

_____

National Park Service Verification

_____

Environmental Education Coordinator

STEP
Volunteer Teacher Assitant
Resume

Name _____ High School _____
Address _____ Grade _____
_____ Home Phone _____

ENVIRONMENTAL ACTION

Activity:	Date:	Location:
STEP 10 hour course	_____	_____
Instructor, 10 hour course	_____	_____
	_____	_____
Teacher Assistant	_____	_____
	_____	_____
	_____	_____
Recycling projects	_____	_____
	_____	_____
Ecology Clubs	_____	_____
Other:		
_____	_____	_____
_____	_____	_____
_____	_____	_____

RECREATIONAL INTERESTS

_____ _____

_____ _____

SPECIAL SKILLS AND INTERESTS

_____ English _____ Art

_____ Math _____ Music

_____ History _____ Photography

_____ Physical Education _____ _____

S.T.E.P. VOLUNTEER TEACHER ASSISTANT

Teacher Evalution

Student's Name _____ High School _____

Date of Activity _____

1. Enthusiasm

_____ above average _____ average ___ below average

2. Ability to set a good personal example

___ above average ____ average ___ below average

3. Ability to lead environmental activities

____ above average ____ average ___below average

4. Ability to communicate environmental relationships

___ above average ____ average ___below average

5. Knowledge of subject matter

___ above average ___ average ___below average

6. Ability to lead group discussion

___ above average ____average ____below average

7. Ability to stay within alloted time frames

____ above average ___average ___belowaverage

Comments:

ENVIRONMENTAL STUDY AREA GUIDELINES

If you would like to create your own Environmental Study Area as part of your committment to environmental action, you will have to know the following criteria for an ESA. An ESA should be a place where we can do our thing in terms of relating to the environment and nature using the senses. ESA's may be natural, cultural, or historical areas designated for this type of study or they can be a school playground, a garbage dump, or your own backyard. An ESA is a place to feel, love, and interpret the earth.

An ESA should be:

--- A place that shows man's relationship to the environment, whether its a positive or negative relationship.

--- Sturdy, so that continued use of the area will not have a devastating effect on the environment.

--- located so that regular use will be convenient for local schools.

So, create an Environmental Study Area, lead some people in activities to increase their awareness of the earth.....continue your committment.....

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Leading each other thru life.
On us Spring has dawned.

We speak for the trees
Talking; showing people how.
Will they ever hear?

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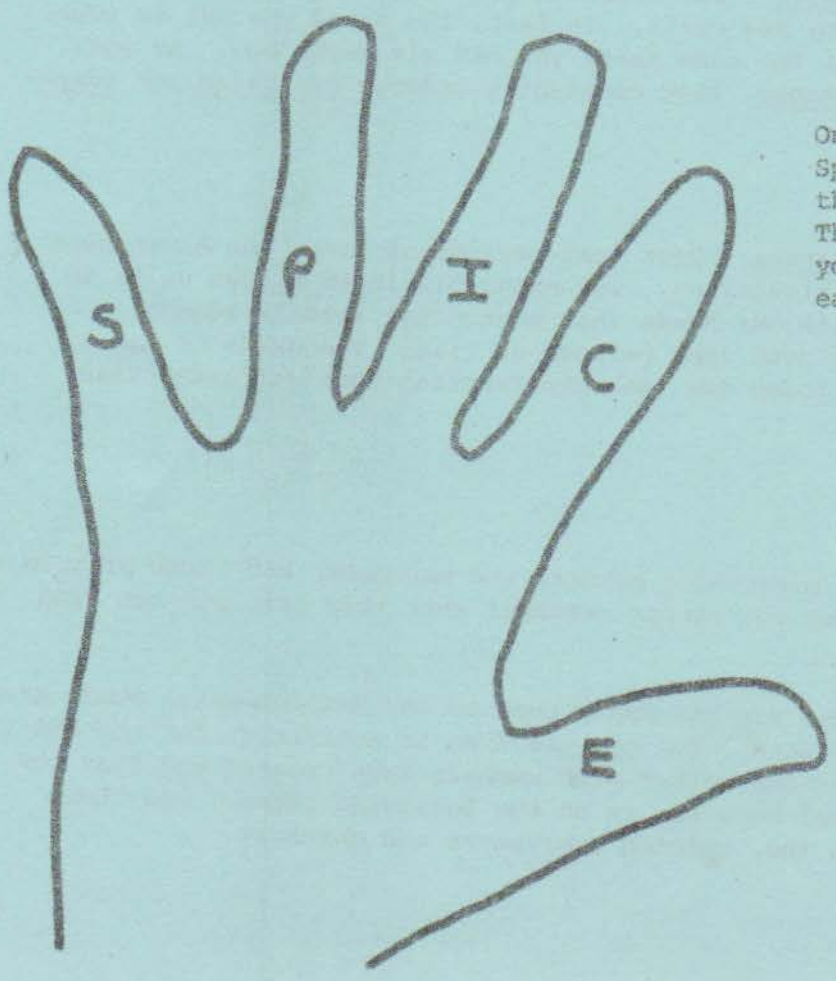
CONTINUITY AND CHANGE: Both living and nonliving things are constantly changing--whether among galaxies and planets or within body cells and body systems. Some things remain the same in spite of change. Matter and energy may change in form, butthey can never be created or destroyed.

EVOLUTION AND ADAPTATION: Over centuries and centuries, living and nonliving things alter and develop in the process called evolution. Probably the greatest number of changes over the longest periods of time come about in order to enable an organism to adapt to the environment. Hereditary factors then preserve the continuing elements. The characteristics that enable the organism to adapt best (for example, the best food finder) are apt to be the traits passed on from generation to generation, thus ensuring survival of the species.

Using these large concepts, or Strands, leaders who have had no particular scientific or ecological training can instruct or guide students toward purposeful outdoor activities. The scope of the Strands can be focused on the specific at almost any level of detail or sophistication. Within the Strands there is a synthesis of environmental relationships. This synthesis makes the Strands applicable to the wide range of disciplines within a school program, yet the Strands provide a tool for study that can be related to the most widely differing ecological situations.
For example, Patterns can be applied to the arrangements of beach fauna (biology) or mountain ecology (natural history) or people in cities (social sciences).



One easy way to remember the Spice Strands is to examine the Strands Pocket Model. There are five fingers on your pocket model, one for each Strand.

A SENSE OF PLACE--ACTIVITIES FOR ENVIRONMENTAL STUDY AREAS

The previously mentioned Spice Strands are not, by themselves alone, enough. You must relate to nature in a personal way, directly or indirectly, before you can communicate it to others. That is why we lead STEP participants in activities and they in turn develop their own-to interpret nature in a personal way.

Our activities use the Strands. A listing of these activities and their creators follows.

A. SENSORY ACTIVITIES

Our sensory activities are meant to put the participant in closer contact with the earth, to appreciate the earth thru using his senses. The American Indians were familiar with this type of contact. As Luther Standing Bear, a Sioux Chief, said: "..It was good for the skin to touch the earth, and the old people

What do ya call it? Identify and descirbe any part of the environment using any three senses other than sight. Mary Kay O'Reilly

Get to know your place. Blindfold people one at a time, then lead them to a certain place or tree. Leave them there for a few minutes to get them acquainted with their surroundings and then lead them back. Take off the blindfold and see if they can find their place. Betsy Lambert

Rockfriend Each person finds a rock and sitting in a circle, gets to know it by touch. Gather all the rocks together, mix them up, then have everyone shut their eyes and try to identify their "friend" again. Everglades National Park

I felt, I heard... Take the group out into an area and blindfold them. Allow them to roam around and smell, feel, etc.. Bring them back to a work area and have them draw what they felt and heard. Donnalee Yoho

Sound Advice Go into an area where human sounds are absent. Listen to the sounds of nature while lying back in the shade with eyes closed. After about 5 minutes, talk about the sounds you heard with the group. Ernie Bostelman

Angles Have the group sit in a circle. The leader picks up a natural thing, like a pine cone, and it is passed around the circle. Each person must describe it from a different point of view. Use imagination and senses other than sight! Everglades N P

THE SPICE STRANDS

There are many productive ways in which to make use of the environment as an educational tool. One approach is strictly classification: everything has a name and a specific way of interacting with the universe. Scientists describing unique objects use this taxonomical method as a principal operational procedure in their investigations. This method, however, has a drawback for the leader with a limited scientific background, who may not know the multitude of specific names and conditions with which to describe the environment scientifically .

Another way of approaching environmental study is through an investigative, completely open-ended method. The leader guides students in their attempts to discover what is present in their surroundings and to place their discoveries into some kind of perspective. The advantage of this method is it provides the kind of study that activates sensory awareness and enables the student to develop creative problem-solving techniques. The difficulty rests with the development of research skills. Research skills are another tool of the scientific investigator, and although they would provide a good background in problem-solving for the student, it takes time to develop them.

The SPICE Strand approach draws upon the advantages of both of these methods while eliminating the disadvantages. It incorporates both the specific and the investigative approaches into a third approach with which both student and leader can feel more comfortable. It requires identification and classification, but on a modified basis. It also requires open-ended investigation leading to problem -solving. Yet all of its requirements can be taught by a leader and fulfilled by a student who has little of the rigorous scientific training demanded by the other approaches.

The Strand approach uses five broad, universal concepts as a way of drawing the environment under a total integrated "umbrella". They are known as the the SPICE Strands because the first letter of each concept makes up one of the letters of the word SPICE. These concepts or Strands are:

SIMILARITIES AND VARIETY: Many likenesses and differences occur among living and nonliving things. A variety of function, size, and structure exists in plants and stars, rocks and animals, processes and people. Yet there are sufficient similarities to permit their classification into orderly patterns. These classifications increase one's understanding of this world.

PATTERNS: Organizational patterns are kinds of structures that may be found in rock formations as well as in social groups of people and animals. Functional patterns occur both in nature and in artistic design.

INTERACTION AND INTERDEPENDENCE: Nothing exists in isolation. Each individual is constantly interacting with living and nonliving things: his family, his belongings, his friends, and his world. These people and things also depend on the individual in order to function properly. The process is continuous (as part of the life cycle) even after death, for dead life-forms nourish the living.

Touch-textures Have the group search for one each of the following textures: slimy, hairy, smooth, rough, slick. Discuss why the organism or object feels that way....is it an adaptation for survival? Susan Bostelman

B. AWARENESS ACTIVITIES

The activities listed in this section are meant to awaken one's awareness to detail all around him. We hope this creates an understanding of the environment and eventually leads to environmental action. Ernest Thompson Seton was a naturalist who roamed the wild spaces of Canada and the United States in the early 1900s. He realized that most people lose toudch with nature unless they really try to consciously observe it and be aware of it. He would sit for hours without moving, immersing himself in the world around him. Our first awareness activity is named for him.

Seton Watch Set aside at least 15 minutes for this. Find a spot that will be comfortable to sit or lie in, very still and observing, for this amount of time. Look at all the insect activity, pay attention to the plants, the patterns of them and the grooves in their leaves. Discuss your observations with the group when time is up. Cari Wendler

Life Saver Select an organism, it can be either living or non living. Look around and find something living that helps or is helped by your organism. Then tell the group how one helps the other. Mark Safreed

I am... Finish the sentence "I am" as an organism of the Everglades environment would. Give an account of what a day in the life of the organism you are portraying would be like. When every one has picked an organism and told what it would do in a day, sit in a circle and act out as a group your various roles. Traci Davis

Leaves Have everyone go out and find a leaf. Bring the leaves back and sit in a circle. Have everyone tell the differences and similarities between their leaf and other leaves in the group. Quincy Scott

Clouds In any open area, lay on your back and think about how it would feel to be a cloud. What would you see if you left your cloud as a raindrop? Go around the group, having everyone contribute part of the story of a raindrop's journey away from its cloud and back to it again. Kurt Gildermeister

Water wonders Go to some water and pick out the living structures, patterns and living plants. Discuss the relationship of the water to the things found there. Try this in different water environments.

Camouflage Attempt to find an insect that has hidden himself in his habitat or a plant that has its own defense. Share your discovery with the group Rudy Patton

Old Tree Take the group to an old, large tree. Form a circle around the base. Try to think about what the tree has lived through (look for clues in the bark and branches). If it could talk, what would it tell you? Joe Petralionis

Home Find and/or draw anything an animal uses as a home. Discuss how the animal might have made the home. Also discuss the relationship between the animal, its home and the environment. Jim Bishop

Pine cone During the course of your lifetime you have had the opportunity to step on or, in other various ways, mutilate a pine cone. This time we'll examine the inside. Starting from the bottom slowly take it apart noting the different parts. Sheri Fuller.

Snakes! Inform people about snakes. Talk with them about snakes' role in our environment. Some snakes are poisonous, but most are not harmful. Talk about people's fear of snakes and where it comes from.

For the Birds Find a place to observe birds. Note how they build their nests in different kinds of trees. Why do birds build in certain places: What are they eating? How do their habitats help them escape their enemies? Anthony Reese

Nature's Kaleidoscope Scatter equal numbers of colored toothpicks in an area with as much ground cover as possible. Don't hide them just scatter them widely. After talking about Protective Coloration and coloration for attraction (such as reproduction), the group tries to find as many toothpicks as possible, paying attention to what colors are easy to find and where. After 5 minutes, count the numbers of the different colors and discuss why they were found. Everglades NP.

Web of Life Form a circle and assign each person an identity from the environment such as air, sun, water, deer, bacteria...Take a string and connect all the members like a spider's web. Everyone takes a turn explaining how the the thing that he represents is needed or needs the other identities that his string attaches him to. Then the leader drops his string, slacking the web, and discussion covers what happens to the environment if any part of it is totally removed (aspecies becomes extinct, the water becomes polluted, etc.). Everglades N P

Environment Give the group the word environment (or Everglades) and have them find all the words than can from it. Then use the words to see how they are related to the environment....rot, net, venom... Everglades N P

Framing Sit in a circle and point out that the least expensive camera a person has is his own eye. Have the group make a "frame" using their fingers in a square shape. Focus on objects far away and up close. Focus not only on the object, but also on the space around it. Use your imagination. Everglades NP

C. CREATIVE ACTIVITIES

Poetry forms or other self-expression activities are used most effectively in the middle or near the end of an Environmental Study Area hike. Ask the participants to write about something they have experienced in the ESA up to that point. Let those who wish to share their creation with others. You might even put them all together in a book, that's where we got some of the drawings and poems we use in this STEP guide.

Wishful thinking Pick a good spot where everyone can sit or lie down and be quiet for a few moments. Then ask each person, "If you could be anything other than a human being, what would you like to be out here and why?" Everglades N P

Magic Glob A magic glob is an invisible bit of magic which shapes into anything your creative imagination wants it to be. Sit in a circle and explain the Glob as you shape it with your hands. Make something you like and give it to the person next to you. Then that person creates something new from the Glob. Anonymous

Name it Pick out some object in the surroundings. Take a few minutes to write down as many words as you can that seem to say what this object means or seems or is to you.

Robinson Crusoe You are a group of explorers and have landed on an unexplored land. There are no humans around, no edible animals, and only plants that might be edible. Your food has run out and you must create a way of finding out what plants and what parts of plants are edible. Vicki Weglowski

Animals in the sky Everyone lies flat on their back and looks at the clouds to see how many diffferent Everglades animals and objects the clouds resemble. Anita Blackwelder

Picture it Clear a 1' x 1' square in the soil. Make it as smooth as possible. Collect leaves, mushrooms, different colored sand, and make a picture.Nancy Steele

Paint a Tree Pick a tree and have all the group paint a picture of it. When finished discuss what they have perceived of the tree. Did they show, in some way, how a tree lives? Tony Walter

Role Playing Personify different natural things, then the leader becomes fire and everyone expresses how they feel about fire approaching. Will it harm or benefit? Suzanne Banas

Poetry Group poetry can be done by letting each person write a line of one whole poem. Individual poems can be written as cinquains or haikus with the guidelines on the following two pages.

"Word" CINQUAIN

1. _____

2. _____ _____

3. _____ _____ _____

4. _____ _____ _____ _____

5. _____

1. Use one word to name the subject you are writing about.

2. Use two words to describe #1.

3. Use three words about what #1 is doing.

4. Use four words to tell how you feel about #1.

5. Use a word that means the same as #1.

In the strict poetic sense, cinquain poetry (pronounced san (d) cane) has few lines with a certain number of syllables per line.

2
4
6
8
2

Look at Haiku next. Form is not the important factor, the expression of feelings is. Poetic licinse allowed and encouraged!

Haiku is a three line verse form which originated in thirteenth century Japan.

Characteristics of Authentic Haiku:

Three lines: Line 1 contains 5 syllables; Line 2 contains 7 syllables; Line 3 contains 5 - 17 syllables in all.
English translations do not always follow this pattern.

Each poem includes the season, location, reference to nature.

No subject matter deals with simple ordinary things.

No rhyme (Japanese words end in vowels or "n" sounds)

Few articles or pronouns - syllables can be used for better purpose.

Thought comes first; then the syllables are adjusted to fit the form.

Examples of Haiku for inspiration and demonstration by the Japanese masters.

Departing spring
Hesitates
In the late cherry-blossoms

Buson

Simply trust:
Do not the petals flutter down
Just like that?

Issa

The old pond;
A frog jumps in, --
The sound of the water.

Basho

ENVIRONMENTAL MUSIC

STEP Worksheet (Music)

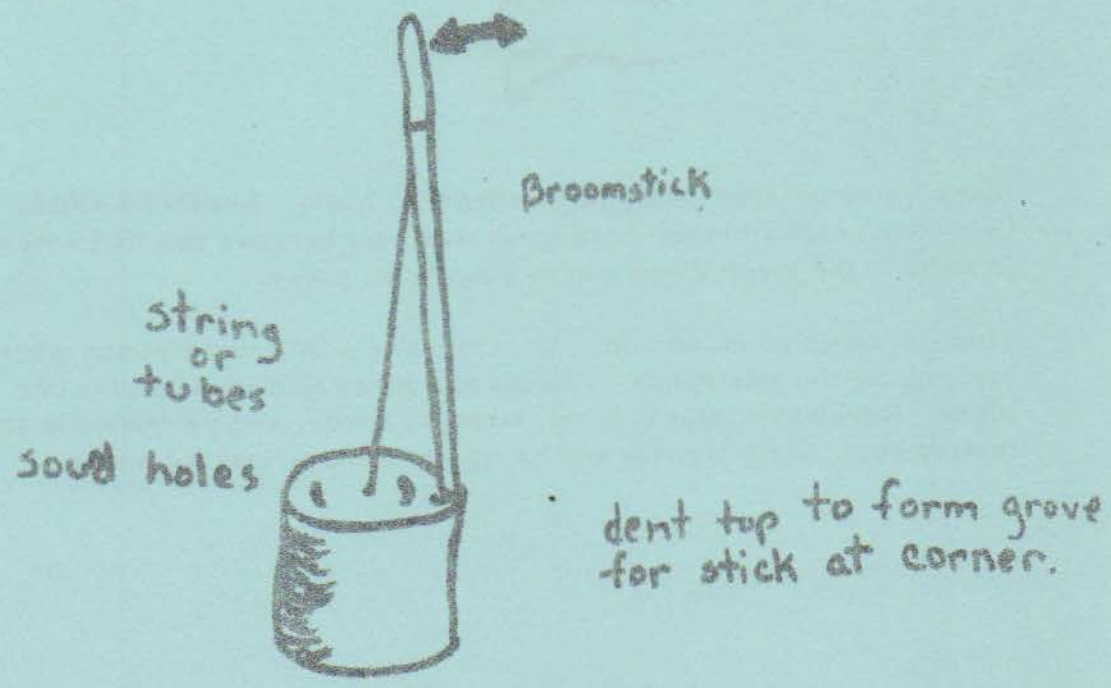
Recycling to make musical instruments

by Andy Kardos

The throw-away materials of our affluent society have been shown to be useful for various things by a great number of articles, books, etc., latel one way to use them is to make something musical.

1. Plastic bottles and margarine tops make good picks for strings. They are soft but durable and you can cut and shape anything you want.

2. Old cans (large) and pails (metal) can be made over into a wash-tub base (small camisters are more like tenors). An old broomstick or other round stick, a large cannister and string or strip of rubber from a bicycle tube. Make as follows:



step on can edge, increase and decrease tension, and pluck string. Makes a good rhythm instrument.

3. Tubes of any kind, plastic, metal, cardboard, can make pipes. The tubes for rolls of Christmas wrap can be made into pipes. Some of the large ones sound like a bassoon.

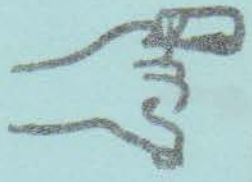
4. Glass, metal or hardwood strips may have a chimelike sound. Various means can be used to make different length strips sound notes like a xylophone or a thumb piano (grass rake tynes make good thumb piano reeds.)

Thumbpiano

You can also make wood chimes from these materials and let nature play the tune.

5. Old jugs, wine, cidar, etc. are good for playing jugs. Blow across top. Big ones are deep and make nice bass accompaniment. Don't inhale too much over those old-age jugs unless that is your way of "turning on."

6. The necks of bottles when you cut them to make glasses are useful if you can play guitar or dulciless. They can be used on the pinky of the fretting hand to create slides. The slides make the notes carry from one pitch to another like Hawaiian music.



Black bluesmen used them on "bottleneck" blues. Leadbelly (Hudy Ledbetter) said a broken bottleneck was best because you had a weapon in some of the tough dives where a musician plays.

This list could go on and on. All it takes is a little imagination when scrounging the wastepiles. Shapes and forms of materials give one ideas. Remember, pipes, horn, strings, reeds, and percussions are instruments. Help recycle and bring joy through making music.

STEP Worksheet (Music)

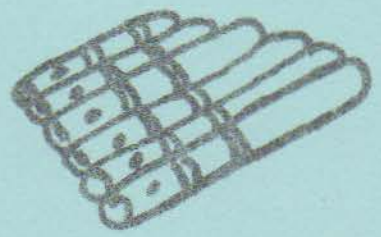
Pipes of various kinds from cane, sumac, copper tubing, or any hollow tube can be used. Usually it is cane.

Pan Pipes - Sharpen up your doven harp and join the nymphs and satyrs in the forest primeval. Don't forget your Pan Pipes.

Pan Pipes are simply tubes of different length with a notch and stop at one end to create a whistle and varying lengths for different notes. The bigger the diameter, the deeper the tone, the smaller the lighter and higher.

Simply make a series of pipes like so

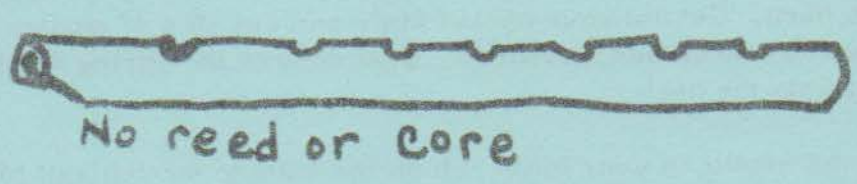
of varying lengths from low to high and tie 6 or 8 together (depending on how many notes you want).



By adjusting the length you can change the pitch to get good notes. By drilling holes you can get notes by stopping or opening the holes and get many, many notes.

A Shepherd's Pipe.

A single pipe like a recorder with a series of holes that you stop or open with the fingers to get different notes.



The variations on this theme are infinite. Watch those Pan Pipes, they have very special magical qualities that might surprise you.

STEP Worksheet (Music)

Making a "Wee" Herd Whistle
By Andy Kardos.

The term Wee Herd Whistle comes from a legend that shepherds calming their herds in ancient times made these to accompany their herding songs. The whistle is a woodwind-slide instrument.

Materials

Find a branch about 3/8" diameter of hard solid cored wood with unbroken smooth bark. Get out your pocket knife and cut off a 4" section where the bark is smooth and unbroken. Best done in the spring when sap is flowing into the bark.

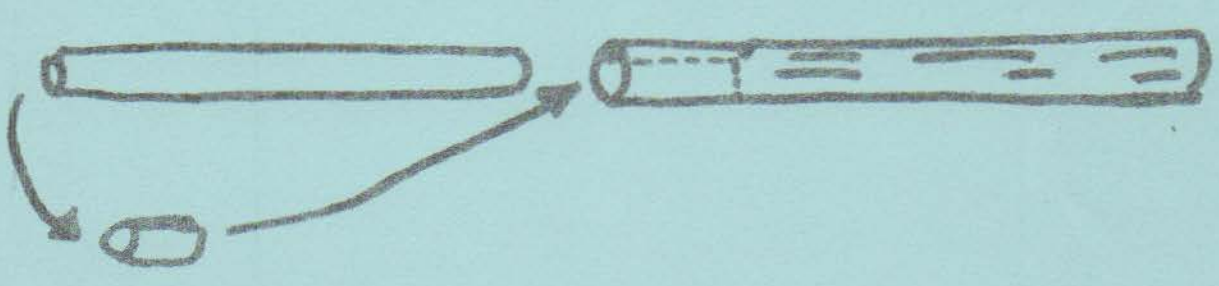
Using the handle of your knife rub on the back to stretch and loosen it from the wood so you can slide the wood out of the back tube.

Make a notch through the back into the wood about one inch from the narrower end of the twig.

Now you should have

core bark

Cut through core at notch and flattent the short piece slightly.



Replace short core so it reaches notch, put along core in other end.

By blowing in to short core end and pulling and pushing long core you can get different notes. Eventually the sap dries and either the bark cracks or the core gets stuck. Recycle it.

All you need now is a herd!

You can also make this from plastic tubing and a dowel.

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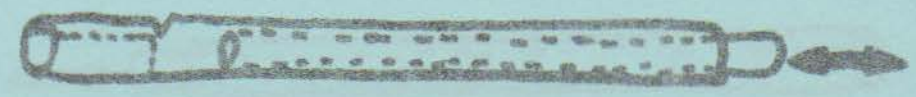

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You can also make this from plastic tubing and a dowel.

STEP Worksheet (Music)

Constructing a "Mouthbow"

By Andy Kardos

The mouthbow is the oldest stringed instrument known to man. In primitive societies with bows and arrows the hunter will use his hunting bow to play music.

Making a mouthbow is like making an archery bow you might have made as a kid for play, or like a primitive man might do in making his hunting bow.

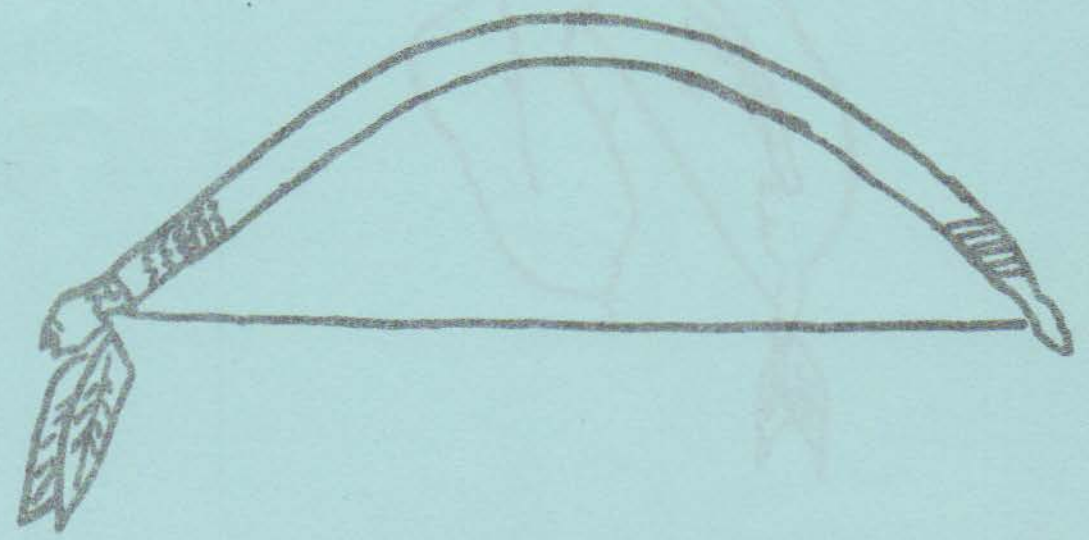
Materials:

Find a good limber branch that is straight and about ½ to 3/4 inch diameter and about as long as your arm.

Have a musical string, generally a light steel guitar or banjo string (other strings can be used but aren't as loud).

Decorate or filigree the stick any way that suits you or leave it as is. If you leave the bark on, it will dry out more slowly and be less brittle. If you peel it, it gets more brittle but louder in tone.

Notch each end so you can bend it in a curve and tie the string just as you would an archery bow.



That is all there is to it. Oh yes, how do you play it? It's easy. Place one end of the bow along side your mouth on your cheek and open you mouth a bit. Use a thin stick or guitar pick to strike the string. With the other hand slightly bend the bow and the pitch will change to a lower note. You can also change the shape of your mouth which is the soundbox (empty headed people get better volume) to change the pitch. Experiment with bending and mouth shaping until you can control the pitch. You are now a victorious mouthbow player. (By the way you can carry a few arrows to deal with the critics).

Most mouthbow players play a simple melody of three or four notes between verses of a song.

	Potential Problem	Major Problem	Moderate Problem	Minor Problem	Not Relevant
r. Abandoned open pits					
s. Soil erosion					
t. Preservation and development of waterways and waterfronts; include canals, reservoirs, rivers, streams, and lakes					
u. Landscaping along highways, roads, public housing and other government property, and semi-public lands (as parking lots)					
v. Unsightly large areas of vacant property (as abandoned military, urban renewal or highway demolition, etc.)					
w. Excessive deforestation					
x. Others					

Identifying the Impact of an Environmental Problem in Your Community:

II. Using the checklist, personally interviewing at least 50 people from different age groups and walks of life in your community to determine which concern is considered to be of highest priority to those interviewed. Their primary concern then becomes your problem of study. In addition to the personal interview, you could also use the telephone to obtain the desired information.

ENVIRONMENTAL EDUCATION ACTIVITIES FOR STUDENTS

I. Using the following checklist, determine environmental trouble areas in your community and suggest how each of the problems might be prevented or corrected.

Community _____	Potential Problem	Major Problem	Moderate Problem	Minor Problem	Not Relevant
a. Refuse and garbage disposal (dumps, landfills, etc.)					
b. Junk car disposal					
c. Air pollution					
d. Water pollution					
e. Soil pollution					
f. Noise pollution					
g. Littering					
h. Vandalism					
i. Overhead power lines					
j. Outdoor advertising (billboards, signs, etc.)					
k. Preservation and development of historic landmarks					
l. Preservation of unique landmarks					
m. Substandard residential area					
n. Unsightly or delapidated buildings					
o. Unsightly commercial areas or strips					
p. Unregulated suburban developments					
q. Inadequate or unsightly roads or highways					

COMMUNITY ENVIRONMENTAL CONCERN

What do you feel are the most urgent environmental concerns? (Please rank the major categories by number in order of priority. Do the same for each of the elements within the categories.)

Major Categories

_____ Population Problems
_____ Transportation Problems
_____ Energy Problems
_____ Resource Depletion
_____ Natural Environment
_____ Aesthetics
_____ Materialism
_____ Planning, Design, and Construction Problems
_____ Economic-Social-Cultural Problems
_____ Knowledge Gaps
_____ Health Hazards
_____ Water Problems
_____ Land Use Problems
_____ Air Problems
_____ Others*

Elements Within Major Categories

Population Problems

_____ Distribution
_____ Growth rate
_____ Rural out-migration
_____ Drain on nonrenewable resources
_____ Others*

Transportation Problems

_____ Highway construction
_____ Lack of adequate mass transit systems
_____ Traffic congestion
_____ Others*

Energy Problems

_____ Fuel shortages
_____ Lack in development of alternate energy resources
_____ Lack of efficiency in use and production
_____ Others*

Environmental Concerns (continued)

Resource Depletion

_____ *Lack of recycling for nonrenewable resources*
_____ *Improper management of renewable resources*
_____ *Others**

Natural Environment

_____ *Endangered animal species*
_____ *Endangered plant species*
_____ *Loss of natural habitat*
_____ *Others**

Aesthetics

Distracting:

_____ *Sights*
_____ *Sounds*
_____ *Smells*
_____ *Others**

Materialism

_____ *Excessive waste in packaging*
_____ *Lack of durable, long-lasting goods*
_____ *Status products*
_____ *Consumerism (Product knowledge)*
_____ *Others**

Planning, Design, and Construction Problems

_____ *Aesthetically and functionally poor architectural design*
_____ *Lack of comprehensive regional planning*
_____ *Lack of environmental understanding and concern among planners, designers, and contractors*
_____ *Inadequate and shoddy construction*
_____ *Others**

Economic-Social-Cultural Problems

_____ *Apathy and lack of leadership in problem solving*
_____ *Failure of society to meet human psychological needs*
_____ *Harmful social and work environments*
_____ *Lack of adequate housing*
_____ *Lack of adequate job opportunities*
_____ *Life styles which are detrimental to environmental quality*
_____ *Loss of cultural identity and cultural shock*

Environmental Concerns (continued)

Economic-Social-Cultural Problems (continued)

_____ *Poverty*
_____ *Consumer problems (prices)*
_____ *Others**

Knowledge Gaps

_____ *Lack of programs to find and promote solutions to environmental problems*
_____ *Lack of solutions to environmental problems*
_____ *Lack of understanding of environmental problems*
_____ *Others**

Health Hazards

_____ *Air pollution*
_____ *Pesticides, herbicides, and toxic metals*
_____ *Food additives*
_____ *Noise*
_____ *Radiation*
_____ *Water pollution*
_____ *Others**

Water Problems

_____ *Contamination of ground and surface waters by chemicals, dyes, etc.*
_____ *Flood control*
_____ *Lack of water use plans*
_____ *Limitation of fresh water supplies*
_____ *Sedimentation*
_____ *Thermal discharges*
_____ *Soft waste disposal*
_____ *Solid waste disposal*
_____ *Agricultural runoff (fertilizers, pesticides, and herbicides)*
_____ *Others**

Land Use Problems

_____ *Erosion*
_____ *Inadequate zoning and planning*
_____ *Loss of parks, open space, wetlands, and natural areas*
_____ *Siting of facilities, e.g., nuclear power plants, power transformers and lines, etc.*
_____ *Loss of agricultural lands due to urbanization and inundation*
_____ *Mining operations*
_____ *Solid waste disposal*
_____ *Visual blight (litter, billboards, etc.)*
_____ *Lack of land ethic*
_____ *Others**

Narration adapted from a speech by Chief Seattle of the Duwamish tribe, Washington territory, in 1855, when Indians were still people of dreams and believed their land and their destiney to be inseperable.

THIS EARTH IS SACRED

The great chief in Washington
sends word that he wishes to buy our land.
The great chief also sends us words of friendship and good will.
This is kind of him.
We know he has little need of our friendship in return.
But we will consider your offer--
For if we do not sell
The white man may come with guns and take our land.

How can you buy or sell the sky, the warmth of the land?
The idea is strange to us.
If we do not own the freshness of the air and the sparkle of the water
How can you buy it from us?
We will decide in our time.

What Chief Seattle says the great chief in Washington can count on
As truly as our white brothers can count on the return of the seasons
My words are like the stars:
They do not set .

Every part of this earth is sacred to my people
Every shiney pine needle
Every sandy shore
Every mist in the dark woods
Every clearing and humming insect
Is holy in the memory and experience of my people.

The sap which courses through the trees
Carries the memories of the red man.
The white man's dead forsake the country of their birth
When they go to walk among the stars.
Our dead never forget this beautiful earth
For it is the mother of the red man.
We are part of the earth and it is part of us.
The perfumed flowers are our sisters
The deer, the horse, the great eagle
These are our brothers.
The rocky crests, the juices in the meadows,
The body heat of the pony and man
All belong to the same family.
So when the great chief in Washington sends word that he wishes to buy our land
He asks much of us.

The great chief sends word he will reserve us a place
So that we can live comfortably to ourselves.
He will be our father
And we will be his children. But
Can that ever be?

God loves your people
But has abandonded his red children.
He sends machines to help the white man with his work
And builds great villages for him.
He makes your people stronger every day.
Soon you will flood the land
Like the rivers which wash down the canyon after a sudden rain.

But my people are an ebbing tide.
We will never return.
No, We are separate races.
Our children do not play together
And our old men tell different stories.
God favors you and we are orphans
So we will consider your offer to buy our land.
But it will not be easy
For this land is sacred to us.
We take pleasure in these woods.
I do not know.
Our ways are different from your ways.

This shiney water that moves in the streams and rivers
Is not just water
But the blood of our ancestors.
If we sell you land
You must remember that it is sacred
And that each ghostly reflection in the clear water
Of the lakes
Tells of events and memories in the life of my people.
The water's murmer is the voice of my father's father.
The rivers are our brothers.
They quench our thirst.
The rivers carry our canoes and feed our children.
If we sell you our land
You must remember and teach your children
That the rivers are our brothers and yours.
And you must henceforth give the rivers
The kindness you would give any brother.

The red man has always retreated
before the davancing white man
As the mist of the mountain runs before the morning sun.
But the ashes of our fathers are sacred.
Their graves are holy ground
And so these hills, these trees,
This portion of earth is consecrated to us.

We know that the white man does not understand our ways.
One portion of land is the same to him as the next
For he is a stranger who comes in the night
A nd takes from the land whatever he needs.
The earth is not his brother but his enemy.
A nd when he has conquered it , he moves on.
He leaves his fathers graves behind.
And he does not care.
He kidnaps the earth from his children.
He does not care.
His fathers graves and his childrens birthright are forgotten.
He treats his mother the earth
A nd his brother the sky
As things to be bought and sold like sheep or bright beads.
His appetite will devour the earth
And leave behind only a desert.

I do not know.
Our ways are different from your ways.

The sight of your cities
Pains the eyes of the red man.
But perhaps it is because I am a savage
And do not understand.
There is no quiet place in the white man's cities
No place to hear the unfurling of leaves in Spring
Or the rustle of insects wings.
But perhaps it is because I am a savage
And do not understand.
The clatter only seeks to insult the ears.
And what is there to life
If a man cannot hear the lonely cry of the whiporwill
Or the arguments of the frogs around a pond at night?
But I am a red man and do not understand.
The Indian prefers the soft sound of the wind
Darting over the face of the pond
And the smakl of the wind itself
Cleansed by a midday rain
Or scented with a pinyon pine.
The air is precious to the red man.
For all things share the same breath
The beast, the tree, the man
They all share the same breath.

The white man does not notice the air he breathes
Like a man dying for many days
He is numb to the stench.
But if we sell you our land
You must remember that the air is precious to us.
The air shares its spirit with all the life it supports.
The wind that gave our grandfather his first breath
Also receives his last sigh.
A nd the wind must also give our children
The spirit of life.

A nd if we sell you our land
You must keep it apart and sacred as a place
Where even the white man can go to taste the wind
That is sweetened by the meadow's flowers.

So we will consider your offer to buy our land.
If we decide to accept
I will make one condition:
The white man must treat the beasts of the land
Like his brothers.
I am a savage and I do not understand any other way.
I have seen a thousand rotting buffaloes on the prairie
Left by the white man who shot them from a passing train.
I am a savage and I do not understand
How the smoking iron horse can be more important
Than the buffalo that we kill only to stay alive.

What is man without the beasts?
If all the beasts were gone
Man would die from the great lonlineas of spirit
For whatever happens to the beasts so happens to man.

All things are connected.
Whatever befalls the earth
Befalls the sons of the earth.
You must teach your children
That the ground beneath their feet is the ashes of our grandfathers
So they will respect the land,
Tell your children that the earth is rick
With the lives of our people.
Teach your children what we have taught our children:
That the earth is our mother.
Whatever befalls the earth, befalls the sons of the earth.
If men spit upon the ground
They spit upon themselves

This we know:
The earth does not belong to man
Man belongs to the earth.
This we know.

All things are connected
Like the blood which unites one family.
All things are connected.
Whatever befalls the earth
Befalls the sons of the earth.

Man did not weave the web of life
He is merely a strand in it.
Whatever he does to the web
He does to himself.

No, Day and night cannot live together

Our dead go to live in the earth's sweet rivers.
They return for the silent footsteps of Spring
And it is their spirit running in the wind
That ripples the surface of the ponds.

We will consider why the white man wishes to buy the land.
What is it that the white man wishes to buy
My people ask me.
The idea is strange to us.
How can you buythe sky
The warmth of the land, The swiftness of the antelope?
How can we sell these to you
And how ca n you buy them?
Is the earth yours to do with as you will
Merely because the red man signs a piece of paper
And gives it to the white man?
If we do not own the freshness of the air
And the sprakle of the water
How can you buy them from us?
Can you buy back the buffalo once the last one has been killed?

But we will consider your offer.
For we know that if we do not sell
The white man may come with guns and take our land.

But we are primitive.
And in his passing moments of strength
The white man thinks that he is a god who already owns the earth.
How can a man own his mother?

But we will consider your offer to buy our land.
Day and night cannot live together.
We will consider your offer to go to the reservation you have for my people.
We will live apart and in peace.

It matters little where we spend the rest of our days.
Our children have seen their fathers humbled in defeat.
Our warriors have felt shame.
Ond after defeat they turn their days in idleness
And contaminate their bodies with sweet foods and strong drink.

It matters little where we pass the rest of our days.
They are not many.
A few more hours, a few more winters
And none of the children of the great tribes
That once lived on this earth
Or that roam in small bands in the woods
Will be left to mourn the graves of a people
Once as powerful and hopeful as yours.

But why should I mourn the passing?
Tribes are made of men, nothing more.
Men come and go
Like the waves of the sea.
Even the white man whose god walks and talks with him
As friend to friend
Cannot be exempt from the common destiny.

We may be brothers after all.
We shall see.

One thing we know
which the white man may one day discover:
Our God is the same God.

You may think now that you own him as you wish to own our land.
But you cannot.
He is the god of man.
And his compassion is equal
For the red man and the white man.

This earth is precious to him
And to harm the earth is to heap contempt on its creator.
The whites too shall pass-
perhaps sooner than all other tribes.
Continue to contaminate your bed
And you will one night suffocate in your own waste.

But in your perishing you will shine brightly.
Fired by the strength of the god who brought you to this land
And for some special purpose
Gave you dominion over this land and over the red man.
That destiny is a mystery to us
For we do not understand.

When the buffalo are all slaughtered
The wild horses are all tamed
The secret corners of the forest heavy with the scent of many men
And the view of the rèpe hills blotted by talking wires-
Where is the thicket? Gone.
Where is the eagle? Gone.
And what is it to say goodby to the swift and the hunt?

The end of living and the begining of survival.

God gave you dominion over the beasts
The woods and the red man.
And for some special purpose.
But that destiny is a mystery to the red man.

We might understand
If we know what it is that the white man dreams.
What hopes he describes to his children on long winter nights
What visions he burns unto their minds
So that they will wish for tomorrow

But we are savages.
The white mans dreams are hidden from us
And because they are hidden, we will go our own way.
For above all else
We cherish the right of each man to live as he wishes
However different from his brothers.

There is little in common between us
So we will consider your offer to buy our land.
If we agree
It will be to secure the reservation you have promised.
There perhaps we may live out our brief days as we wish.

When the last red man has vanished from this earth
And his memory
Is only the shadow of a cloud moving across the prairie
These shores and forest will still hold the spirits of my people.
For they love this earth
As the newborn loves its mothers heartbeat.

If we sell you our land
Love it as we've loved it
Care for it as we've cared for it
Hold in your mind the memory of the land
As it is when you take it
And with all your strength
With all your mind
And with all your heart
Preserve it for your children
And love it as God loves us all.

One thing we know:
Our God is the same God.
This earth is precious to him.

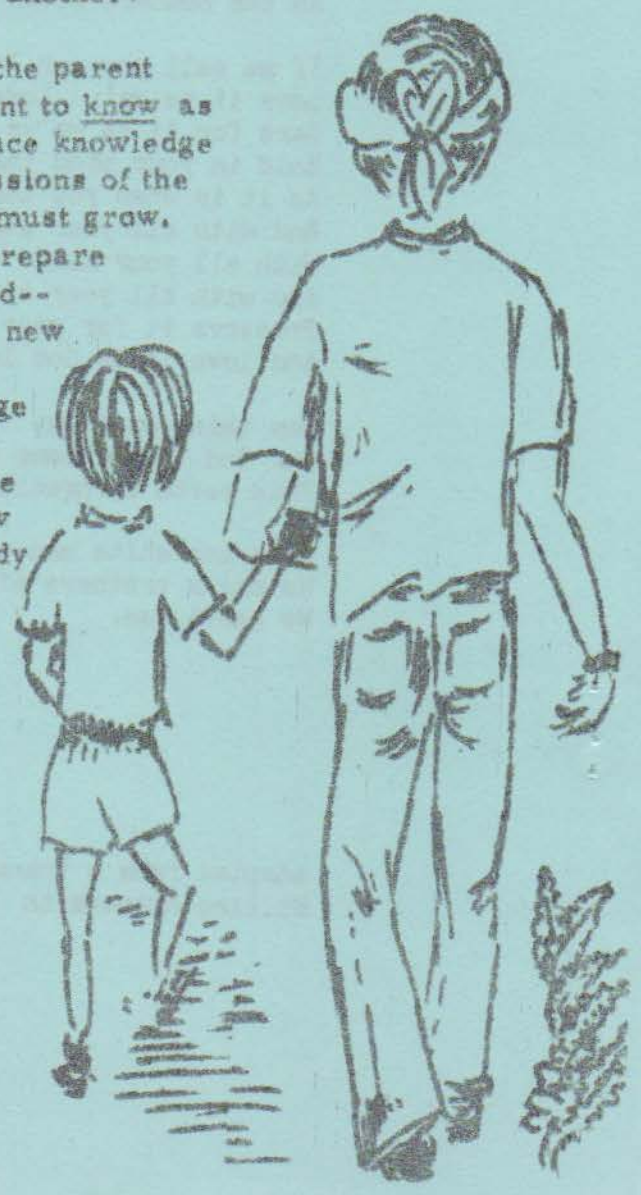
Even the white man cannot be exempt from the common destiny.
We may be brothers after all.
We shall see.

adapted from a translation by
William Arrowsmith

A child's world is fresh and new and beautif ful, full of wonder and excitement. It is our misfortune that for most of us that t clear-eyed vision, that true instinct for what is beautiful and awe-inspiri ring, is dimmed and even lost before we reach adulthood. If I had influenc ce with the good fairy who is supposed to preside over christening of all chil ldren I should ask that her gift to each child in the world be a sense of wond der so indestructible that it would last throughout life, as an unfailing antidote a against the boredom and disenchantments of later years, the sterile preoc ccupation with things that are artificial, the alienation from sources of ou ur strength.

If a child is to keep alive his inborn sense o of wonder without any such gift from the fairies, he needs the companionshi ip of at least one adult who can share it, rediscovering with him the joy, ex xcitement and mystery of the world we live in. Parents often have a sense of in nadequacy when confronted on the one hand with the eager, sensitive mind of a a child and on the other hand with a world of complex physical nature, inhabited d by a life so various and unfamiliar that it seems hopeless to reduce it to order r and knowledge. In a mood of self defeat, they exclaim, "How can I possibly t teach my child about nature--why, I don't even know one bird fro om another!"

I sincerely believe that for the child, and fo or the parent seeking to guide him, it is not half so impo rtant to know as to feel. If facts are the seeds that later pr roduce knowledge and wisdom, then the emotions and the impr ressions of the senses are the fertile soil in which the seed ds must grow. The years of early childhood are the time t to prepare the soil. Once the emotions have been arou used-- a sense of the beautiful, the excitement of t the new and the unknown, a feeling of sympathy, pit ty, admiration or love--then we wish for knowl ledge about the object of our emotional response. Once found, it has lasting meaning. It is m more important to pave the way for the child to k know than to put him on a diet of facts he is not r ready to assimilate.



Rachel Carson
A Sense of Wonder

D. ENERGY ACTIVITIES

ENERGY ATTITUDE SURVEY

1. Do you believe there is an energy shortage? __yes __no __don't know

2. Do you believe you have been given a realistic picture of the energy situation facing the United States? __yes __no __don't know

3. Do you believe most Americans are energy "wasters"?
__yes __no __don't know

4. Do you believe most Americans are energy "conservers"?
__yes __no __don't know

5. Do you believe Americans are "spoiled", self-indulgent and reluctant to take responsibility for the future? __yes __no __don't know

6. Do you believe it is the responsibility of every U.S. citizen to conserve energy voluntarily? __yes __no __don't know

7. Do you believe Americans will conserve energy only when government controls are imposed? __yes __no __don't know

8. Would you be willing to reduce your standard of living to conserve energy? __yes __no __don't know

9. Do you believe you as an individual can make an impact on energy consumption? __yes __no __don't know

10. Would you conserve energy to save money? __yes __no __don't know

11. Do you think the money saved is worth the inconvenience of conserving energy? __yes __no __don't know

12. Do you think the energy saved is worth the inconvenience of conserving energy? __yes __no __don't know

13. Do you feel technology will "bail us out" of the energy shortage?

__yes __no __don't know

14. Do you feel you have any input or participation in the energy usage decisions made by your family? __yes __no __don't know

15. Are you going to do something to save energy? __yes __no __don't know

RESIDENTIAL ENERGY CHECKLIST

House: The Shell	yes	no
1. Are plants properly located around the house to provide a break against wind and shade against unwanted sun?		
2. Are drapes and furniture located so they do not obstruct heating, air-conditioning or ventilation?		
3. Are draperies insulated?		
4. Do draperies fit snugly around the window?		
5. Are exterior house doors closed quickly after use?		
6. Are lights and appliances turned off after use?		
7. Do you have storm windows and doors?		
8. Are all doors and windows properly caulked and weatherstripped?		
9. Are draperies and shades closed at night and on cloudy, windy days during the heating season?		
10. Are draperies opened to admit sunlight on sunny days in the heating season?		
11. Are draperies and shades closed on sunny days during the cooling season?		
12. Is the attic ventilated?		
13. Is the attic insulated to 6-8"?		
14. Are the walls insulated?		
15. Do floors exposed to unheated or cooled air have from 2-3½" of insulation?		
16. Is the fireplace damper closed when not in use?		
17. Is the den, gameroom or family room oriented to the south?		
18. Is the house shaded from the western sun?		

	yes	no
19. Does your home have window area equivalent to 10% or less of its square footage?		
20. Is your home sealed from drafts? Is it free from cracks and holes?		
21. Does your home have fluorescent lighting where appropriate?		
22. Does your home have wall-to-wall carpeting?		
23. Do all windows have drapery, shades, blinds, shutters or other covering?		
Environmental Control		
24. Are ducts, radiators or air-conditioners closed off in unused rooms or closets?		
25. Are hot water pipes insulated in unheated and uncooled spaces?		
26. Are air ducts insulated in unheated and uncooled spaces?		
27. Is the thermostat set at 68°F or below during the heating season?		
28. Is the thermostat set at 78°F or above during the cooling season?		
29. Are heating and cooling filters clean?		
30. Is the thermostat turned back at night?		
31. Are windows and doors tightly closed while mechanically heating or cooling?		
32. Is an attic fan used in the summer?		
33. Do thermostats indicate correct temperature settings?		
34. Is an outside air-conditioning unit located on the shady (north) side of the house?		
35. Is the water heater insulated?		
36. Is the water heater temperature setting at 140°F or less?		

	yes	no
37. Is the air-conditioning unit properly sized for your needs?		
38. Do you have a heat pump?		
39. Do you use natural ventilation as much as possible?		
40. Are radiators and other heating or cooling equipment clean and dust free?		
41. Is the water heater located in a heated space?		
Housing Selection		
42. If you live in an apartment, is it an "inside" apartment?		
43. If you live in a mobile home, does it have a "skirt"?		
44. If you live in an older home, have its plumbing, wiring, insulation and chimneys been checked by "experts"?		
Food		
45. Is the frost on the refrigerator and freezer less than ¼ inch thick?		
46. Is the refrigerator set at 40°F?		
47. Is the freezer set at 10°F?		
48. Are gaskets around refrigerators and freezers tight?		
49. Is the oven used to bake more than one food at a time?		
50. Is the gasket around ovens tight?		
51. Are frozen foods thawed completely before cooking?		
52. Is the cooking range turned off immediately after use?		

	yes	no
53. Are dishes washed only when there is a full load?		
54. Are dishes allowed to air dry?		
55. Are appliances clean and dust free (particularly cooling coils)?		
56. Is the oven never used as a dryer or heater?		
57. Are flat bottom pots and pans used?		
58. Is a timer used to avoid over-cooking?		
59. Are pots covered during cooking?		
60. Is as little water used as possible during cooking?		
61. Is the heated dry cycle on the dishwasher not used?		
Clothing		
62. Does your family dress warmer in cool weather to avoid mechanical heating?		
63. Does your family dress cooler in warm weather to avoid mechanical cooling?		
64. Are clothes washed only when there is a full load?		
65. When washing is cold or warm water used when possible?		
66. Are clothes line dried when possible?		
67. Are most of your family's clothes wash-and-wear, permanent press to avoid dry cleaning and ironing?		
68. Are clothes always rinsed with cold water?		
69. Is the washer located near the water heater?		
70. Is the dryer lint screen cleaned after each load?		

Personal Care	yes	no
71. Do the members of your family take short showers or use only small amounts of water for tub baths?		
72. Are all water faucets repaired and not leaking?		
73. For washing, shaving or make-up is the lavatory filled rather than allowing water to run?		
Entertainment		
74. Are entertainment devices turned off when not in use?		
75. Do members of your family try to entertain themselves rather than rely on devices?		

--If you answered with 65 or more yes's, you are truly an energy conserver and will make a good conservation advocate.

--If you answered with 55 to 65 yes's, you are energy conscious but lack will-power or drive.

--If you answered with 45 to 54 yes's, you are wasting energy but with minor changes could make a conserver.

--If you answered with 35 to 44 yes's, you are an energy waster and should make an all-out effort to reform!

--If you answered with less than 35 yes's, you are making an effort to waste energy and should consider the long range and immediate effects!!

Suggestions:

1. Distribute these checklists school-wide.

2. Try a before and after approach to using the checklist. Check before your conserving effort and after.

3. Survey students to see if their families are generally conservative or not.

that such a system will have an efficiency of approximately 95 percent and a lifetime of 30-40 years or more. It will also be approximately 1,000 times smaller than a pumped storage system.[113] It is estimated that a superflywheel system storing 10,000 kilowatt-hours of mechanical energy and having a power rating of 3,000 kilowatts will be much less costly than a pumped storage system.[114]

The superflywheel should be applicable to energy storage suitable for generating plants but also in a size suitable for use in automobiles.[115] Also, the superflywheel could provide the means to store solar and wind power.[116]

RENEWABLE AND NONRENEWABLE ENERGY RESOURCES: THEIR FUTURE AVAILABILITY

All energy resources belong to one of two groups--renewable or nonrenewable resources. Nondepletable energy resources are *renewable;* for example, the sun is a renewable resource, as is water. In 1974, only six percent of all energy resources consumed were renewable.

Depletable energy resources are *nonrenewable*. Fossil fuels--coal, oil, and gas--are nonrenewable because they were produced over millions of years by vegetation under pressure in the earth's crust and heated by the sun. Uranium, another important energy resource, is also nonrenewable. In 1974, 94 percent of all energy resources consumed were nonrenewable; in other words, America's high-energy society is based upon a finite, dwindling supply of energy.

Renewable Energy Resources

Solar. By 1973 only a few dozen U.S. homes had been constructed with solar heating systems; but by the year 2000 solar heating and cooling could satisfy perhaps half the needs of all new residential and commercial buildings. Presently there are some very promising approaches to using solar energy for low temperature needs such as space and water heating, but the cost is still relatively high ($10 to $12 per square foot for solar panels) and functional storage systems must be developed to operate in conjunction with the solar devices. If solar equipment (lenses, mirrors, panels, and other devices used to concentrate the energy of the sun) can be made cheaply enough, we could produce electricity either by a thermal cycle (making steam and driving a turbine) or by direct conversion using solar cells. The thermal cycle alternative is much closer to practical implementation, but is still several times as expensive as present methods of energy generation.

Geothermal. Large amounts of geothermal energy (heat in the form of steam, such as that found in geysers) is present in the earth's crust, but it is possible to tap these resources only in limited locations.

Thus far, development and exploration in the U.S. has been conducted mainly in the West (California) because the most promising sites are found there. Experts estimate, however, that over the next 25 years as much as 25,000 MW will be provided by geothermal plants, where steam from the earth is used to drive turbines which generate electricity. There are, however, a number of disadvantages to using geothermal energy in this manner. Equipment used in the plants tends to corrode quickly because of minerals which dissolve in the hot water. These same minerals can create some environmental problems in the form of ground water contamination, waste salts, and air pollution (including escaping hydrogen sulfide which smells like rotten eggs). Finally, geothermal steam is not very hot, and so is an inefficient means of producing electricity (it also produces a lot of "waste heat").

Wind. Like geothermal energy, practical wind energy is found only in certain locations, mostly in the Midwest and Northeast. Even there, it is variable and must be accompanied by storage devices or used only for special purposes, such as pumping water for stock ponds. At present, however, wind power generators are being tested in Northern Europe, Russia and the U.S. A 100 KW wind turbine generator has gone into operation recently at NASA's Plumb Brook Station at Sundusky, Ohio, sponsored by ERDA. Unless research designers prove otherwise, many windmills are needed to obtain a reasonable quantity of energy (thousands would be needed to equal the output of a single modern electric generating plant).

Tides. Although suggestions have been made to harness the energy in tides, the total amount of tidal energy potential ($2 \cdot 10^6$ MW) would make a negligible impact on the world's energy supply. Furthermore, suitable locations are not where the demand is and severe environmental problems could be caused by massive movements of water in and out of coastal areas. Other disadvantages are visual pollution if the generating facilities were in a resort area, corrosion of equipment by salt water, and high capital costs.

Wood. Wood is still an important energy source in "third world" nations and can provide a great deal of power for short periods. Wood could continue to be used as a renewable fuel if it were grown on "plantations" and then burned to produce electricity. The obvious disadvantage, however, is the competition for land use by the agricultural sector.

Hydro (Water). Most hydroelectric potential in the United States is already being used and environmental problems will probably prevent the development of additional sites. At the end of 1970, the installed hydroelectric capacity (both conventional and pumped) was 56,000 MW. By the year 2000, it is estimated that it will provide 125,000MW of power, but only 10 percent of the nation's electricity demand. Much of the capacity in 2000 will be used for pumped storage systems which will

use the spare capacity of "base load" electric plants (for example, in the middle of the night) to provide power during periods of peak demand the next day. Water will be pumped uphill for storage, and power will be produced later when it is released downhill.

Fusion. Although the key concepts and technologies which will unlock the intricacies of fusion are not yet known, fusion remains a major hope for significant quantities of power. Once developed, fusion could provide a long-range solution to the world's energy shortages because a nearly inexhaustible supply of deuterium (the fuel necessary to produce fusion power) is found in water.

Refuse. Using our solid wastes to supply part of our electrical demand is an idea which appeals to many people and, indeed, some small plants are already in operation or under construction which can produce electricity from solid wastes. One such plant in St. Louis burns approximately 300 tons of municipal waste per day to generate 12.5 MW of electricity. But even if we took full advantage of the energy contained in *all* refuse, less than 10 percent of our energy needs would be met.

Nonrenewable Energy Resources

Coal. Coal is the only nonrenewable energy resource which still exists in any abundance. Proved U.S. reserves are estimated to be 400 billion tons; possible resources are estimated as high as 3200 billion tons. This adds up to as much as 200 years' supply of coal at the current energy use rate. Coal is presently used to convert water to electricity or to make steam for industry, in the future if may be converted directly to gas or oil. Coal creates many environmental problems, however. Because it is a "dirty" fuel, it causes air pollution (the higher the sulphur content, the more pollution; western coal has less sulphur, but more ash, than eastern coal). Strip-mining--the easiest and least dangerous method of coal mining--causes erosion and leaches wastes into streams and watersheds. Companies which strip-mine for coal (about half of all U.S. coal is strip-mined) are being pressured to reclaim stripped land at high cost.

Natural Gas. The proved reserves of natural gas are close to 200 trillion cubic feet. At current energy use rates, this supply would last only nine more years. Estimates of possible additional resources range from 450 to 2,000 trillion cubic feet--a current use rate range of 20 to 100 years. At the present time, natural gas is our least expensive fossil fuel because of price controls that make it artifically cheap. In the future, however, the price of natural gas will become much higher, necessitating many current users to switch to some other fuel. There will undoubtedly be opposition to such a switch since natural gas is the cleanest of the three fossil fuels and is in great demand for space heating. Though extremely controversial, it has been suggested that atomic detonations be

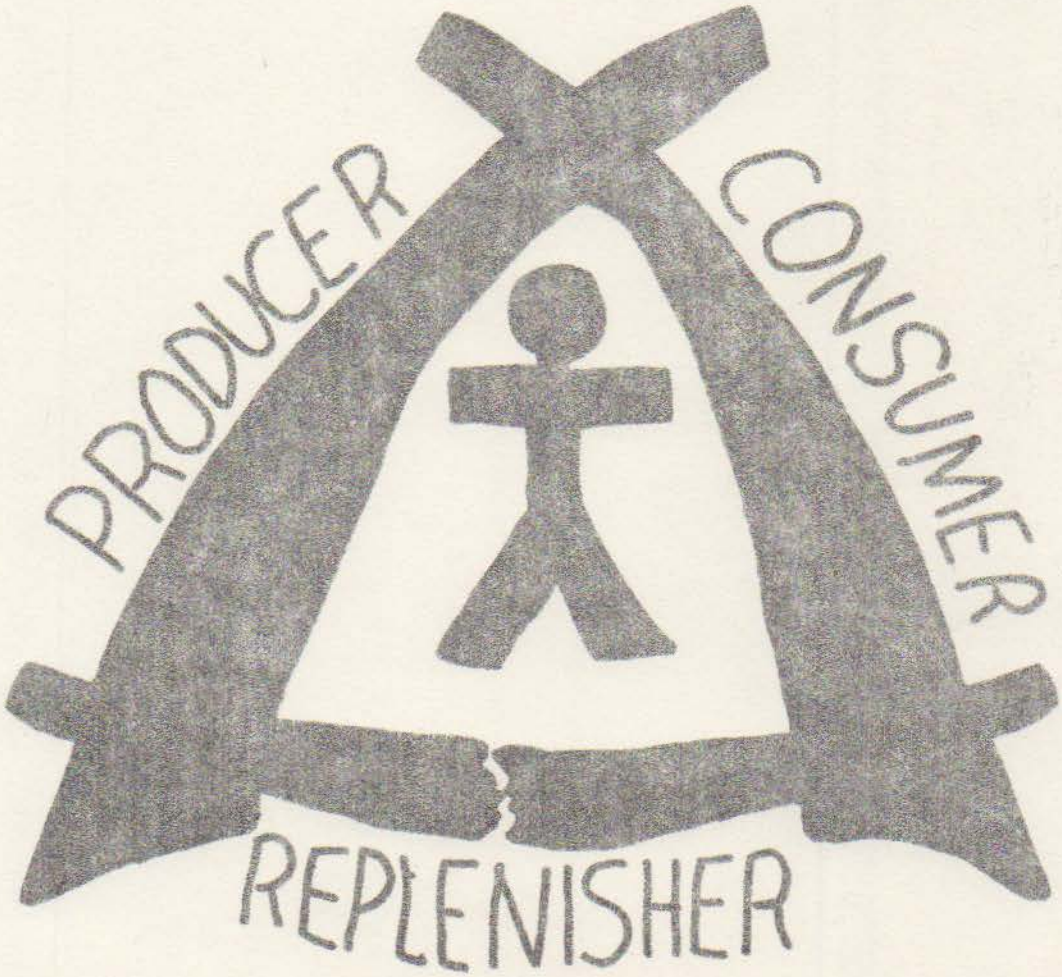
used to release large amounts of natural gas which may be locked in oil fields.

Oil. The amount of oil which remains in the U.S. and offshore is unknown, though proved reserves (including Alaska) are estimated to be 45 billion barrels (BBL) and estimates of possible reserves are in the neighborhood average 89 BBL. Like that of natural gas, the price of extracting petroleum from U.S. oil fields may become so high that we will change our present use patterns (6.19 BBL in 1973). Costs will increase because most of the easy-to-get oil has been consumed and new, harder-to-get sources requiring more complicated technologies will have to be tapped. Exploration for additional oil reserves centers on sites under as much as 800 feet of ocean or as far as 25,000 feet underground. Other large reserves of oil are trapped in fine-grained rock called shale. Useful fuel can be extracted from oil shale, but the net energy produced may be small, the process expensive (perhaps twice the present cost), and the environmental problems significant (large amounts of water are needed for extracting processes).

Uranium. Uranium, as a fuel for nuclear reactors, is a controversial energy source. It is highly favored by some groups because the potential energy of a given quantity of uranium is several million times greater than the energy available from an equal quantity of any one of the three fossil fuels. Mining uranium is a great deal more difficult than fossil fuels, however. Even the richest uranium ore may contain only a fraction of one percent of uranium. Because uranium ore is not pure and the costs of extraction vary, the amount of current reserves are hard to estimate. It has been suggested, though, that we only have 30 years worth left of U^{235}--the uranium necessary to produce fission reactions in conventional nuclear power plants. The drawbacks to fission as it is presently used to produce electricity are the radioactive wastes and safety concerns. These objections may be overcome with the possible future development of the breeder reactor. At the present time, breeder technology is not well-established; costs of development will be high, and it is known that the waste product--plutonium--is extremely toxic. If breeders can be successfully developed and these obstacles overcome, the effective amount of fissionable material (the plentiful U^{238} after being converted to Pu^{239}) is tremendously increased, making our current energy reserves of uranium large enough to fulfill our energy needs for thousands of years.

EVALUATION:

I feel that the STEP program is a very educational and worthwhile experience. I wish I could stay a bit longer but I have seen alot already and I have to go and share these things and feelings. I have to share them with the outside because that is where the destruction starts.....outside.



MIAMI SPRINGS SENIOR HIGH SCHOOL

SPICE

Similarities + Varieties

Patterns

Interaction + Interdepedence

Continuity + Change

Evolution + Adaptation

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Special thanks to Ranger Mike D. Watson
Environmental Education Coordinator

INTRODUCTION

POETRY

Everglades,

Peaceful, alive

Protects, grows, teaches

Wild life's refuge from city man

Sanctuary

By: Marybeth Wood

Pigfrog's grunting noise

Makes the quiet Everglades

A symphonic concert.

By: Mike Watson

The trees, the birds, the sky, the sun,

All living, growing, and giving as one

To you and to me the men of this earth

Our home, our land, the place of our birth

So lets do as they do and give in return

Live all in harmony and thus we shall learn

That we are it and it is we

So protect and love; that's the way it should be.

By: Traci Davis

Life

So free

Everything so natural

live

By: Alberto Rodriguez

Hawk calls out

making himself known

wild, piercing, strong

like him, envy him, must preserve him.

Hawk calls out

By: Scott Hornsby

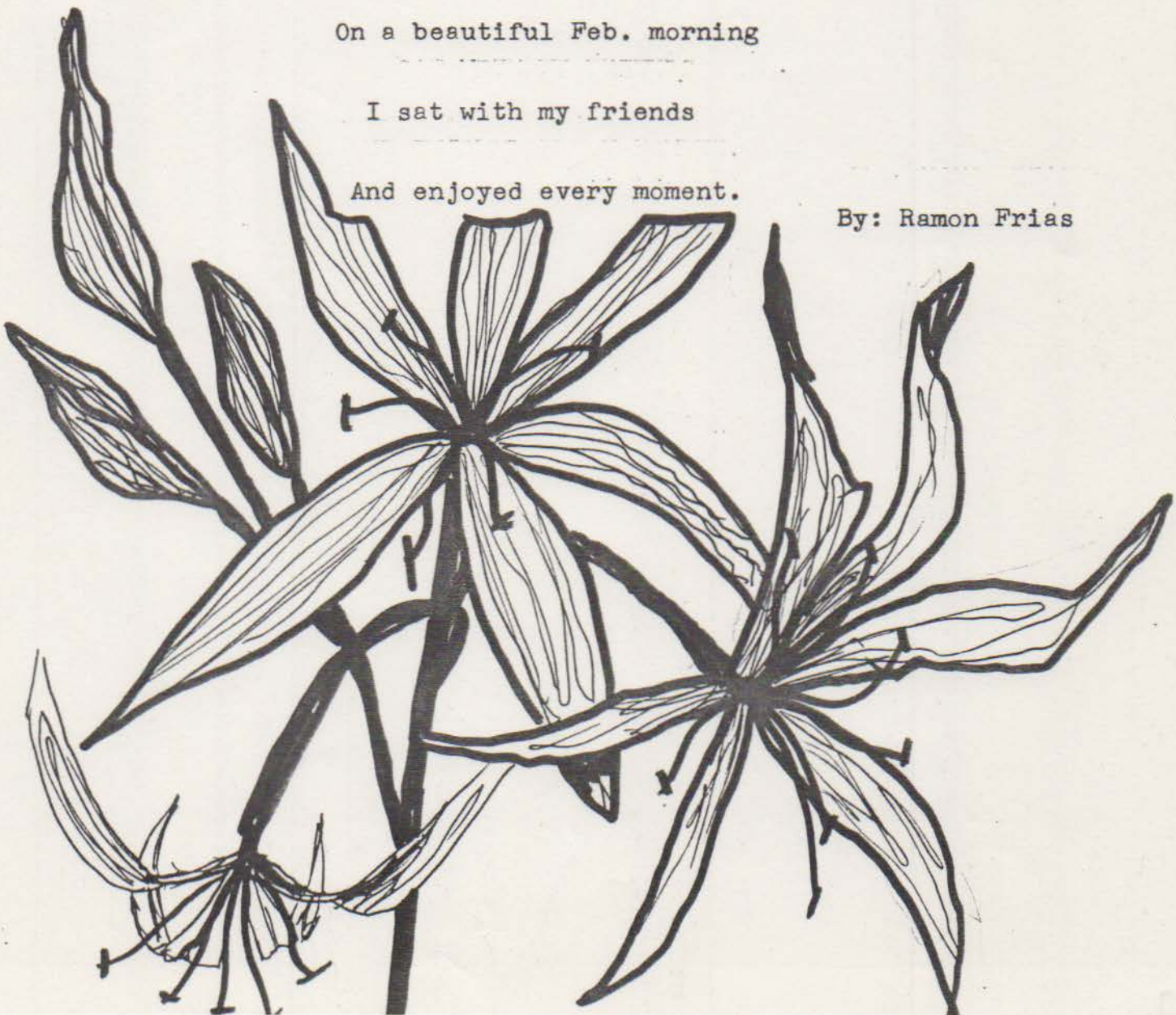
Blinded by the sun

On a beautiful Feb. morning

I sat with my friends

And enjoyed every moment.

By: Ramon Frias



OLD ELSA'S

ENVIRONMENTAL STUDY ACTIVITIES

OLD ESA'S

1. Food Web - Anhinga Trail

Every person had a button of an Everglades organism. As we sat in a circle, we passed a ball of string from one organism to another that related and interacted in life, describing how each of us interacted with the person holding the other end of the string. In the end, we had formed a complicated Food Web, which was affected if one "organism" was "dropped".

2. Identification with a Natural Object - Gumbo Limbo Trail

As we walked through the Gumbo Limbo Trail and observed the plants and animals, we had to pick out something we could identify with ourselves. This ESA was a sensitivity awareness activity. We sat in a group and told why we chose the organism.

3. Seaton Watch - Anhinga Trail - Nighttime

Seaton was a man who silently sat amongst nature for hours, observing it and letting it come to him, and eventually was accepted as part of the environment.

We went out on the Anhinga Trail at night and sat on the boardwalk about five feet apart from one another. Everyone sat silently in the darkness. After a few

minutes the animals started making their sounds. We were amazed at all the sounds in the night. We could hear crickets, frogs croaking, birds in the distance, and an occasional splash or flutter in the water.

This activity lasted about ten minutes. When the ranger called us in, most were disappointed and wanted to Seaton Watch longer.

4. Poetry - Sunrise by the lake

We rose before the sun and sat by the lake. Mike asked us to get expressive and write some poetry about the way we felt. We could have done an Haiku (3 lines - 5 syllables, 7 syllables, 5 syllables), or 1 word, 2 words describing it, 3 words telling what it is doing, 4 words how you feel about it, 1 word that means the same as the first, or any other style of wbiting we chose.

5. Rock Friend

Each person picked out a rock; one small enough to fit in the palm of your hand and that you thought was was something special. We all sat in a close tight circle and examined our rocks by sight. The ranger then collected the rocks, mixed them up and gave us each a rock. We looked at the rock and if it was not our own

we passed it to the left and examined Rock Friend II. We kept passing the rocks to the left and examining them until we found our own rock. Once we found our rock we stepped out of the circle and the others continued until each person thought he had found his rock. We all found our own rock by sight.

We formed another circle and this time we examined our rocks until we thought we could identify them by touch. The ranger collected the rocks. We put our hands behind us and Mike handed each one a rock. We felt the rock and kept passing it until we thought we had our own, and then stepped out of the circle.

This exercise helped us to become more aware of our sense of tough and the vast differences in similar organisms. We left our "friend" along the trail to find another day.

6. Blind Walk

We went into a hammock where there were many different organisms. We each picked partners and received a blindfold. One of the partners put on the blindfold while the other lead him by the hand. The leader picked out objects for the blind person ot touch and identify. This helped us to better understand detail differences by our sense of touch, sound and smell rather than those picked up automatically by sight, and therefore put us in closer

touch with the Everglades.

7. Scavenger Hunt

We came upon a field where we had a scavenger hunt. The prairie was predominantly sawgrass and pine. We were asked to find objects that were:

1. Older than ourselves.
2. Younger than ourselves.
3. Same age as ourselves.
4. A producer.
5. A consumer.
6. A decomposer.
7. A sign of an animal or sign of life.
8. Something that smelled foul.
9. Something that smelled good.
10. Something biodegradable.
11. Something non-biodegradable.
12. Example of energy.

Team "A" alternated with Team "B" in presenting each treasure that represented the above criteria. The other team would either accept or negate their choice.

NEW ESA'S

NEW E.S.A.'S

ENVIRONMENTAL STUDY ACTIVITIES

DO YOU SEE WHAT I SEE?

Everyone sits around in a circle with their backs to each other. They pick partners and both agree on a certain designated region. Each then sketch their opinion of the scenery in the Everglades seen before them. After their drawings are through, they compare them with each other. When the whole group is finished, compare all' the pictures and try to make a puzzle out of it.

BY: Mary Amador

I AM

You must finish the sentence "I am" as an organism of the Everglades environment would. Pick your organism and tell the group why you want to be that organism and describe yourself. Give an account of what a day would be like being that organism. When everyone has picked their organism sit as a group and carry on as a typical day in the community.

BY: Traci Davis

FLYING HIGH

During your trip to the Everglades observe the many kinds of different species of birds you can see with the naked eye. Draw your favorite one and learn its name. Compare with the others in the group.

BY: Scott Hornsby

MAN IN THE EVERGLADES

Walk around and look for or think of examples of the ways that man has changed the Everglades. Try to associate these changes with yourself and determine if you would have made the same changes. Think of ways you could improve on the present conditions.

BY: Charles Little

COUNT-A-SQUARE

Discover how many different types of species of life you can find in a five foot square.

BY: Kenny Cox

"LEAF" A LIKES

Gather an assortment of leaves found in the Everglades. Use thin paper and a crayon and make a copy of the leaves for yourself. Place the leaves under the thin sheet and slide the crayon across it. You will then have a picture for yourself and everyone else to look at and compare.

BY: Karin Pierson

WHAT AM I?

Everyone in the group think of an organism found in the Everglades. When your turn comes demonstrate to the class without talking what kind of organism you have in mind. The person in the group who guesses first what you are has his turn and acts out what organism he has picked. This can go on until everyone has a turn.

BY: Michelle Pryor

LIFE SAVER

Select an organism, it can be either living or non-living. Look around and find something living that aides or aided in your organisms life cycle. Then tell how the organism you picked aides the life of another organism.

BY: Mark Safreed

PATIENCE

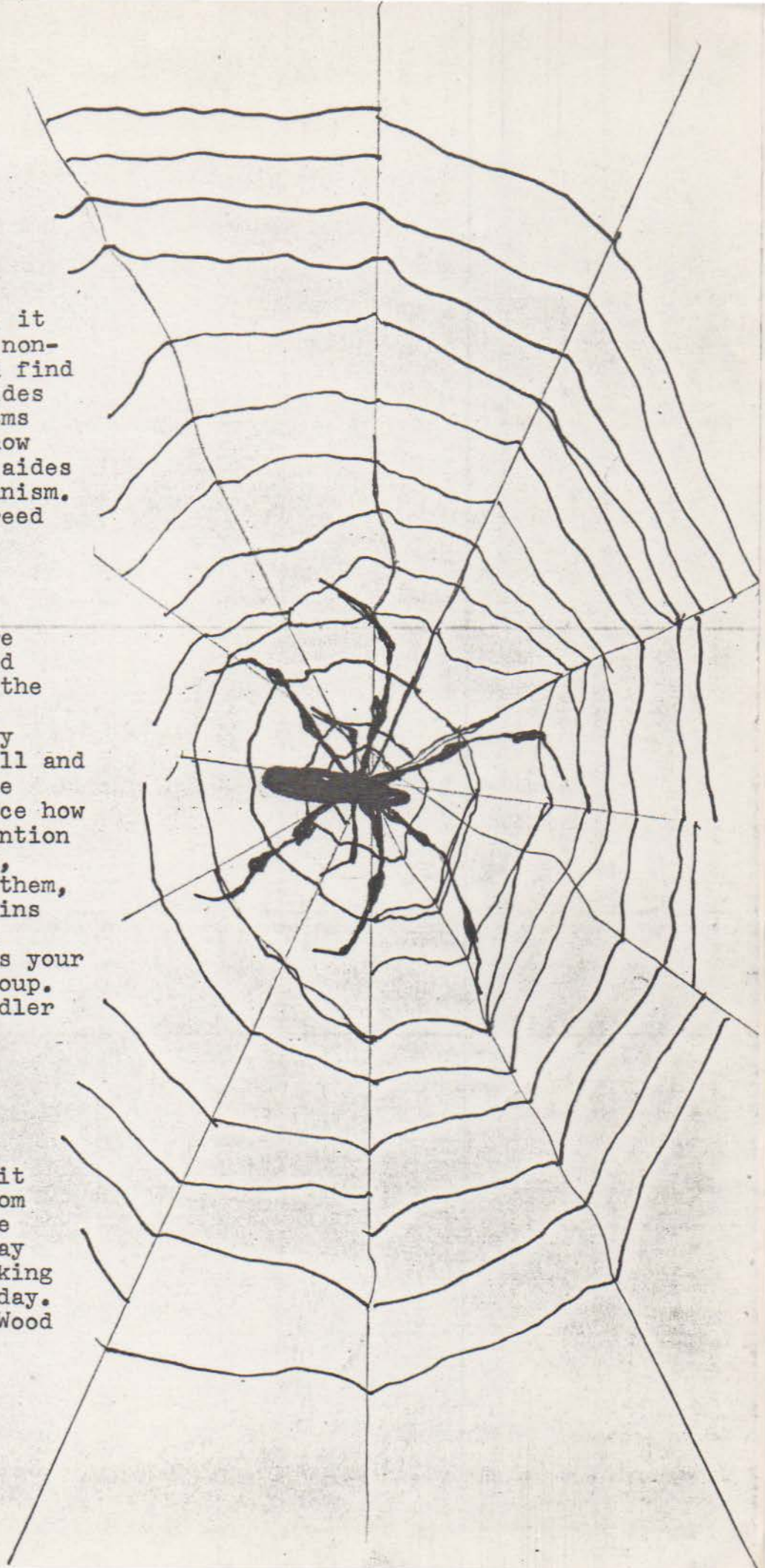
Take time to observe the smaller creatures and structures of plants in the Everglades. Find a spot amongst some shrubs. Lay down or sit, be very still and observe. Look at all the insect activity and notice how busy they are. Pay attention to the details of plants, observe the patterns of them, grooves on the roots, veins of leaves, and the fungi growing on them. Discuss your observations with the group.

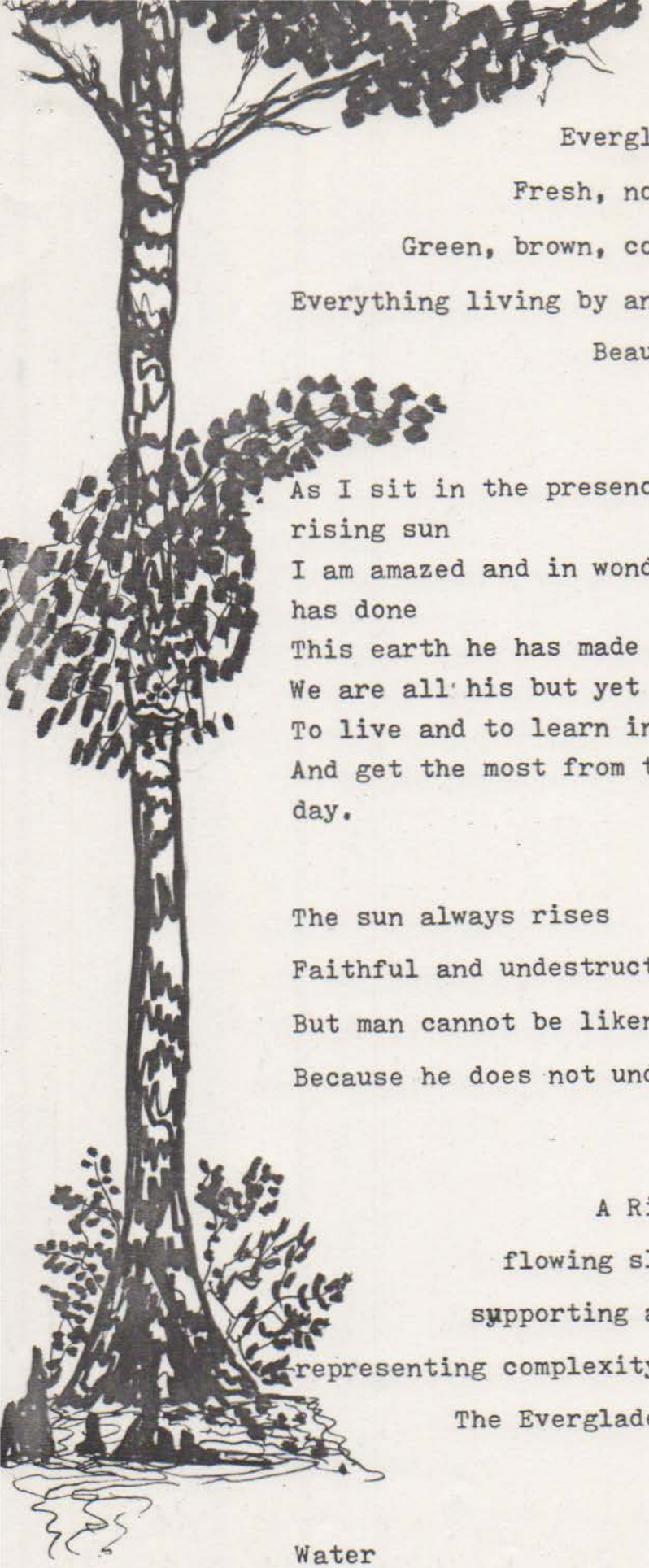
BY: Cari Wendler

A LOOK AHEAD

Find a spot in the Everglades and try to visualize how you think it will look fifty years from now. Explain this to the group according to the way man is conserving and taking care of his community today.

BY: Marybeth Wood





Everglades

Fresh, noisy

Green, brown, colorful

Everything living by another

Beautiful

By: Karin Pierson

As I sit in the presence of this bright
rising sun
I am amazed and in wonder at what God
has done
This earth he has made for you and me
We are all his but yet so free'
To live and to learn in our own way
And get the most from this happy new
day.

By: Traci Davis

The sun always rises

Faithful and undestructive,

But man cannot be likened to it

Because he does not understand

By: Charles Little

A River

flowing slowly

supporting all life

representing complexity yet simplicity

The Everglades

By: Cari Windler

Water

Lined by an abyss of tree's

Accented by the sun.

By: Kenny Cox

Peace

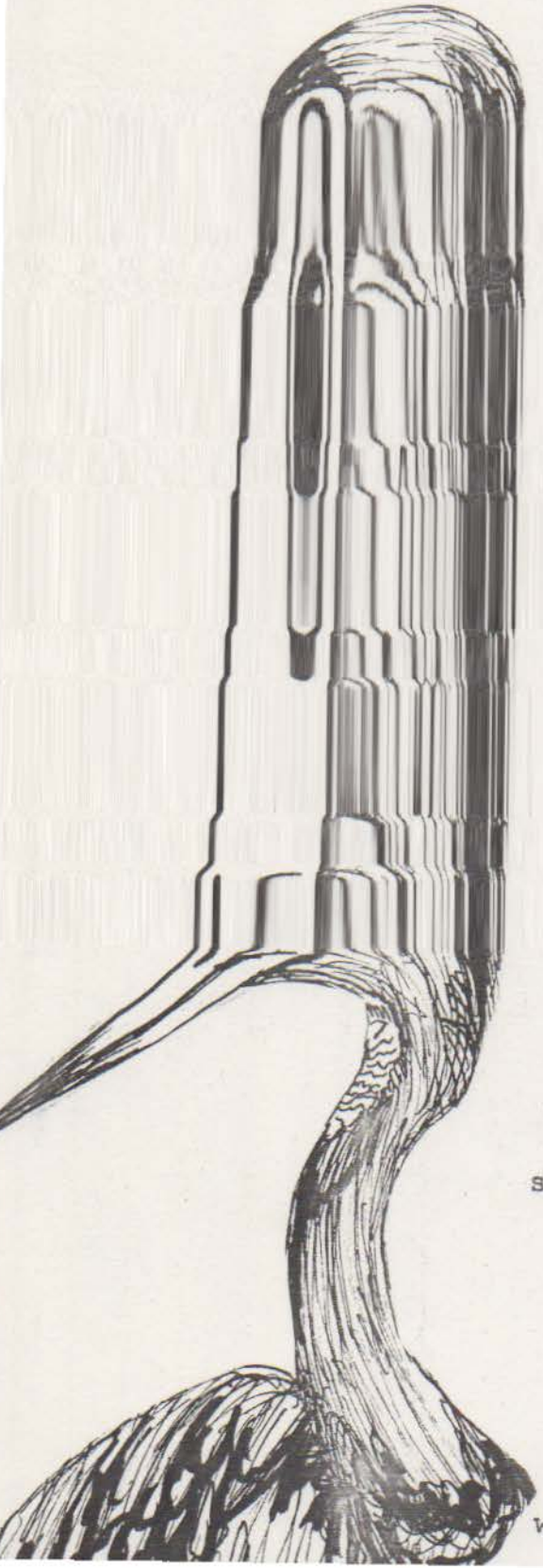
inner continuity

thinking, feeling, meditating

priceless

Happiness

By: Mrs. Albert



Lake

still, calm

bursting with life

supplying for so many

Home

By: Katie Douglas

Sunrise

peaceful, bright,

warmth, beauty, light

OVER VIEW

OVERVIEW

A.) Copy of schedule.

B.) Maps of Everglades region.

C.) Orientation, learning SPICE, ESA'S

D.) Walk on Gumbo Limbo trail and Anhinga trail.

A Little Bit of Science.

E.) An Epiphyte.

F.) Setting up Camp.

G.) Learning from Films.

H.) Night walk on Anhinga.

I.) Morning walk through Long Pine Key Hammock.

A Little Bit of Science.

J.) Sleugh slog to hammock in Cypress Swamp.

K.) Something to remember.

Put together by:

Carlos Alves, Ellen Bente, Carlos Cayon, Mike Doheny,

Mr. Kennith Grace, and Scott Hornsby.

STEP WORKSHOP

February 15-16, 1980, Miami Jackson High School
February 22-23, 1980, Miami Springs Senior High School

"I learned this...that if one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with...success. If you have built castles in the air, your work need not be lost. That is where they should. Now put foundations under them."

-H. D. Thoreau, Walden

"Rivers belong where they can ramble,
Eagles belong where they can fly,
I've got to be where my spirit can run free,
Gotta find my Corner of the Sky."
-Pippin

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4:00 p.m.	Arrive at Main Visitor Center Introduction to STEP and ESA's
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Workshop Objectives

To increase environmental sensitivity and awareness in the participants.
To become more articulate in communication of this sensitivity and awareness to others.
To make a personal commitment to the environment.
To develop a continuing STEP Program at participating schools.
To become familiar with the Everglades and its problems.

Workshop Goals

At the completion of the workshop each student will be able to:

- -describe and lead one activity for at least one of the senses.
- -present an ESA (Environmental Study Activity of his or her own creation.
- -make a commitment to do something (anything) to improve the Earth.
- -describe the Everglades ecosystem and the problems it faces.

C.)

We assembled together at the Everglades National Park Visitors Center at 4:15 P.M. on the day of February 22, 1980. We were all anxious to find out what was in store for us and in a short time we were sitting on a wall, by a lake, meeting our host and guide, Ranger Mike. Each of us introduced ourselves and then he began to teach us simple ways of better understanding the organism's of the glades. It is called SPICE.

S stands for Similarities and Varieties.

P stands for Patterns.

I for Interaction and Interdependance.

C for Continuity and Change

E stands for Evolution and Adaptation.

He then told us our schedule and that we would be doing various activities during our stay. He calls them Environmental Studies and Activities. We also learned a simple way to remember SPICE.

Similarities between each hand, both have 5 fingers, a thumb, etc.

Varities each finger is slightly different.

The lines in your hands show patterns.

Interaction - Interdependence all fingers must coordinate movement in order to grasp things. Each finger can touch the thumb.

Change hand enlarges as you grow older, hair grows.

More primitive animals have four fingers while more intelligent species have Evolved 5 fingers for more coordinating ability. The Thumb has become movable

D.)

After meeting Mike and getting oriented, we all drove to the Anhinga and Gumbo Limbo Trails.

First we walked along the Anhinga Trail. We saw many alligators. We also observed Coots, Herons, Garfish, Anhingas and a Gallinule. We also used the SPICE idea to find out how each of these animals fit into the ecosystem. We got better aquainted with Mike and each other when we did our first ESA. It was the food chain activity.

After finishing that, we went on a little seldom used trail into the Gumbo Limbo hammock. It was getting dark, but we pushed on and saw many beautiful trees covered with ressurection Ferns. We also saw a few tree snails, the jewels of the woods. We then went to an old deer feed where guests of the old Brickell Hotel used to feed the deer. We did another ESA and then headed back in the dark, stopping to taste the very sour wild orange. We saw many fireflys and heard the call of an owl as we travelled back.

Many of the dominant plants in the Everglades are the air plants or Epiphytes. The most predominant being bromelaids. They grow on host trees and have a beautiful blossom. They are sometimes called wild pines because the best known epiphyte is the tasty pineapple. Their ecosystem is spelled out in simple terms of the following page.

D.)

ECOSYSTEM OF AIR PLANTS

Has H_2O capacity.

Relationship of H_2O—

entraps the water and surrounding organisms.

Larger than Protist.

Epiphytes need light, but can be found at almost any level on the tree.

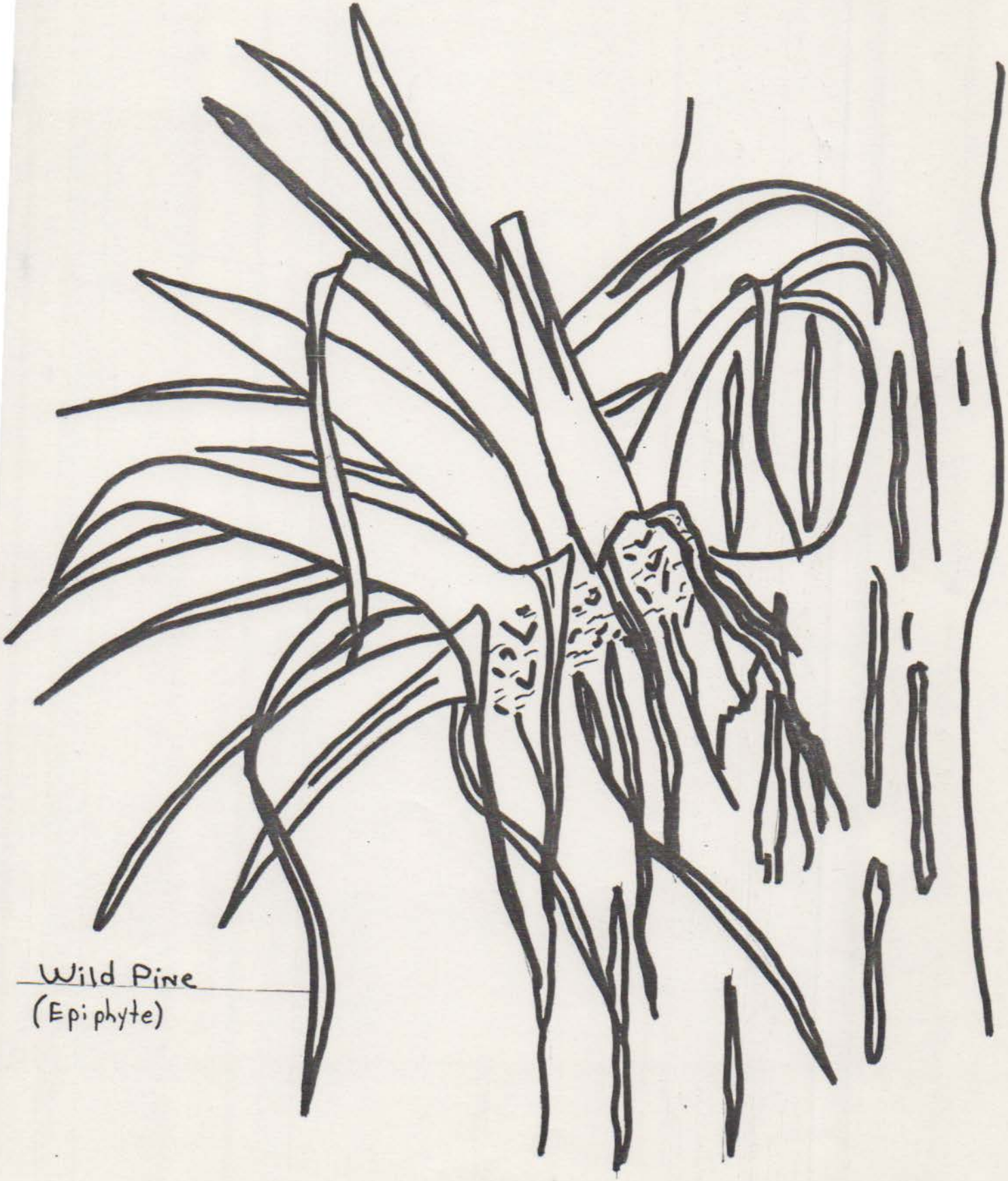
There is also an interrelationship between water held in plant and the protists, and small animals that live in it.

H_2O held in pedastal like leaves

Air plant has germination effect on other organisms.

There is a symbiotic relationship of air plant and Host organisms.

Diffusion processes involved inleaf stem junction verses upper surface-chemical balance.



Wild Pine
(Epiphyte)

F.)

We drove down to Long Pine Key and set up camp in darkness. Everyone gave a helping hand in putting up the tents and the tents were very spacious. We didn't have too long to eat so everyone hurried to get their dinners ready. All the men cooked hot meals. Hamburgers, steaks, potatoes, chicken, etc. Most of the girls however, had bought Kentucky Fried Chicken and sandwiches, brownies, potato chips and other pre-made stuffs. Well, at least the men ate right!

During the course of making dinner two people got lost for awhile looking for the bathrooms. Needless to say they finally found their way back and in the morning realized that the bathrooms were only 100 yards away.

G.)

After eating and cleaning up the mess we made in the process, we drove back to the visitors center and Mike showed us two films about the environment.

The first one was about pollutions effects on the environment and stressed the need to clean up our waters, air, cities and woodlands and all this was brought out in a letter written to the President a century ago by an Indian Chief.

It may have been a bit heavy about what man has done to his natural environment, but it made us all more aware of the need to preserve our wildlife and all our natural woodlands and wild areas that are left.

Mike then showed us a second slide presentation which he made himself. He had some of the most beautiful photographs we had ever seen and we all seemed to realize that he really, really, cares about the Everglades and the people who come to appreciate it.

After the presentation he talked to us some more and told us a little about his work and about the environment. By the time we were finished it was 10:00 P.M. and everyone was ready to hit the sack, but we still had to take our night walk on the Anhinga Trail, so off we went.

H.)

Being out in the Glades at night whether in the Park or not is a peaceful experience. Being far from the city the stars shine bright in the sky and you can almost reach out and touch one, they seem so close. The sky is like a panorama because you can see from one horizon to the other.

In darkness we walked along the trail slowly and quietly, occasionally stopping to hear a sound or to look at an animal that someone had spotted. Then as we got towards the pond area of the trail we spaced ourselves out at intervals along the boardwalk and sat there, ever so silent and listened to all the noises in the night. Many bullfrogs came out to serenade us with their bellowing and crickets and other insects chirped in a constant frenzy. This silent watching and listening is known as Seton watching. A famous naturalist named Seton came up with the idea and gathered large amounts of information on patterns of behavior and of the life of many of the glades organisms this way. We used our flashlights, held at eye level, to spot the beady red eyes of gators on the walk back.

Everyone seemed to enjoy this portion and as we left to go back to camp we all knew we had experienced something we would remember a long time.

We finally got to sleep close to midnight and were glad to sink into those sleeping bags.

I.)

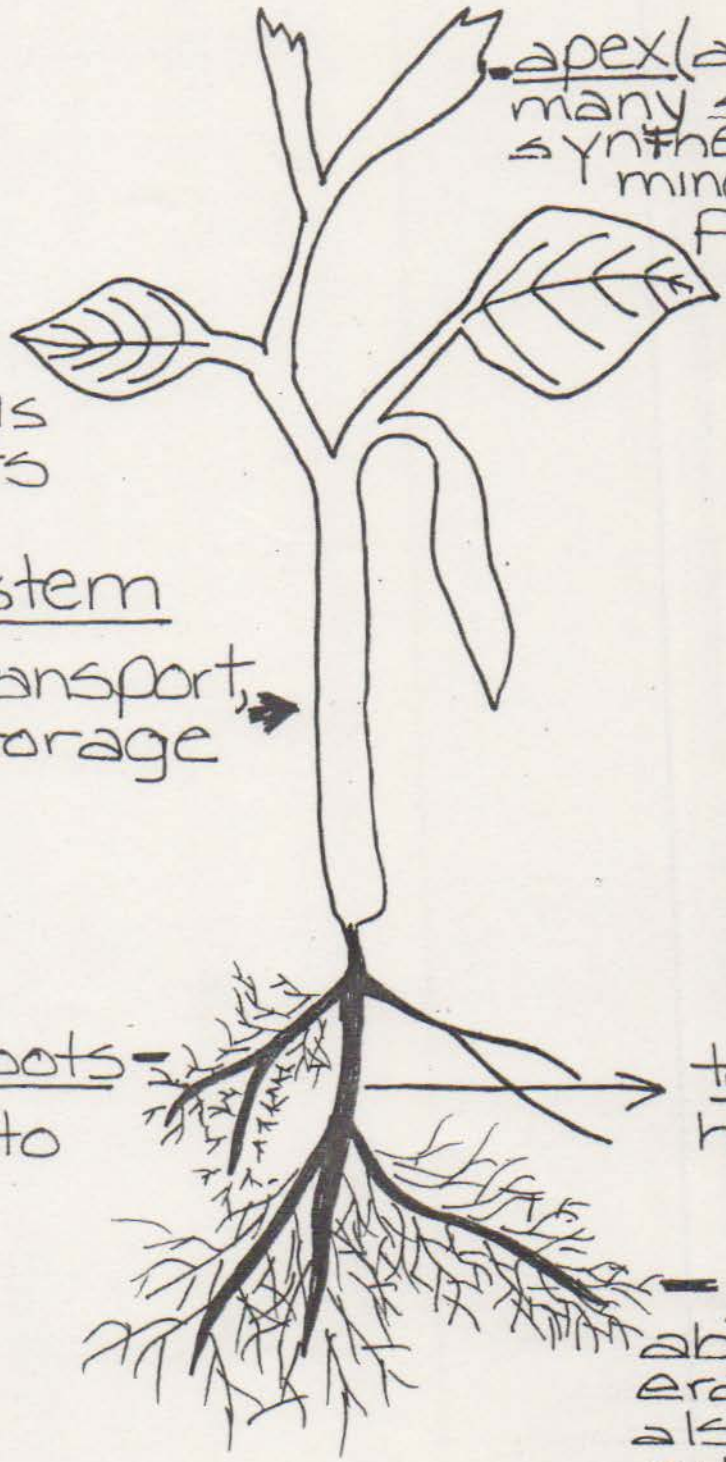
We awoke early Saturday morning, before sunrise. Everyone dressed and got out of their tents still sleepy eyed from the short sleep that we got. We all walked a short distance to the lake. As we watched the sun rise we put our thoughts down in words and then read them aloud. An old gator came up by the shore to greet us probably hoping we had some food for him to eat. We then did the rock friend ESA and made breakfast. Again we guys showed up the girls' dunkin doughnuts with eggs and bacon and steak.

After breakfast we took a walk through a hardwood hammock in the predominantly pine forest. We saw a wild bee hive in a tree trunk and many types of beautiful ferns, trees and plants. A beautiful tree frog jumped through the thick damp ground and the rainbow colored tree snails, Ligulus, adorned the trees.

We did another ESA called Sense of Touch and this gave us a better insight as to how things really were. We then went on a scavenger hunt in a prairie and got a good lesson in improvising. After that we did another ESA in the pine area and saw an owl family, a hawk family, crows, buzzards, blackbirds and other species of birds.

The most important and vital organism on land are the plants, especially trees. (Pines, Oak, Gumbo Limbo, Cypress, Plum, Willow, Poisonweed, Ironwood, Palm, Mangrove, just to name a few of the many abundant species found in various areas of the Glades.) On the following page is a diagram of a plants system and what it does.

Trace elements vital to plant are iron, calcium, magnesium, zinc.



- apex (apithical, many stems.) synthesis vitamines, hormones, proteins. undergoes mitosis.

foilage
- photosynthesis makes sugars
- evaporation absorbs water

stem
transport, storage

med roots - gives rise to root hair.

tap root holds plant

- root hairs absorb minerals + water also stores nitrogen and may make protons, sugars, Etc.

J.)

After we finished packing to make room for some boyscouts, we ate lunch and then drove south to the Bald Cypress Forest. Elevation was three feet. We pulled off the road and met up with Mike and then headed off into the wet, muddy sawgrass area. This was the most enjoyable part because everyone was having a good time getting muddy and wet and struggling to walk through the mud. We reached a hammock and decided to plow through. The bravest lead the way and blazed a path for the others and after several falls and tangles, we all made it through alive. Some people saw some deer and raccoon tracks and a few birds in the distance. We walked another eighth of a mile to a hardwood hammock and a few more got muddy and wet. We learned how a hammock forms and develops and how vital they are to the glades. Finally we headed back to the roadside to rest and on the way we reconstructed a turtle skeleton that someone had found. We all said our farewells then to Mike and thanked him for all his help and time that he gave to us for our learning experience. We also thanked Mrs. Albert for setting up the study for us and caring about us like we were her own kids. Mr. Grace was great also and was a pleasure for everyone involved on this trip.

K.)

For all of us who went, it will always be something to remember. For those who don't get in the outdoors often it was a great learning experience and they gained a much better insight as to what nature is all about and for those who do visit it often, it recaptures those same good feelings. Wonderful feelings, that you get from the Everglades everytime you get out of the city and slow down to the easy yet dynamic pace of the wilds.

Programs like step and others need to be more widespread and become more available to students who really care. Too much time is being spent in the class and in books and not enough in the best classroom of all, the natural surroundings our earth is blesséd with, for us to study and enjoy. It is said that you learn more from ten minutes of actually doing something than you could in five hours of reading about it. Best of all you remember it much better too.

Students need to be able to participate and have the chance to go out and discover through field studies, field trips and other off campus activities.

We all would especially like to express our appreciation to our teacher, Mrs. Albert for realizing this need and preparing these learning experiences for us.

Snowy Egret

CONCLUSION: EVERGLADES STEP

The environmental science class of Miami Springs Senior High School went on an overnight workshop on February 22 and 23 to the Everglades National Park. The students were fascinated with the strange plants and animals they saw. From what the students have learned in the class and on the trip, they should be able to teach others who are not as fortunate as to go on one. On this field study, the students also learned the different ways of how man is affecting his environment. Everyone is really benefiting from the field studies we are going on.

In taking this Glades trip, I not only learned about the animals and organisms that live there, but also about the history of Florida and most of all about myself.

Reviewing what I learned about the living things, one of the interesting things Mike, the ranger, pointed out to us was that in mating season the male anhianga gets torquoise rings around his eyes. He showed us various other species of birds such as the great white Heron, the blue Heron, the gray Heron, and the egret. We heard and saw a great-barred owl in a pine tree not far from its nest. He also taught us many of the different kinds of trees, bushes, and other plant life. For instance, he pointed out the poison wood tree, the saw grass, (sedge), the mosses, the ferns and many, many more. It made me realize how very much there is to be learned.

One of the most fascinating things I learned while in the Everglades was about myself. This "self-awareness" program opened my eyes to all of the realities of the world and myself. It also made me realize how much you can miss when looking at your environment. You really have to take your time and observe your surroundings with <u>all</u> your senses. Mike made us do this by giving us ESA'S (Environmental Study Activities) to play. These were games such as the "Food Web", "Scavenger Hunt", and "Rock Friend". Each had a specific sense involved in them, and they really reinforced my knowledge.

Not only is the Everglades "wildlife's refuge from city man" but it is also "man's refuge from city man". I loved it down there. The surroundings are so peaceful and beautiful - such a place to think and find yourself. The best way to describe how I felt about this trip is to quote the first impression I got when I came back to Miami -, "I have to go back to the Everglades and I am!"


PRODUCER
CONSUMER
REPLENISHER

STEP WORKSHOP

February 15-16, 1980, Miami Jackson High School
February 22-23, 1980, Miami Springs Senior High School

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To make a personal commitment to the environment.
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STEP WORKSHOP
May 24-25, 1979
Summer Interpretive Staff
Everglades National Park

"I learned this...that if one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with...success. If you have built castles in the air, your work need not be lost. That is where they should. Now put foundations under them."

-H. D. Thoreau, Walden

Thursday, May 24, 1979

2:00 p.m. Main Visitor Center: Introduction to STEP, NESA, SPICE
Film: Buddism, Man, and Nature

3:00 p.m. Royal Palm: Sense of Discovery
-New Games
-Identification with a Natural Object
-Sensory Wheel
-Trust Walk
-Rock Friend

4:00 p.m. Royal Palm: Sense of Order
-Pattern Sheet
-Web of Life
-Scavenger Hunt
-Tomorrow's Requirements

5:00 p.m. Break for dinner

7:00 p.m. Main Visitor Center: Sense of Wonder
-The Energy Expense Account Review
-Magic Talking Stick
-Who Ate Roger Williams?
-Film: Home

8:00 p.m. Royal Palm: Sense of Place
-Haiku or Cinquain Poetry
-Seton Watching

9:00 p.m. Long Pine Key Camprground: Sense of Sharing
-Campfire
-Smores
-Songs
-Twinkle, Twinkle, Little Star

10:00 p.m. Retire with the mosquitoes

Friday, May 25, 1979

5:30 a.m.	Rise and Shine
5:45 a.m.	Sunrise Seton Watch/The Missing Piece
6:30 a.m.	Breakfast
7:15 a.m.	Work on ESA's
8:00 a.m.	Presentation of ESA's (10 minutes maximun for each)
9:30 a.m.	Environmental Committment Letter Writing Witticisms and Criticisms Graduation The Magic Blob
10:00 a.m.	Break Camp

WORKSHOP GOALS AND OBJECTIVES

Short term: at the end of the workshop each participant will be able to:

(1) share an experienced "sensory-expansion' activity with someone else.
(2) describe several new methods of sharing environmental experiences with others.
(3) relate a basic understanding of the Everglades web of life.
(4) make a personal commitment to do something (anything) to improve his of her environmental ethic and behavior.
(5) present an ESA (Environmental Study Activity) of her or his own creation.

Long term:

(1) To enhance environmental sensitivity and awareness.
(2) To encourage the desire to effect positive change.
(3) To improve the earth by influencing visitors to the park via the summer interpretive program.

United States Department of the Interior

NATIONAL PARK SERVICE

EVERGLADES NATIONAL PARK
AND
FORT JEFFERSON NATIONAL MONUMENT
P. O. BOX 279
HOMESTEAD, FLORIDA 33030

IN REPLY REFER TO:
79/80 STEP

October 3, 1980

Dear STEP Participant:

Students Toward Environmental Participation (STEP) is a commitment of love for our environment, especially the Everglades environment, and an understanding of our place in it. If you share these feelings, come join Everglades National Park's STEP Program.as you did last year.

Those of you who participated in last year's program are invited to come again. Remember that there are two areas to choose from, each having different dates. The Everglades Environmental Education Office will begin to schedule STEP Schools on Wednesday, October 10, on a first-call, first-serve basis. The STEP Coordinator should call the EE Office at 247-6211 x 220 to schedule a workshop. Please have one or two alternate dates in mind. Open dates which exist after October 15 will be filled with new schools, or schools desiring more than one workshop. The dates for this year's workshops are:

Long Pine Key Campground	Big Cypress Environmental Education Area
January 18-19	January 4-5
January 25-26	January 11-12
February 15-16	February 1-2
February 22-23	February 8-9
March 14-15	February 29-March 1
March 21-22	March 7-8
April 11-12	March 28-29
April 18-19	April 4-5

I Look forward to a productive, enjoyable winter of STEP Workshops together. Once the schedule in finalized, one of us in the EE Office will contact you about your workshop.

Yours truly,

Michael D. Watson

Michael D. Watson
Environmental Education Coordinator

STEP WORKSHOP
February 17-18, 1979
South Dade and Satellite Beach Senior High Schools
Royal Palm/Long Pine Key Areas, Everglades National Park

CHANGES: "Interest in the CHANGING seasons is a much happier state of mind than being hopelessly in love with spring."

-Anon.

CHANGES in Everglades National Park; how these express bigger CHANGES on our spaceship, Earth.

SCHEDULE: "As if you can kill time without injuring Eternity." -Thoreau.

Saturday, February 17, 1979

12:00 noon	Arrival--Welcome! Meet at Main Visitor Center --why you've come? --where you are; --What our plans are. A lunchtime flick: "Crunch-Crunch"
1:00 p.m.	Travel to Royal Palm Area.
1:15 p.m.	The Past Revisited: An exploration of the Old State Park Site--man-made CHANGES in Everglades National Park. Heightening sensitivity to CHANGE- -taste ceremony. -the magic blob.
3:15 p.m.	The Present Reconsidered: A walk on the Anhinga Trail; natural CHANGES in Everglades National Park. "Crunch-Crunch" comes alive.
4:15 p.m.	Travel to Long Pine Key.
4:30 p.m.	Set up camp; get to know your new house and your new neighborhood.
5:00 p.m.	Dinner.
6:00 p.m.	Travel to Main Visitor Center.
6:15 p.m.	Evening Workshop: CHANGES in the Everglades--natural and man-induced. CHANGES on Spaceship Earth--natural and man-induced. "Morris and Everglades," a slide show about Morris, the Bacteria. How we can effect CHANGE: NEED, NESA, STEP, ESA.

Methods of teaching: ESA ideas involving SPICE.

Creativity and teaching: music and cuddley creatures.

"Home"--a movie about CHANGE.

8:30 p.m. Travel to Royal Palm.

8:45 p.m. Night walk at the Anhinga Trail: the Everglades' CHANGING faces and new ways of seeing.

9:45 p.m. Travel to Long Pine Key.

10:00 p.m. Time to retire.
Quiet hours in campground.

Sunday, February 18, 1979

6:30 a.m. Waken with the Sun.
"only that day dawns to which we awake."

6:45 a.m. Seton Watch at the sawgrass meadow: writing; sketching; composing.

8:00 a.m. Return to campsite.

8:15 a.m. Breakfast.

9:00 a.m. Exploring CHANGE in the Everglades by means of senses;
Touch--"Your Tree"
Smell--"Sweet, musty, green"
Hearing--"Silent Star"
Seeing--"Your Rock"

10:30 a.m. ESA preparation period.

11:30 a.m. Break camp.

12:00 noon Lunch.

12:30 p.m. Presentation of ESA's.

1:30 p.m. Conclusion: ENVIRONMENT, CHANGE, AND YOU.

1:45 p.m. End of STEP Workshop.

" I Learned this...that if one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with...success. If you have built castles in the air, your work need not be lost. That is where they should. Now put foundations under them."

-H. D. Thoreau, Walden

WORKSHOP GOALS AND OBJECTIVES

Short term: at the end of the workshop each participant will be able to:

(1) share an experienced "sensory-expansion" activity with someone else.
(2) describe several new methods of teaching environmental education to others.
(3) relate a basic understanding of the Everglades balance.
(4) present an ESA (Environmental Study Activity) of his or her own creation.
(5) confront the question, "Is man-induced change merely an expression of natural change?"
(6) make a personal commitment to do something (anything) to improve his or her immediate work.

Long term objectives

(1) To enhance environmental sensitivity and awareness.
(2) To encourage analytical thinking and the desire to effect positive change.
(3) To develop a continuing STEP program at Miami Jackson High School and in the South Florida environment.

STEP WORKSHOP
February 2-3, 1979
Miami Jackson High School/Everglades National Park
Royal Palm-Long Pine Key Areas

CHANGES: Changes in Everglades National Park and how these express bigger changes on our spaceship, Earth.

"Interest in the CHANGING seasons is a much happier state of mind than being hopelessly in love with spring."

-Anon.

SCHEDULE: "As if you can KILL time without injuring ETERNITY."

Friday, February 2, 1979

1:30 p.m.	Arrive at Visitor Center. Welcome, weekend plans. NESA, NEED, STEP, ESA's.
2:00 p.m.	Royal Palm State Park Site. "Changes:" IMMEDIATE AND LARGE SCALE. Senses: Our doors to the outside-- --TASTING (yum-yum). --TOUCHING (your tree). --SEEING (magic blob).
4:00 p.m.	Travel to Long Pine Key campsite.
4:30 p.m.	Set-up camp; unpack.
5:00 p.m.	Dinner.
6:00 p.m.	Travel to Visitor Center.
6:30 p.m.	"Morris, the Cell, and the Everglades," a slide show. SPICE. Other ways of teaching: music and cuddley creatures. "The Ark"--a film; discussion to follow.
8:00 p.m.	Travel to Anhinga Trail.
8:15 p.m.	Night prowl at the Anhinga Trail. Seton watch.
9:45 p.m.	Travel to campsite.
10:00 p.m.	Sleep (at last!).

Saturday, February 3, 1979

6:15 a.m.	Waken--"only that day dawns to which we are awake."
6:30 a.m.	Sunrise ceremony.
6:45 a.m.	Seton Session: writing; sketching; composing.
7:30 a.m.	Breakfast.
8:15 a.m.	Exploration of three changing Everglades regions (NESA area). Sensory exercises (continued): HEARING. SMELLING. Teaching tools: "Rock Friend." "My Identity is..."
9:30 a.m.	Never too simple...The Lorax.
10:00 a.m.	Communities along the NESA Trail.
10:30 a.m.	Break camp.
11:00 a.m.	Prepare ESA activities.
11:45 a.m.	Lunch
12:45 p.m.	Share ESA activities.
1:15 p.m.	CONCLUSION: Certificates. Pledges. Changes within and without...

"I learned this...that if one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with...success. If you have built castles in the air, your work need not be lost. That is where they should be. Now put foundations under them."

H. D. Thoreau, Walden

WORKSHOP GOALS AND OBJECTIVES

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(6) make a personal commitment to do something (anything) to improve his or her immediate work.

Long term objectives

(1) To enhance environmental sensitivity and awareness.
(2) To encourage analytical thinking and the desire to effect positive change.
(3) To develop a continuing STEP program at Miami Jackson High School and in the South Florida environment.

STEP WORKSHOP
February 24-25, 1978
Miami Jackson High School

2:00 PM Leave School
Snack or Eat Enroute

4:00 PM Arrive at Everglades National Park

4:15 PM Drive to Royal Palm
Introduction to STEP
Discussion of Agenda

Sense of Environment

The Anhinga Trail--Facts, Figures, General Information
Sensitizing Activities along Old Ingraham Highway
Natural Object Identification
Touch: Trust Walk
Smell: Musty, Green, Sweet
Hearing: Listening Tree
Taste: STEP Initiation

6:30 PM Set up Camp at Long Pine Key
Dinner at last!

8:00 PM Drive to Visitor Center
SPICE Strands
The Ark--movie
Buddhism, Man and Nature--movie
Requirements for Individual ESAs
Tomorrow's Activities

9:30 PM Drive to Royal Palm

9:45 PM Night Prowl on the Anhinga Trail
Rock Friend
Night Seton Watch

11:00PM Sack Time

Awareness of Self and Environment

6:00 AM Rise & Shine it's almost daylight

6:15 AM Sunrise Seton Watch
Everglades Writing--Free Verse

7:30 AM Big Breakfast--Break Camp
Work on ESAs

9:30 AM	Presentation of ESAs
11:00 AM	Drive to Coot Bay Pond

Sense of Adventure

12:00	Canoe Adventure Coot Bay Pond to Coot Bay to Mud Lake to Bear Lake Canal to Bear Lake
	Lunch during the trip
	Blind Canoeing
	Meditation
	Angles
	Tasting
4:00 PM	Presentation of Certificates Environmental Commitment Critique of Program
4:30 PM	Home to Miami (via the nearest restaurant)

Workshop Objectives:

To increase environmental sensitivity and awareness in the participants
To become more articulate in communication this sensitivity and awareness to others
To make a personal commitment to the environment
To develop a continuing STEP program at Jackson High

Goals:

At the completion of the workshop each student will have participated in at least one activity for each of the five senses
Each student will present an Environmental Study Activity of his own creation
Each student will make a commitment to do something (anything) to improve the earth.

STEP WORKSHOP
June 12-13, 1978
Georgetown (Illinois) High School/Everglades National Park

Monday, June 12

Hour 1 Main Visitor Center: Introduction to STEP and NESA
Film: Buddism, Man, and Nature

Hour 2 Royal Palm: Sense of Discovery
-Identification with a Natural Object
-Sensory Wheel
-Trust Walk
-Rock Friend

Hour 3 Royal Palm: Sense of Order
-SPICE Strands Information
-Pattern Sheet
-Web of Life
-Scavenger Hunt

Hour 4 Royal Palm: Sense of Wonder
-Angles
-Mini-Worlds
-Free time on Anhinga Trail

Long Pine Key: Lunch

Hour 5 Long Pine Key: Sense of Place
-Seton Watching
-Haiku or Cinquain Poetry

Hour 6 Long Pine Key: ESA Requirements
What happens tomorrow?
Questions and Answers

Main Visitor Center: Film: The Ark

Tuesday, June 13

Hour 1 Main Visiotr Center: Review and Getting Ready
Film: The Everglades Region

Hour 2 Royal Palm/Long Pine Key: Individual presentations of ESA's (10 minutes apiece maximum)

Hour 3	Royal Palm/Long Pine Key:	Individual Presentations Continued Certificates Evaluation Opportunities Rapping
Hour 4	Moving on to Challenge and Commitment	

Workshop Objectives

To increase environmental sensitivity and awareness in the participants.
To become more articulate in communication of this awareness and sensitivity to others.
To make a personal commitment to the environment.
To develop a continuing STEP Program at Georgetown High School.
To become familiar with the Everglades ecosystem and its problems.

Measurable Goals

Upon completion of the STEP Workshop, each student will be able to:
-describe and lead one activity for each of the five senses;
-present an Environmental Study Activity of his or her own creation;
-make a commitment to do something (anything) to improve the Earth;
-describe the Everglades ecosystem and the problems it faces.

5-15-78

Dear Mike and Sandi,

I'd like to express my personal appreciation on the presentation you took our students through. I think you provided them with attitudes that will modify their future decisions concerning the environment. As you can see from the the list of answers, I think your purpose was accomplished. We also have some students who are going to put on a STEP activity for our Junior High students.

Sincerely
Tom Hulbert

P.S. Will be sending back one of the souvenirs we found on the bus that Mike is probably missing.

To: All Environmental Awareness students.

From: Staff

Reason: Please find enclosed your tests and the composite results of the Everglades STEP program. We hope that this course has modified your attitudes toward the environment and that we have provided you with some tools that will be useful in making environmental decisions in the future because the future rests in your hands. It has been a pleasure spending those ten days together with you. Enjoy the rest of your summer.

Tom Kulbartz
Steve Sliva
Mary Kay O'Reilly
Jim Mills

ENVIRONMENTAL AWARENESS

JUNE 1978

MOMENTS TO REFLECT - THE EVERGLADES

The following are compositions written by those students participating in the STEP program in the Florida Everglades.

Mosquito
buzzing pest
flying buzzing sucker
an all around nuisance
insect

Kent Brooks

Mosquito
hypodermic insect
draining blood cells
my entire body itches
dracula-fly

Mike Watson
Ranger

Trees
tall green
shading the earth
providing oxygen for all
plants

Ron Saucer

Everglades
mother river
flowing rocky veins
life-giving, life-taking
cycle

Sandi Whitehead
Ranger

Swamp
beauty danger
protect preserve explain
important interesting intriguing fun
Everglades

Raymond Bieczkowski

Understanding
Mother Earth
awakening of relationship
man belongs to the earth
rennaisance

Tom Kulbartz
instructor

Earth
free beautiful
living growing remembering
being love caring faithful
unknown

Debbie Edwards

Fishes
slimey scaly
swimming breathing eating
small cautious weak senseless
fish

Randy Smith

Mosquitoes
small irritating
yet giving life
they shall be protected
insects

Jeff Coburn

Saw grass
green bending
blowing very freely
wish I was there
hwoooooooo!

Sue Biggs

Alligator
massive jaws
eating living swimming
frightened interested ugly fascinating
gator

Roger Gordon

Universe
contains earth
boundaries of life forms
the prevailing life cycle
God

Mike Galyen

EVERGLADES

The Everglades is a nice place to visit
wouldn't in the world miss it.
There is one exception tho,
the mosquito.

Karla Burgoyne

The Everglades are a thing of Beauty as well as danger,
yet its appearance can be altered by a mere stranger.
Its existence relies on the insignificantly small.
For without them there would be no Everglades at all.

Don Delaney

Tranquility

To know it is a privelege.
It is the sound of unseen birds sharing a God-given talent;
The limbs and leaves being prodded by a gentle but persistent breeze
The swaying of a tree trunk against your back.
The ability to do nothing and think of nothing.
A Seaton watch on a warm afternoon or a clear summer night,
It is something only the priviledged can enjoy
A priviledge once lost, that can never be regained

Jim Mills
instructor

The Glades
walking
Among the unique
seeing
the unseen
touching
the untouchable
tasting
the food of nature
feeling
a natural high
the Glades

Steve Sliva
Instructor

Home
interesting truth
protecting believing defending
regret scary unbelievable awaken
America

Quincy Scott

Rain
cool wet
falling slowly to earth
soft and gently fine
precipitation

Tim Davis

Everglades
deceiving intricate
protecting reaching fighting
wary amazed interested stable
unique

Donnalee Yoho

Snakes
slender sly
hiding resting eating
afraid furious slimy cool
reptile

Anita Conrad

Everglades
hot fascinating
preserving protecting providing
glad that there its there
marshland

Lori pasley

Everglades
humid swampy
protecting caring managing
exciting dangerous pleasing understanding
life cycle

Brian Parke

Mosquitoes
small lively
searching biting reproducing
here they come run
blood-thirsty

Betsy Lambert

Insects
flying crawling
flying biting eating
have them wish they were dead
bugs

Russel Tapscott

Pine
ragged tall
reaching digging bending
color close nostalgia knowing
tree

Unsigned

Tree
shady beautiful
standing tall and slender
standing tall above everything
plant

Darla Burgoyne

Cry Of The Flower

When you can talk to a plant and
and have it relate back, you are
then on a true link with nature.

When you see a plant cry because
of man's destruction. Actually
hear it scream because of careless
fellow man.

You may see it fold into itself
cowering on every breath of air
breathable, knowing its end is
near.

Yet it still has some hope. Groups
just such as STEP are this special
hope. His one thread to his rightful
way of life.

STEP is like a different language
interpreter. It tries to show the
little flowers secret.

If STEP or just such a group should
fail so would man. If they fail all
mankind would cease to exist as we know
him.

Then there would be no one to hear the
flowers.

Unsigned

Everglades

This place where I was taken to see,
at first was nothing to me.
To my eye it all was wet grass
with hardly any class.
But through working in this land,
under an experienced guiding hand,
I was able to conceive
what many dedicated people believe.

Steve Winkler

Allaying many fears
and ignoring others
I stop
and slowly attune my senses
to the subtle sounds, sights and smells
of the land -and water-
which lay before me.

Close to convinced
of the harmlessness
of a clackling, rattling sound
I relax
and drink in the soft coolness of a slight breeze
as it ripples through the lush grasses
of a small pond.

My knees crisscrossed in the scorchin sun
begin to beg for some relief from the burning rays
as the droplets of sweat
begin to pour from underneath.

Seemingly sensing a slight bit of unconcern,
the skeeters cease their buzzing-
my ears instead catch the plip-plop of a grasshopper
making its way through a dense thicket of ankle high grass.

Tuning out the smell of the wonderously working insect repellent
I am aware of the aromatic blend of many plants
wafting in the wind.

I gaze about this sea of grass before me and marvel at the wonderous diversity and variety of nature.
Ever changing, ever evolving, ever there - its origin beyond man's grasp
Its future lying vulnerable in his hands.

Mary Kay O'Reilly
instructor

Everglades

The Everglades pretty, beautiful, unique
at times are beautifully mystique.
They are gators, gars, and bass are all alike
superstars in the wet world of grass.
Bees, bugs and mosquitoes bite, there not actually bad they"re alright.
They help keep the cycle of life that makes everything great.
Its great to preserve, nice to learn, and help Smoky not to burn.

Brian Cannon

Earth

It is free for all seekers,
And beautiful for anyone who looks for her marvels.

The Earth is living through its plants and animals.
She is also growing through the knowledge of these same organisms.
She is also remembering the time of her life when things were a little simpler and cleaner.

Her being is our living.
If we show mother earth our love then she will care for us.
With this we have a faithful long-lasting relationship.

We seek and marvel at our earth for she is unknown by us her children

Debbie Edwards

Everglades is hot as you can see
just standing around picking bugs off me.
Mosquitoes are a pest and so is the fleas,
so the best thing to do is Seton watching in a tree.

Unsigned

The following are STEP activities designed by Georgetown High School students during the Everglades Workshop. All these activities are sensitivity-oriented and aid the student in recognizing his role in the environment.

Mary Kay O'Reilly, instructor - Identify and describe any part of the environment in three senses other than sight.

Sandi Whitehead, ranger - Fire is a part of the Everglades ecology. It is needed to burn back the hammock vegetation invading the pinelands.

In this activity the students form a circle. Two students are placed in the center of the pine trees. Two students outside the circle are the fire. The students in the circle represent the hammock vegetation. The fire students attempt to break through the ring to the pines. If they do, they become pine trees. If not, one pine tree becomes a part of the circle and two new fires are selceted and the game begins again. (The fires become hammock trees). Hammock students must attempt to tap the fires. If the fires are tapped they become hammock trees. Hammock trees are rooted and cannot move their feet. Also, two hammock trees must tap the fire at the same time.

Mike Watson, ranger - Find at least three kinds of leaf arrangements on plants and draw them. Compare them to other peoples' drawings. How many varietie of leaf patterns did the entire group discover.

Steve Winkler - Identification of foreign substances through sense of touch ahd smell. Substances are unfamiliar, but common. Eyes must be closed.

Russel Tapscott - Unscramble the animals' names. podowkrece, shroe, etc.

Steve Sliva, instructor - Each studet closes their eyes then imagines themselves as an animal of the Everglades. They tell of their birth, experiences through life, what they feel, what they have seen, and how they feel about the Everglades.

Jim Mills, instructor - Have each student select a 3x3 foot area and conduct an organism count.

Tom Kulbartz, instructor - Have each student touch three parts of the environment and rate them as to their degree of warmness or coolness.

Don Delaney - Imagine onself as an animal of the Everglades and tell others about the experiences there.

Betsy Lambert - Blindfold people one at a time then lead them to a certain place in the environment. Leave them there for a few minutes to get them aquainted with the surroundings then lead them back, take off the blindfold and see if they can find where they have been.

Brian Parke - Place everybody in a circle and blindfold them and get a natural thing fro the environment and pass it around. They describe the object using senses other than sight. Describe their feelings about the object.

LoriPasley - Write the words Everglades National Park and see how many words they can make from them in five minutes.

Anita Conrad - Take a word and see who can find the most words out of the one word.

Donnalee Yoho - Take the group of students out into an area and blindfold them. Allow them to roam around and feel, smell, etc. the surroundings then bring them back to the building and tell each person to draw what they felt and heard.

Tim Davis - One person makes a noise. The other people in the group write down what they feel about the noise. Also sounds from the environment are used.

Quincy Scott - Have the group go get a leaf. Have them tell the differences and similarities to the leaves of everyone elses groups.

Mike Galyen - Name all the birds that you see in five minutes.

Roger Gordon - Have the people sit down and face the Everglades. Close your eyes and try to picture what you cannot see blindfolded.

Susan Biggs - Have participants sit in a circle blindfolded, bring in a lot of natural objects one at a time and have them pass it around and tell what the object is.

Jeff Coburn - Split the students into two groups and give each a specific area. Then have them discover the insects in this area and identify them.

Randy Smith - Make as many words from the word environment that relate to the surroundings.

Debbie Edwards - Divide into teams and collect as many insects as possible in a given amount of time.

Ray Bieczkowski - Take a group along a trail and see how many adaptations each person can find in the organisms seen.

Ron Saucer - Have each person pretend he is a tree and tell what is going on around him in the Everglades.

Kent Brooks - Select something in the Everglades and describe it. See who can guess the object first.

Darla Burgoyne - Charades - act out natural phenomona.

Brian Cannon - Using natural objects represent something from the Everglades and have people guess what is being represented.

The title for this course is Environmental Awareness. The following is a list of answers in response to the last question on the final exam which read, "What is the most important thing you learned environmentally in this course." Most of the answers indicate a new awareness of man and his relationship with the environment or how all things living and nonliving are related.

Steve Winkler - New processes in dealing with control of nature and prevention of technological take-over such as the ones introduced in the Everglades.

Jeff Coburn - That all animals no matter how big of a pest they seem to be to us they are important to the environment's ecology. That the extinction of animal species is our miner's canary.

Quincy Scott - To preserve and protect because if you don't they might not be here tomorrow.

Debbie Edwards - The thing I learned is that you have to look for beauty in the wild before you see it. And, that you have to sacrifice something from yourself to keep the animals alive.

Brian Parke - The thing I learned is that in the Everglades everything was dependent on each other, and you could interrelate with nature and feel you were a part of it.

Brian Cannon - To appreciate all living things because they may not be here.

Don Delaney - The most important thinf I learned was that the ecosystem's existence depended on the smaller things in these areas.

Darla Burgoyne - The most important thing I learned was how the most pestly insects or other animals were really important to all life cycles to continue. I did not realize they had as equal a role.

Anita Conrad - To protect your surroundings because they won't be there forever if you misuse them.

Kent Brooks - That all animals and plants have a purpose for being here, Because they are need to carry on the life cycle and if they were not there the lif cycly would be broken and everything else would die.

Karla Burgoyne - If one organism is taken away or destroyed in a life cycle then the rest of the life cycle or food web will be destroyed and also I thought becoming part of the environment not against it was very important and realize how much man does interfere with natural cycles.

Lori Pasley - To help preserve wildlife areas and to watch them because if something happens to them our health and well being is in danger too.

Randy Smith - The most important thing which was learned environmentally was that man was made to live with the world. Instead, he uses and produces at will without replenishing what he uses. He takes advantage of what of what is there without thinking about replenishing for the future. We learned not to take what we cannot use, like plants for experiments. We should use a little at a time instead of all at once.

Susan Biggs - That man was made for the Earth, the Earth was not made for man and also that man controls what happens to the Earth now, and it is his job to protect the natural areas and preserve as much as he can.

Betsy Lambert - That the Earth was not made for man, man was made for the Earth. Out of our ignorance we are abusing the land and not treating it "sacred" like we should and it is slowly losing its natural resources which are not replenished by man.

Ronnie Saucer - How to protect and maintain wildlife.

Donnalee Yoho - That everything no matter how small and simple or useless to man has its place. Man is just another animal on this Earth who is part of the food web and is not superior in importance to any other animal on this Earth. Each one has its place and when its gone it is a severe loss which can never be replaced .

Tim Davis - The most important thing I learned was not to feed the animals because they become dependent on man for food.

Russell Tapscott - Everglades, it preserves plants and animals and has tours and programs in which you can take part.

Mike Galyen - That was because it gave you a different type of reaction in comparison to what you usually relate to animals with.

Ray Bieczkowski - O.K. to preserve the wildlife and plantlife.

Roger Gordon - That many environments are different but all the same in trying to keep the different ecosystems together as our last real Earth.

STEP WORKSHOP
June 12-13, 1978
Georgetown (Illinois) High School/Everglades National Park

Monday, June 12

Hour 1 Main Visitor Center: Introduction to STEP and NESA
Film: Buddism, Man, and Nature

Hour 2 Royal Palm: Sense of Discovery
-Identification with a Natural Object
-Sensory Wheel
-Trust Walk
-Rock Friend

Hour 3 Royal Palm: Sense of Order
-SPICE Strands Information
-Pattern Sheet
-Web of Life
-Scavenger Hunt

Hour 4 Royal Palm: Sense of Wonder
-Angles
-Mini-Worlds
-Free time on Anhinga Trail

Long Pine Key: Lunch

Hour 5 Long Pine Key: Sense of Place
-Seton Watching
-Haiku or Cinquain Poetry

Hour 6 Long Pine Key: ESA Requirements
What happens tomorrow?
Questions and Answers

Main Visitor Center: Film: The Ark

Tuesday, June 13

Hour 1 Main Visiotr Center: Review and Getting Ready
Film: The Everglades Region

Hour 2 Royal Palm/Long Pine Key: Individual presentations of ESA's (10 minutes apiece maximum)

Hour 3	Royal Palm/Long Pine Key:	Individual Presentations Continued Certificates Evaluation Opportunities Rapping
Hour 4	Moving on to Challenge and Commitment	

Workshop Objectives

To increase environmental sensitivity and awareness in the participants.
To become more articulate in communication of this awareness and sensitivity to others.
To make a personal commitment to the environment.
To develop a continuing STEP Program at Georgetown High School.
To become familiar with the Everglades ecosystem and its problems.

Measurable Goals

Upon completion of the STEP Workshop, each student will be able to:
-describe and lead one activity for each of the five senses;
-present an Environmental Study Activity of his or her own creation;
-make a commitment to do something (anything) to improve the Earth;
-describe the Everglades ecosystem and the problems it faces.

STEP Workshop
February 4-5, 1978
Coral Shores High School/Everglades National Park

Morning is glad on the hills.
The sky sings in blue tones.
Little blue fleurs are early blooming now.
I do so like blue.
It is glad everywhere.
When I grow up I am going to write a book
about the glad of blues.
The earth sings in green. Opal

Saturday, February 4, 1978

9:00 AM	Depart School
10:00 AM	Arrive LPK Campground Set up camp Lunch
11:00 AM	Introduction to NESA, NEED, and STEP Discussion of Day's Activities
11:15 AM	"New Games"
11:30 AM	Depart for Trail Head
11:45 AM	On the Trail
12:15 PM	SELF AWARENESS (hammock)

Nature Tags
Exploring the Senses:

Touch: "Michael Raphael" Activity

"When I feel sad inside
I talk things over with my tree.
I call him Michael Raphael."

Hearing: "Listening Tree" Activity

"I saw a silken cradel in a hazel branch.
It was cream with a hazel leaf
halfway around it.
I put it to my ear and I did listen.
It had a little voice.
It was not a tone voice.
It was a heart voice.
While I did listen, I did feel its feels.
It has lovely ones."

Smell: "Sweet, Musty, Green" Activity

Seeing: "Through My Eyes" Activity

"I did hurry to the house of the girl
who has no seeing
so she might know its feels
and hear its heart voice.
She does so like to feel things.
She has seeing by feels."

Taste: "Bitter, Sweet, Salty, Sour" Activity

1:00 PM ENVIRONMENTAL AWARENESS

Spice Strands Introduction with Spice Scavenger Hunt
Life Web
(Leave hammock about 2:00 PM)

2:00 PM AWARENESS OF SELF AND ENVIRONMENT (Sawgrass Prairie)

"Everybody Knows What a Dragon Looks Like"--Story
"To Describe a Dragon" Activity
Cinquain Poetry

3:00 PM Meditative Walk/Sketch Walk

3:30 PM Blind Walk (15 minutes for each partner)

4:30 PM Hammock exploration

5:30 PM Return to camp

6:00 PM Dinner at last!

7:00 PM Review of Day's Activities
ESA requirements
Questions and Answers

7:30 PM Walk to campfire program

8:00 PM "Everglades Skies" campfire program

9:30 PM Night Prowl at Royal Palm

10:00 PM Individual Night Watch

Sunday, February 5, 1978

6:00 AM AWARENESS OF SELF AND ENVIRONMENT

Seton watching at sunrise
Self expression: Further development of Journal

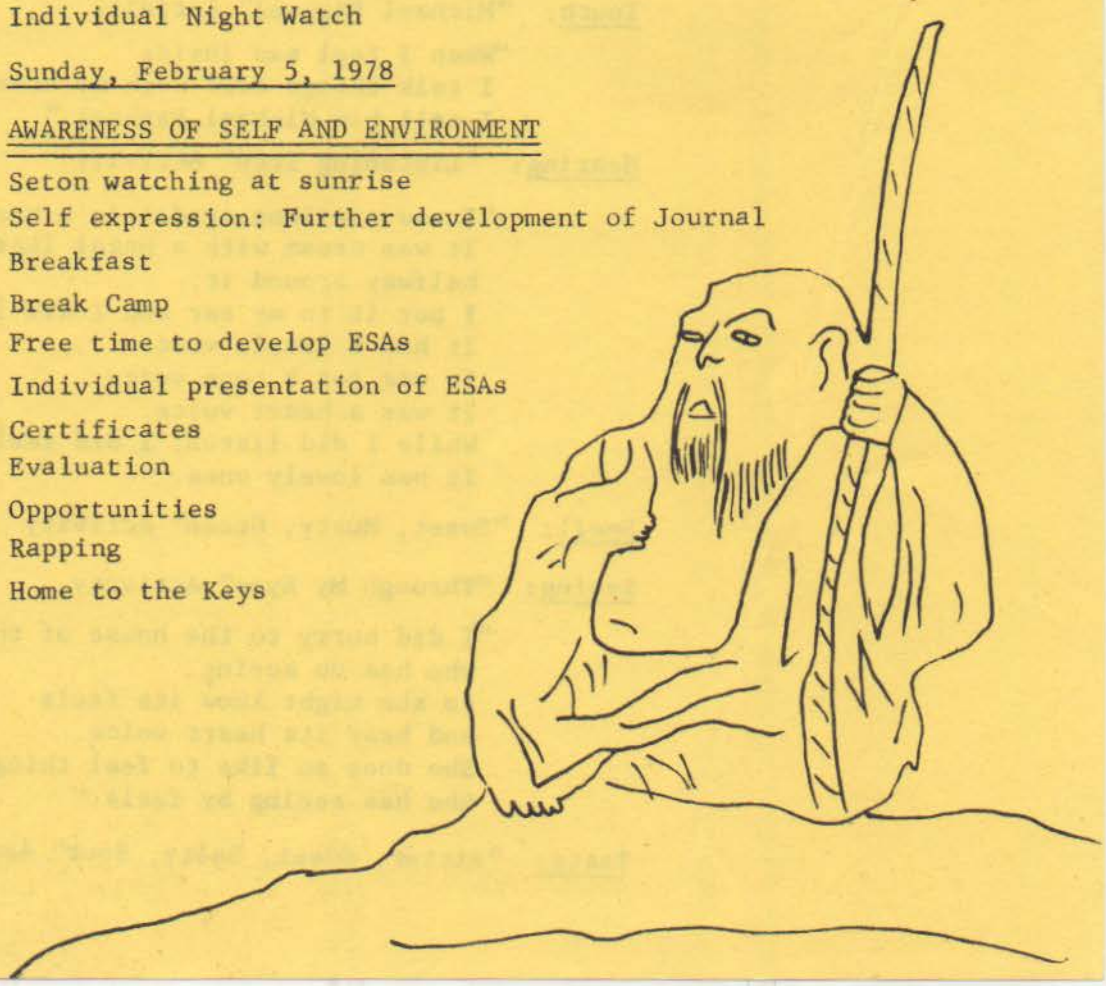
7:00 AM Breakfast
Break Camp

8:00 AM Free time to develop ESAs

9:00 AM Individual presentation of ESAs

10:45 AM Certificates
Evaluation
Opportunities
Rapping

11:15 AM Home to the Keys



Environmental Education

Student Evaluation Form

Name _____ Room Number _____

Activity _____ Date _____

Rating Scale:

I. Pre-site Activities

A. Number of class sessions attended _____

1. Mastery of concepts

a. Spice Strands _____
b. Vocabulary _____
c. Project
d. Knowledge of procedures and safety regulations _____

2. Reviewed required clothes and equipment checklist _____

B. Number of evening meetings attended with at least one parent _____

II. On-site Activities

A. Participation in Environmental Education Activities

1. Followed directions _____
2. Was able to see a task through to completion _____
3. Displayed good judgment in those situations requiring decision-making _____
4. Displayed interest in activities and instruction _____

B. Campground Cooperation

1. Accepted responsibilities _____
2. Promptness _____
3. Followed safety regulations _____
4. Maintained good discipline _____
5. Used independent time wisely _____

C. Took responsibility for own equipment and possessions_____

D. Took responsibility for school equipment _____

III. Post-site Activities

A. Sketch Pad

1. Details _____
2. Variety of sketches _____

B. Diary

1. Personal observations _____
2. General Content _____

C. Participation in "Awareness" project _____

D. Final Test (Grades)

1. Spice Strands _____
2. General Knowledge questions _____

E. Teacher Comment

Bill Laitner - STEP

Each day we are required to make choices between competing alternatives. Some are major-some minor. The following questions require you to make value judgements and decisions. Rank the alternative answers to each question on a 1-2-3-4 basis, with 1 your most favorable choice and 4 your least desirable choice.

Which is the most important environmental problem today?

____air pollution
____water pollution
____over population
____resource depletion

Which is most important in a friendship?

____loyalty
____generosity
____honesty

Imagine you are living with a family of a different religion for a few months. At meals they say a grace which is affiliated with a religion different from yours. Would you

____join in
____sit silently
____try to get them to change the grace to a more universal one

Which mode of transportation do you most like to use?

____automobile
____bus
____airplane
____train

The beverages you drink most are packaged in?

____nonreturnable bottles
____returnable bottles
____aluminum cans
____bi-metal cans
____plastic bottles

Which would you prefer to give up if you had to?

____economic freedom
____religious freedom
____political freedom

Which of the following measures should be taken to alleviate the population problem?

____limit each family to two children & setrilize the parents afterward
____distribute birth control information everywhere
____trust people's common sense to limit the size of their families

Which would you rather see the destruction of

____money
____land
____people

Where would you rather be on a Saturday afternoon?

____at the beach
____at the woods
____watching a great TV program

Pete Quincy
Bob Climer

Put paper + cards in packets

STEP WORKSHOP
January 28-29, 1977
Southwest Miami Senior High/Everglades National Park

Friday, January 28

need a roster of names

8:00 a.m. Main Visitor Center: Introduction to STEP and NESA
Film: Buddhism, Man and Nature

8:45 a.m. Sense of Discovery--travel to Royal Palm
-Identification with a natural object
-Sensory Wheel
-Trust Walk – blind folds
-Rock Friend

10:00 a.m. Sense of Order--Royal Palm
-SPICE Strands Introduction
-Pattern Sheet – pencils, markers
-Web of Life – buttons
-Scavenger Hunt

11:00 ~~11:15~~ a.m. Free time on Anhinga Trail

11:45 a.m. Travel to Long Pine Key

11:30 Lunch

12:30 p.m. Sense of Wonder--Long Pine Key
-Micro-trail – tape, magnifiers, peanuts(?)
-Angles

12:15

1:00 p.m. Sense of Place--Long Pine Key
-Seton Watching 30 min.
-Haiku or Cinquain Poetry – pencils, paper 30 min.
-Natural Art – paper
-Stage of Man's Attitude Sheet – on bus (?)

1:30 2:00 p.m. ESA Requirements – must write it down + turn in
What's happening tomorrow?
Questions and answers

NESA

2:00 2:30 p.m. Travel to Visitor Center

2:30 3:00 p.m. Films: For Your Pleasure
The Ark

Read Sense of Wonder, etc. for tomorrow

3:30 p.m. End of day: next STEP tomorrow

Saturday, January 29

8:00 a.m. Main Visitor Center: Review and Getting Ready
Film: Windy Day

8:30 a.m. Travel to Long Pine Key

8:45 a.m. Individual Presentations of ESA's (10-15 minutes apiece)

10:30 a.m. Certificates
Evaluation Letters to self
Opportunities
Rapping SCA, this park, community action, YCC

11:30 a.m. Homeward-bound to better things

It is easy to identify 5 basic strands in the Web of Life, and the Strands Pocket Model is an easy way to remember them.

SIMILARITY & VARIETY

There are five fingers on your "pocket model." They are so similar to each other they are all called fingers. But there is so much variety in them that no two fingers are exactly alike. Similarity and Variety.

PATTERNS

There is a pattern on the end of every finger - your fingerprints. There is an endless variety of fingerprints, though they all follow a similar pattern. There is a pattern in the way the blood flows through your hand: in through the arteries to the tiny capillaries and out through the veins. Patterns.

INTERACTION & INTERDEPENDENCE

There's interaction when the blood in your hand delivers sugar to every tiny cell in exchange for waste material. Your fingers interact, though independently, when they are playing the guitar or holding a hamburger. Your hand interacts with the elements by shivering when it's cold and by perspiring when it's hot. Interaction and interdependence.

CONTINUITY & CHANGE

The veins and arteries in your hand change as the temperature changes. The cells in your hand are constantly dying and being replaced by new cells. In fact the hands that you put in your pocket today are not the same hands you had six weeks ago.

EVOLUTION & ADAPTATION

Over the years your baby hands changed, and changed and changed until finally they weren't baby hands any more. They had changed into adult hands. Evolution is change over a long period of time. If you practice the guitar every week your fingers will form callouses. That's a natural adaptation or evolution. Evolution and adaptation.

Watch for the Strands in everything natural and man-made, and think of them as the S.P.I.C.E. of life. And when you can't remember what they are, you'll find all of them in your pocket.

Quercus alba

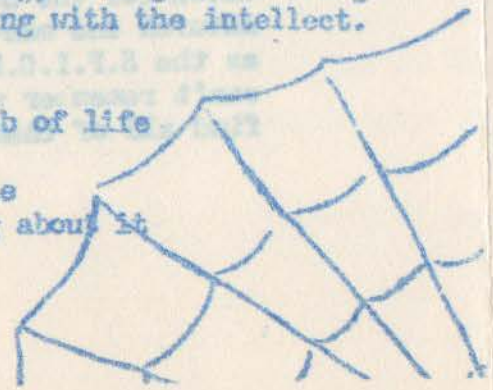
If I only knew your name,
would I really know you?

To know a tree is to love it. A tree has real personality traits. When we go on a nature hike we need to be sensitive to the nature of bark, the aroma of wood, the poetry of form, the taste of fruit and nuts, and the sound of leaves. It is not only sentimentality when we ask the question, "Have you hugged a tree today?"

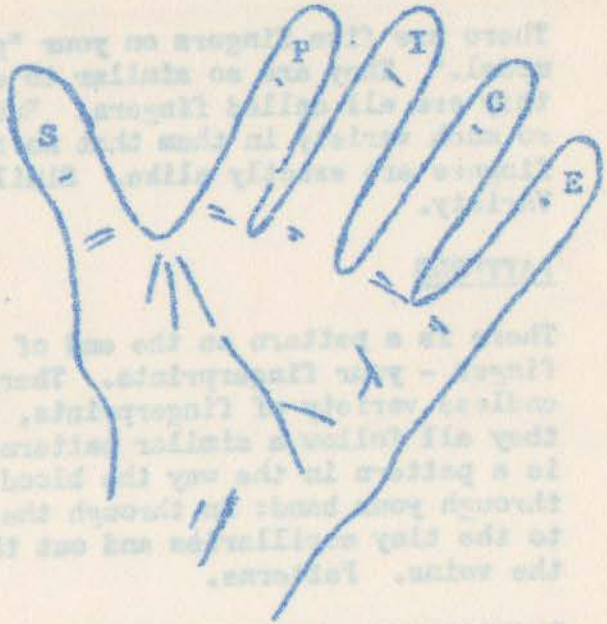
To know a tree is also to understand it. A tree is a complicated system of interrelationships. A tree is a viable part of a dynamic matrix - the web of life. When we go on a nature hike we need to discern those interrelationships. The National Park Service calls them strands. We like to think of taking a "strand walk" rather than just a nature hike.

Balanced environmental awareness is just as much touching, tasting, seeing and hearing as it is understanding with the intellect.

There is only one web of life
You are part of it
The web is in trouble
You can do something about it



THE STRANDS POCKET MODEL



THE S.P.I.C.E. OF LIFE

Similarity & variety

Patterns

Interaction & interdependence

Continuity & change

Evolution & adaptation

ENVIRONMENTAL EDUCATION ACTIVITIES FOR STUDENTS

I. Using the following checklist, determine environmental trouble areas in your community and suggest how each of the problems might be prevented or corrected.

Community _____	Potential Problem	Major Problem	Moderate Problem	Minor Problem	Not Relevant
a. Refuse and garbage disposal (dumps, landfills, etc.)					
b. Junk car disposal					
c. Air pollution					
d. Water pollution					
e. Soil pollution					
f. Noise pollution					
g. Littering					
h. Vandalism					
i. Overhead power lines					
j. Outdoor advertising (billboards, signs, etc.)					
k. Preservation and development of historic landmarks					
l. Preservation of unique landmarks					
m. Substandard residential area					
n. Unsightly or delapidated buildings					
o. Unsightly commercial areas or strips					
p. Unregulated suburban developments					
q. Inadequate or unsightly roads or highways					

	Potential Problem	Major Problem	Moderate Problem	Minor Problem	Not Relevant
r. Abandoned open pits					
s. Soil erosion					
t. Preservation and development of waterways and waterfronts; include canals, reservoirs, rivers, streams, and lakes					
u. Landscaping along highways, roads, public housing and other government property, and semi-public lands (as parking lots)					
v. Unsightly large areas of vacant property (as abandoned military, urban renewal or highway demolition, etc.)					
w. Excessive deforestation					
x. Others					

Identifying the Impact of an Environmental Problem in Your Community:

II. Using the checklist, personally interviewing at least 50 people from different age groups and walks of life in your community to determine which concern is considered to be of highest priority to those interviewed. Their primary concern then becomes your problem of study. In addition to the personal interview, you could also use the telephone to obtain the desired information.

COMMUNITY ENVIRONMENTAL CONCERN

What do you feel are the most urgent environmental concerns? (Please rank the major categories by number in order of priority. Do the same for each of the elements within the categories.)

Major Categories

_____ Population Problems
_____ Transportation Problems
_____ Energy Problems
_____ Resource Depletion
_____ Natural Environment
_____ Aesthetics
_____ Materialism
_____ Planning, Design, and Construction Problems
_____ Economic-Social-Cultural Problems
_____ Knowledge Gaps
_____ Health Hazards
_____ Water Problems
_____ Land Use Problems
_____ Air Problems
_____ Others*

Elements Within Major Categories

Population Problems

_____ Distribution
_____ Growth rate
_____ Rural out-migration
_____ Drain on nonrenewable resources
_____ Others*

Transportation Problems

_____ Highway construction
_____ Lack of adequate mass transit systems
_____ Traffic congestion
_____ Others*

Energy Problems

_____ Fuel shortages
_____ Lack in development of alternate energy resources
_____ Lack of efficiency in use and production
_____ Others*

Environmental Concerns (continued)

Resource Depletion

_____ *Lack of recycling for nonrenewable resources*
_____ *Improper management of renewable resources*
_____ *Others**

Natural Environment

_____ *Endangered animal species*
_____ *Endangered plant species*
_____ *Loss of natural habitat*
_____ *Others**

Aesthetics

Distracting:

_____ *Sights*
_____ *Sounds*
_____ *Smells*
_____ *Others**

Materialism

_____ *Excessive waste in packaging*
_____ *Lack of durable, long-lasting goods*
_____ *Status products*
_____ *Consumerism (Product knowledge)*
_____ *Others**

Planning, Design, and Construction Problems

_____ *Aesthetically and functionally poor architectural design*
_____ *Lack of comprehensive regional planning*
_____ *Lack of environmental understanding and concern among planners, designers, and contractors*
_____ *Inadequate and shoddy construction*
_____ *Others**

Economic-Social-Cultural Problems

_____ *Apathy and lack of leadership in problem solving*
_____ *Failure of society to meet human psychological needs*
_____ *Harmful social and work environments*
_____ *Lack of adequate housing*
_____ *Lack of adequate job opportunities*
_____ *Life styles which are detrimental to environmental quality*
_____ *Loss of cultural identity and cultural shock*

Environmental Concerns (continued)

Economic-Social-Cultural Problems (continued)

_____ *Poverty*
_____ *Consumer problems (prices)*
_____ *Others**

Knowledge Gaps

_____ *Lack of programs to find and promote solutions to environmental problems*
_____ *Lack of solutions to environmental problems*
_____ *Lack of understanding of environmental problems*
_____ *Others**

Health Hazards

_____ *Air pollution*
_____ *Pesticides, herbicides, and toxic metals*
_____ *Food additives*
_____ *Noise*
_____ *Radiation*
_____ *Water pollution*
_____ *Others**

Water Problems

_____ *Contamination of ground and surface waters by chemicals, dyes, etc.*
_____ *Flood control*
_____ *Lack of water use plans*
_____ *Limitation of fresh water supplies*
_____ *Sedimentation*
_____ *Thermal discharges*
_____ *Soft waste disposal*
_____ *Solid waste disposal*
_____ *Agricultural runoff (fertilizers, pesticides, and herbicides)*
_____ *Others**

Land Use Problems

_____ *Erosion*
_____ *Inadequate zoning and planning*
_____ *Loss of parks, open space, wetlands, and natural areas*
_____ *Siting of facilities, e.g., nuclear power plants, power transformers and lines, etc.*
_____ *Loss of agricultural lands due to urbanization and inundation*
_____ *Mining operations*
_____ *Solid waste disposal*
_____ *Visual blight (litter, billboards, etc.)*
_____ *Lack of land ethic*
_____ *Others**

Environmental Concerns (continued)

Air Problems

Emissions:

_____ *Trash burning, furnaces in homes*
_____ *Industrial and power plants*
_____ *Automobiles, trucks, buses, airplanes, motorcycles*
_____ *Others**

**Difficulties in citing the many concerns on this form cause the writer to urge you to provide any additional examples you might think of.*

NOTE: This checklist or questionnaire should include (1) space for the respondent to state his or her name, profession, and address and (2) special directions for completing.

Please return completed questionnaire in the enclosed self-addressed, stamped envelope.

****

A child's world is fresh and new and beautiful, full of wonder and excitement. It is our misfortune that for most of us that clear-eyed vision, that true instinct for what is beautiful and awe-inspiring, is dimmed and even lost before we reach adulthood. If I had influence with the good fairy who is supposed to preside over the christening of all children I should ask that her gift to each child in the world be a sense of wonder so indestructible that it would last throughout life, as an unfailing antidote against the boredom and disenchantments of later years, the sterile preoccupation with things that are artificial, the alienation from sources of our strength.

If a child is to keep alive his inborn snese of wonder without any such gift from the fairies, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in. Parents often have a sense of inadequacy when confronted on the one hand with the eager, sensitive mind of a child and on the other with a world of complex physical nature, inhabited by a life so various and unfamiliar that it seems hopeless to reduce it to order and knowledge. In a mood of self-defeat, they exclaim, "How can I possibly teach my child about nature -- why, I don't even know one bird from another!"

I sincerely believe that for the child, and for the parent seeking to guide him, it is not half so important to know as to feel. If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow. The years of early childhood are the time to prepare the soil. Once the emotions have been aroused -- a sense of the beautiful, the excitement of the new and the unknown, a feeling of sympathy, pity, admiration or love -- then we wish for knowledge about the object of our emotional response. Once found, it has lasting meaning. It is more important to pave the way for the child to want to know than to put him on a diet of facts he is not ready to assimilate.

- Rachel Carson
"A Sense of Wonder"

STEP 10-Hour Environmental Awareness
Leadership Workshop
January 28-29, 1977

Sponsored by the Dade County Department of Education and the National Park Service

LOCATION: Everglades National Park

PARTICIPANTS: High School students and teachers, Southwest High School, Miami, Florida

OBJECTIVES: To look at a "Big Picture" of the environment--seeing man as a part of the natural world through the STRAND APPROACH--

To grow in environmental awareness by using personal feeling and by using our senses--

To help develop a personal relationship to the environment by developing a "feeling of wonder" and a "sense of place"--

To give actual experience in techniques to be used in sharing this awareness to peers and to younger children in environmental study areas by communicating positive environmental values.

To introduce the National Environmental Study Area (NESA) Program of the National Park Service and STEP (Students Toward Environmental Participation), an environmental awareness and action program for high school students.

INSTRUCTORS: Bob Climer
Southwest Miami Senior High School
Miami, Florida

Denise Cooley
Environmental Educationalist
Everglades National Park

Sandy Dayhoff
Environmental Educationalist
Everglades National Park

Mandy Muller
Environmental Educationalist
Everglades National Park

Mike Watson
Environmentla Education Specialist
Everglades National Park

STEP ENVIRONMENTAL AWARENESS LEADERSHIP WORKSHOP
THE HISTORY AND STORY OF STEP

"HAVE YOU HUGGED A TREE TODAY?"

Can you look at a mountain sunset with your heart as well as your eyes? Have you ever fallen in love--with the earth? We think the true meaning of love is to give more than we take. If you share these feelings, come and join us. We call ourselves STEP, and we care.

Awareness and Personal Commitment

Members of STEP (Students Toward Environmental Participation) begin by becoming environmentally aware themselves. By participating in the STEP 10-hour Environmental Study Area Leadership Awareness Course, members become aware of the wholeness of the earth and learn to relate to nature in a personal manner. They not only learn the interdependence of all living things, they also learn to use the senses and practice self-expression. More than anything else, STEP is a positive attitude toward the earth.

Communication of Awareness

One of the major functions of STEP is to communicate our awareness to others. In the past this has been focused mainly on elementary school children. We felt that by working with them we not only provided some hope for the future, we also indirectly reached adults by the attitudes and actions of their children. High school and junior high students, teachers, community leaders, and National Park Service employees have been very responsive. We take these people on Environmental Study Area (ESA) walks, using techniques learned in the 10-Hour Course. For eighth graders and older we also help teach the course.

Environmental Action

After commitment and communication comes action. This action may take several forms. STEP members do their own thing, and the results often make important changes. As a result of action by one group of high school STEP members, the Environmental Protection Agency brought suit against businesses who were polluting a major creek in Atlanta. STEP environmental action projects are bounded only by the imagination of the members.

"STEP IS A COMMITMENT OF LOVE FOR OUR ENVIRONMENT AND AN UNDERSTANDING OF OUR PLACE IN IT." It is very loosely structured in order to allow each group maximum freedom to adapt the program to its own individual needs.

History, purpose, and scope of STEP AWARENESS! ENVIRONMENTAL ACTION! COMMITMENT through COMMUNICATION of AWARENESS to others!

I. A LOOK AT THE "BIG PICTURE" - We look at what is happening to our environment by understanding the different attitudes man has had toward the environment. We look at man's different reactions to nature by understanding our own attitude toward environment and toward nature.

A. Find an object that reminds you of yourself. Share it with others by introducing yourself through the object to your group, instead of introducing yourself by name, rank, and serial number. Does this environmental symbol tell your personal story?

B. We will connect ourselves with all of nature and with each other by a "sensory wheel." Feel the connection with the past represented by the earth below and the sky above. We are the present! Think about our mutual futures.

C. What does environment mean? Let's discuss different attitudes of man toward the environment. Can we arrive at a common attitude that we can all comfortably live with? Perhaps the past can serve as a guide.

1. The Judaeo-Christian tradition "to subdue and to replenish" is in contrast to other religious traditions where natural occurrences were worshiped as gods.

a. "To subdue"--an isolated command and
"To replenish"--a fractured fulfillment
"To dress and to keep"--an overlooked requirement that had environmental overtones.

b. Efforts to survive under wilderness conditions
c. Adventurers who set out to conquer new lands

2. The agricultural and industrial revolutions provided the tools for man's control; man could now manipulate and exploit nature's resources. Man considered himself above nature--man was "here"--the environment "out there"--a natural reservoir of valuable resources and a receptacle for discarded wastes.

3. In the U.S. a concern for conservation emerged in the 19th century. Some men saw that the earth's resources were limited and could not be exploited forever and that everyday activities of men placed great strain upon the environment as a whole. Because of their ideas, a concern about the use of national land and natural resources in the U.S. gradually developed.

Henry Thoreau -- a prophet before his time, whose love for Walden Pond helped him create both a "sense of place" and a total view of the world.

"I wish to speak a word for Nature, for absolute freedom and wilderness. . . .to regard man as an inhabitant, or a part and parcel of Nature, rather than a member of society. . . .Nowadays almost all man's improvements, so called, as the building of houses and the cutting down of the forest and of all large trees, simply deform the landscape, and make it more and more tame and cheap. . . ."

Theodore Roosevelt -- whose deep love of the "West", as a place and myth, helped him establish reclamation and conservation laws when he was President. But was conservation and reclamation enough?

By the 1930's, the growing concern for conservation had begun a new way of thinking about man's relationship with the environment. Instead of being above nature, he was considered to occupy a place within the environment along with other earthy inhabitants.

John Muir -- had recognized this change as early as 1901 when he said: "The tendency nowdays to wander in the wilderness is delightful to see. Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wilderness is a necessity; and that mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life. Awakening from the stupefying effects of the vice of over-industry and the deadly apathy of luxury, they are trying as best they can to mix and enrich their own little ongoings with those of nature, and to get rid of rust and disease. Briskly venturing and roaming, some are washing off sins and cobweb cares of the devil's spinning in all-day storms on mountains, sauntering in rosiny pinewoods or in gentian meadows, brushing through chaparral, bending down and parting sweet, flowery sprays; tracing rivers to their sources, getting in touch with the nerves of Mother Earth. . . ."

Aldo Leopold -- gave us a new land ethic and a "sense of place." "Conservation is getting nowhere--when we see land as a community to which we belong, we may begin to use it with love and respect."

4. The emergence to ecology and environmental awareness in the last 20 years shows the interrelatedness of man with his total environment.

For a little while we live on this splendid spaceship and make it cry love. . . . for in a way we are the air, the rocks, the water----we are the earth we walk upon, the sky we sheltering feel.

The film, For Your Pleasure, tells the story of man's undeclared war on the environment. No action is a simple action; each action demands another, then another and another and before long we have created - unwittingly - a "monster" spinning out of control.

II. STRANDS CAN HELP US SEE THE TOTAL ENVIRONMENTAL "BIG PICTURE" -- The strands are the five avenues the National Park Service uses to teach environmental education. They act as a kind of handle which enables us to see our place in nature and to simply understand the basic interrelationships in any environment. The object is not to teach the strands per se, but that they exist in all lessons of life and situations. These five strands promote the use of the senses -- seeing, touching, smelling, hearing.

A. S.P.I.C.E. -- INTRODUCTION AND "POCKET MODEL"

S. - Similarities and Varieties - Many likenesses and differences occur among living and non-living things. Finding the similarities can help you classify things into patterns to increase your understanding of the world.

P. - Patterns - In nature and in everyday living we see arrangements that are organizational, that play a special function or just are pleasing to the eye.

I. - Interaction and Interdependence - Nothing can exist by itself. Everything is constantly interacting with living and non-living things. The process continues even after death (as part of the life pattern), for dead life-forms nourish the living.

C. - Continuity and Change - Both living and non-living things are constantly changing, but some things remain the same in spite of change.

E. - Evolution and Adaptation - Living and non-living things alter to "fit" into the environment or adapt. Centuries of time of adapting may result in a new species - evolution.

B. We see examples of the STRANDS in the History.

The film Buddhism, Man and Nature was never intended to be an "ecology" film, but the attitudes presented are precisely those needed to solve the problem at its roots. Alan Watts (one of the more popular authors read today on college campuses) presents the idea that man and nature are one process (but one thing - life is a verb, not a noun). Man is a part of nature and not its enemy, emptiness and space have value. All life is a process of change which should cooperated with rather than resisted, and to resist death is to resist life.

SETON WATCHING in a SPECIAL PLACE

Ernest Thompson Seton was a naturialist who roamed the wild spaces of Canada and the U.S. in the early 1900's. He would sit for hours just observing, immersing himself in the world around him. If you are very relaxed and almost motionless, after 15 minutes or so, the natural world will sweep over you as if you weren't even there. The environment will engulf you as the animal and insect world return to their normal patterns of living ignoring you.

C. Literature shows all the STRANDS in living motion.

a. Poetry patterns always deal with man's feelings by comparing them to nature or to the environment.

b. The Giving Tree shows the interdependence of man and his environment.

3. Future Shock - Contemporary society faces rapid cultural adaptation in response to a spiraling technical evolution. Change occurs so rapidly that man has difficulty in seeing the continuity of life and faces problems in coping or adapting to such changes.

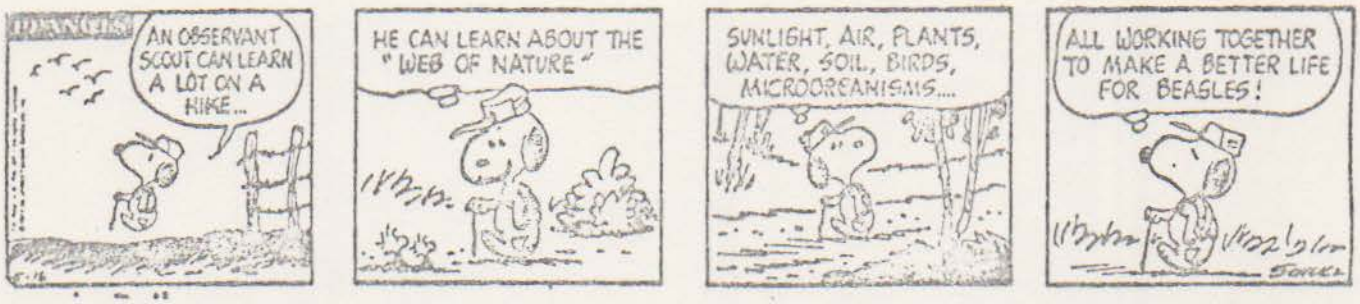
D. The STRANDS are seen in Ecology and the Natural Environment. Let's find examples of the STRANDS in the natural world and in the environment around us. We can teach the STRANDS to others by using games and activities that use the senses.

1. Awareness activities that reintroduce us to some very old friends - our SENSES.

Rock "friend"
"Sense of place" Walk

2. Games that illustrate ecological ideas

Scavenger Hunt
Web of Life



III. The STRANDS alone are not enough; you must relate to nature in a personal way, directly or indirectly, before you can communicate it to others. The idea is to strive for a "Sense of Place," to be able to personally identify with a given area or environment and share it.

A. How some individuals have personally viewed their environment and expressed it.

1. Rollo May believes that, "People who have lost the sense of their identity of selves also tend to lose their sense of relatedness to nature."

2. Sioux Chief, Luther Standing Bear: "The old people came to literally love the soil...It was good for the skin to touch the earth, and the old people liked to remove their moccasins and walk with bare feet on the sacred earth...The soil was soothing, strengthening, cleansing and healing."

3. Herbert Clark Johnson: "He who has rolled his pants up to his knees and walked a lowland creek from bank to bank has mixed his pulse with that of land and sea. And though, in after days, he crosses his streams by bridge or log, he'll always feel its beat against his body, even in his dreams."

4. Charles Reich: "Young people today seek out sources such as the sea or forest; they understand the vital need to keep in touch with sources that are close to man's own nature."

5. William Wordsworth: "The loss of the personal feeling for nature was a result of the industrialization of England in the latter part of the 19th century."

6. Herman Hesse: "Home is within you, or home is nowhere at all. A longing to wander tears my heart when I hear trees rustling in the wind at evening. If one listens to them silently for a long time, this longing reveals its kernel, its meaning. It is not so much a matter of escaping from one's suffering though it may seem to be so. It is a longing for home, for a memory of the mother, for new metaphors for life. It leads home. Every path leads homeward, every step is birth, every step is death, every grave is mother.

   "So the tree rustles in the evening, when we stand uneasy before our own childish thoughts. Trees have long thoughts, long-breathing and restful just as they have longer lives than ours. They are wiser than we are, as long as we do not listen to them. But when we have learned how to listen to trees, then the brevity and quickness and the childlike hastiness of our thoughts achieve an incomparable joy. Whoever has learned how to listen to trees no longer wants to be a tree. He wants to be nothing except what he is. That is Home, that is happiness."

Reflect on those "Special Places" which made us feel that we were "Home."

Where was it?
What did it look like?
What do you remember most?
How did it sound? smell?
How did it make you feel when you were there?
Do you go there alone? Do you take special friends with you?

a. ART - Can you draw your "Place" using nature's own tools?

b. POETRY - Share your "Place" with us through Cinquain or Haiku.

c. MUSIC - What is the rhythm of the environment surrounding your "PLACE". Every environment has its own innate symphony of sound if we just listen to it.

IV. WHAT IS AN ESA? An ESA is an Environmental Study Area. This is the place where we can do our thing in terms of relating to the environment and nature using the senses. ESA's may be natural, cultural, or historical areas designated for this type of study or they can be a school playground, a garbage dump, or your own backyard. An ESA is a place to love, feel, and interpret the world.

A. Looking at the factors necessary for an Environmental Study Area -- (DISCUSSION)

1. A place that shows man's relationship to the environment whether it is positive or negative.

2. An overall "sturdiness" so that continued use of the area will not have a devastating effect on the environment.

3. Location that makes the area logistically convenient for regular use by area schools. (DISCUSSION)

B. How to use an ESA using the STRANDS and "Sense of Place."

ESA "Show and Tell"

C. You learn to become an Environmental Study Area Leader by:

1. Observing an experienced ESA leader conduct a field exercise using the STRANDS and senses and a "Sense of Place."

2. Discussing ESA techniques with an experienced ESA leader after observing the demonstration.

LUNCH and ON YOUR OWN - Interpreting your personal "Sense of Place".

Next STEP

D. Each participant will be given the opportunity to present his personal expressions of a "mini-ESA" to the rest of the students in his group. Each participant will be evaluated by the ESA leader. Here is your checklist.

1. Locate a personal "sense of place" as your spot and prepare to interpret the place to the group.

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3. Look at man's effect upon your personal place and predict how the future could change "your place."

4. Communicate with the group about "your place" through the STRANDS (but without calling them STRANDS) and Senses. This is your E.S.A.

SHARING a mini-ESA with others in your group.

V. PRESENTATION OF CERTIFICATES AND EVALUATION

What have we learned?

Let's evaluate ourselves and the course

Rap Session on replication of ideas in school programs

STEP ENVIRONMENTAL AWARENESS LEADERSHIP WORKSHOP
THE HISTORY AND STORY OF STEP

"HAVE YOU HUGGED A TREE TODAY?"

Can you look at a mountain sunset with your heart as well as your eyes? Have you ever fallen in love--with the earth? We think the true meaning of love is to give more than we take. If you share these feelings, come and join us. We call ourselves STEP, and we care.

Awareness and Personal Commitment

Members of STEP (Students Toward Environmental Participation) begin by becoming environmentally aware themselves. By participating in the STEP 10-hour Environmental Study Area Leadership Awareness Course, members become aware of the wholeness of the earth and learn to relate to nature in a personal manner. They not only learn the interdependence of all living things, they also learn to use the senses and practice self-expression. More than anything else, STEP is a positive attitude toward the earth.

Communication of Awareness

One of the major functions of STEP is to communicate our awareness to others. In the past this has been focused mainly on elementary school children. We felt that by working with them we not only provided some hope for the future, we also indirectly reached adults by the attitudes and actions of their children. High school and junior high students, teachers, community leaders, and National Park Service employees have been very responsive. We take these people on Environmental Study Area (ESA) walks, using techniques learned in the 10-Hour Course. For eighth graders and older we also help teach the course.

Environmental Action

After commitment and communication comes action. This action may take several forms. STEP members do their own thing, and the results often make important changes. As a result of action by one group of high school STEP members, the Environmental Protection Agency brought suit against businesses who were polluting a major creek in Atlanta. STEP environmental action projects are bounded only by the imagination of the members.

"STEP IS A COMMITMENT OF LOVE FOR OUR ENVIRONMENT AND AN UNDERSTANDING OF OUR PLACE IN IT." It is very loosely structured in order to allow each group maximum freedom to adapt the program to its own individual needs.

3. In the U.S. a concern for conservation emerged in the 19th century. Some men saw that the earth's resources were limited and could not be exploited forever and that everyday activities of men placed great strain upon the environment as a whole. Because of their ideas, a concern about the use of national land and natural resources in the U.S. gradually developed.

Henry Thoreau -- a prophet before his time, whose love for Walden Pond helped him create both a "sense of place" and a total view of the world.

"I wish to speak a word for Nature, for absolute freedom and wilderness. . . .to regard man as an inhabitant, or a part and parcel of Nature, rather than a member of society. . . .Nowadays almost all man's improvements, so called, as the building of houses and the cutting down of the forest and of all large trees, simply deform the landscape, and make it more and more tame and cheap. . . ."

Theodore Roosevelt -- whose deep love of the "West", as a place and myth, helped him establish reclamation and conservation laws when he was President. But was conservation and reclamation enough?

By the 1930's, the growing concern for conservation had begun a new way of thinking about man's relationship with the environment. Instead of being above nature, he was considered to occupy a place within the environment along with other earthy inhabitants.

John Muir — had recognized this change as early as 1901 when he said: "The tendency nowdays to wander in the wilderness is delightful to see. Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wilderness is a necessity; and that mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life. Awakening from the stupefying effects of the vice of over-industry and the deadly apathy of luxury, they are trying as best they can to mix and enrich their own little ongoings with those of nature, and to get rid of rust and disease. Briskly venturing and roaming, some are washing off sins and cobweb cares of the devil's spinning in all-day storms on mountains, sauntering in rosiny pinewoods or in gentian meadows, brushing through chaparral, bending down and parting sweet, flowery sprays; tracing rivers to their sources, getting in touch with the nerves of Mother Earth. . . ."

Aldo Leopold -- gave us a new land ethic and a "sense of place." "Conservation is getting nowhere--when we see land as a community to which we belong, we may begin to use it with love and respect."

B. We see examples of the STRANDS in the History.

The film Buddhism, Man and Nature was never intended to be an "ecology" film, but the attitudes presented are precisely those needed to solve the problem at its roots. Alan Watts (one of the more popular authors read today on college campuses) presents the idea that man and nature are one process (but one thing - life is a verb, not a noun). Man is a part of nature and not its enemy, emptiness and space have value. All life is a process of change which should cooperated with rather than resisted, and to resist death is to resist life.

SETON WATCHING in a SPECIAL PLACE

Ernest Thompson Seton was a naturialist who roamed the wild spaces of Canada and the U.S. in the early 1900's. He would sit for hours just observing, immersing himself in the world around him. If you are very relaxed and almost motionless, after 15 minutes or so, the natural world will sweep over you as if you weren't even there. The environment will engulf you as the animal and insect world return to their normal patterns of living ignoring you.

C. Literature shows all the STRANDS in living motion.

a. Poetry patterns always deal with man's feelings by comparing them to nature or to the environment.

b. The Giving Tree shows the interdependence of man and his environment.

3. Future Shock - Contemporary society faces rapid cultural adaptation in response to a spiraling technical evolution. Change occurs so rapidly that man has difficulty in seeing the continuity of life and faces problems in coping or adapting to such changes.

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V. PRESENTATION OF CERTIFICATES AND EVALUATION

What have we learned?

Let's evaluate ourselves and the course

Rap Session on replication of ideas in school programs

Alan Watts: Myself as the Planet....

The planet Earth is a living and intelligent organism which has heated rock for its bone and the biosphere for its flesh. Floating in free space, it has no need of arms, legs, or wings, and is therefore more conviently shaped as a spinning ball, sunning itself now on this side and now on that. Like ourselves, it is a member of a hierarchy of organisms, and any individual human knows about as much of its affairs as a single brain cell knows of ours. Earth, in turn, belongs in another organism called Solar System, which is a planeting star, and is likewise a function of a much larger organism--a double helix of stars called Galaxy. Galaxy has its place in a still much larger body of similar components which is called, for the time being, Universe and is possibly shaped like a torus.

There has never been any good reason to suppose that these organizations are not both alive and intelligent, for if Solar System is both a planeting and peopling system, it must be at least as intelligent as people. But it is as difficult for us to penetrate this intelligence as it would be to construct all human cultures from the study of a single brain cell. When we look at Galaxy as nothing but radioactive rock and gas, we see it as we would see ourselves from the exclusive standpoint of nuclear physics.

Is it of any practical importance to know that Earth is alive? Obviously, for by treating it as an unintelligent geological object we are destroying it, as if we were a cancerous growth in its biosphere. Of course, it is always possible that by gestating human beings who can understand nuclear fission, Earth is turning itself into a star which will, in due course, generate other planets. Perhaps this is how all stars are born, though from a narrowly biological point of view this would not be a happy scheme of things, unless we had a peculiar flair for the ecstasy of going off with a bang. Yet this is in fact the scheme suggested in Hindu cosmology--a musicological view of the world in which every manifestation of energy is like a note which goes "bong!" and then gradually fades.

However, biological beings in general and human beings in particular may prefer to breathe deeply and prolong the note, or to become so inwardly attentive and silent that we can experience it as going on long after others think it has stopped. But to achieve this desired result by either method we shall have to treat Earth—as well as Solar System, Galaxy, and Universe—as living and wonderfully intelligent beings. For this will calm us down, soothing the panic, haste, and greed which afflicts any life-form that becomes selfish--i.e., which restricts the self-feeling to its own particular body, and thereby experiences self as a lonely center of intelligence in the midst of vast stupidity. But if Universe is a self it is fundamentally *my* self, for my body grows from it as a hair from my own head, and inspects it as my eyes can inspect other parts of my body. If I lose a hair or an eye, the self-feeling is withdrawn from them as motion is withdrawn from concentric waves as they get further away from their center. By analogy, when my body dies, my self-feeling is withdrawn to its own starting-point—progressively Earth, Solar System, Galaxy, and Universe.

The One remains, the many change and pass.
Heaven's light for ever shines; earth's shadows fly.
Life, like a dome of many-colored glass,
Stains the white radiance of eternity
'Til death shatters it to fragments. Die,
If thou would'st be one with that thou seek'st to be.

Which is simply to say that death, in tune and time, is as much a happy event as birth, and I cannot see how, naturally, it would be otherwise.

If you do not believe, look at September, look at October!
Yellow leaves, falling, falling to fill both mountain and river.

For what troubles us is not facts and physical experiences but our concepts of them. When we watch someone dying, what we see, and only because we conceive it that way, it a self coming to an end. But we could just as well see that self as being withdrawn into Universe to be where it always was--as when the sparks vanish our gaze returns to the fire. We do not realize the extent to which we are haunted and tormented by nothing more than purely abstract and (in the bad sense) mythological ideas of what is going on, nor the extent to which we are able to change and suspend these ideas. When we dread death what we weep over is no more than the idea of never being able to see our friends again, of never more being able to hear birds and waterfalls, or see white clouds in the sky—as if that were something which would bother us in a future state of death.

To calm ourselves, and so restrain our Earth-destroying greed, it is therefore necessary to experiment with new concepts of the scheme of things, or with looking at what happens without any concepts at all. Our present concept of Earth as a dead geological ball fortuitously infested with life is hostile, ungenerous, and pejorative, and we deserve to be unhappy for conceiving it. Any supposed evidence for this concept is wholly imaginary, since it is nothing more than an intellectual fashion or pose increasingly affected by Western savants since the Renaissance, partially in order to soothe their consciences in the project of ruthless exploitation of the rest of the biosphere.

I have found that the simplest way to get rid of these pestilential concepts is the kind of meditation in which one observes what is going on, both inside and outside, and including the observing. This means that you observe your own concepts, among other things, as mere designs of thought without deeming them either true or false, or as representing anything except themselves. This is the real sense of having a clean mind, and, as it is written, "Blessed are the pure in heart, for they shall see God."

STEP 10-Hour Environmental Awareness
Leadership Workshop
November 1975

Sponsored by the Dade County Department of Education and the National Park Service

LOCATION: Everglades National Park

PARTICIPANTS: High School students and teachers, Southwest High School, Miami, Florida

OBJECTIVES: To look at a "Big Picture" of the environment-- seeing man as a part of the natural world through the STRAND APPROACH--

To grow in environmental awareness by using personal feeling and by using our senses--

To help develop a personal relationship to the environment by developing a "feeling of wonder" and a "sense of place"--

To give actual experience in techniques to be used in sharing this awareness to peers and to younger children in environmental study areas by communicating positive environmental values.

To introduce the National Environmental Study Area (NESA) Program of the National Park Service and STEP (Students Toward Environmental Participation), an environmental awareness and action program for high school students.

INSTRUCTORS: National Park Service personnel:

Pat Stanek, Environmental Education Specialist
Southeast Region
Atlanta, Georgia

Anita Hocker
Venice Junior High School
Venice, Florida

Suzanne Banas
Southwest Senior High School
Miami, Florida

Martha Aikens
Environmental Education Specialist
Evergaldes National Park

Mike Watson
Environmental Education Specialist
Everglades National Park

ENVIRONMENTAL STUDY AREA LEADERSHIP TECHNIQUES

I. General Techniques

A. Participate in an activity you ask to do.
B. Try not to get in a rut. Look for changes in your ESA on a daily basis.
C. Try new ides, realizing that all the them will not be as successful as you'd like.
D. Share your successful techniques with others and vice versa.
E. Copy others if you want, but use your own ideas. ESA leadership is very personal.
F. ADAPTABILITY AND FLEXIBILITY: The name of the game! Age groups, cultural backgrounds, degrees of sophistication - all lead to a person's present attitude about his environment. You will have to make adjustments to those with each group you lead.
G. Make sure your environmental ethic is up for the day! Your frame of mind will rub off on your charges.
H. Pick and choose the activities that best suit your ESA and the amount of time you have with each group. In most cases you will have only one shot with the group. Make the most of it.
I. The Circle: Every time we do an activity or stop to discuss something we from a circle. There are three major reasons for this: (1) Everyone can see and be seen, (2) no one is left out, (3) and most importantly, the circle is representative of the cycle of life of which we are all a part. It is best to have the group form a circle by joining hands while standing. Then when you sit down for discussions and games, you will already be in a circle. Remember: sitting in damp pine straw is part of environmental awareness, but sitting in poison ivy is not at all necessary.

II. "Teaching" Skills

A. Discussion Skills

1. Ask questions to stimulate thinking, not test-type one.
2. Fit ecological concepts in when you can with ease, not because you think you have to - don't force them.
3. Let your group teach you, and acknowledge this to your group.
4. Encourage curiosity. Let individuals find their own items of interest.
5. Encourage them to question.

B. Control Techniques

1. Tell your group your rules before starting on the trail.
2. Quiet voice, quiet children. (Usually!)
3. Take off quickly for next "stop spot" with eager anticipation.
4. Encourage investigation as a group.

SENSORY WHEEL

Purpose: To become more aware of the environment by seeing oneself as an inseparable part of it

Activity: Have the group sit in a circle around some focal point (such as a tree). Ask everyone to take off their shoes and socks and move in close enough to have each person put his feet on the object. Then have the group hold hands, lie back, and close their eyes. Ask them to be as quiet as possible and, without opening their eyes, to absorb their surroundings. Give them enough time to settle down! When they are quiet the leader can begin doing activities that heighten the senses such as framing, sound awareness, becoming a tree root, or just asking how they feel. Ask them to look at the patterns of the tree leaves, roll over on their stomachs and smell the ground, or imitate the sounds they hear. This is also a good time to talk about our connections, through the earth, with the past, present, and future.

Note: As an alternative to puting feet in the center of the circle, the leader may want to have the group lie with their heads at the center. This arrangement is especially useful for the leader who has a hard time projecting his voice.

FRAMING

Purpose: To increase one's visual awareness and to accentuate detail by blocking out interference.

Description: Have the group sit in a circle. Begin by pointing out that the most expensive and invaluable camera a person has is his own eye. To illustrate this point, have the group make a "framer" using their fingers in a square shape. Have them focus on far away objects and on close up objects. By moving their frame, the participants can have "pictures" of the same object, but with more or less detail in the background. Also, have them focus on not only an object, but the empty space around the object. Use your imagination.

SOUND AWARENESS

Purpose: To increase awareness of natural sounds

Description: In a quiet spot off the trail let everyone sit in a circle and be as quiet as possible. Once they are quiet, ask them to close their eyes and listen for as many different sounds as possible. After about 15-30 seconds ask them what sounds they heard. This activity can lead to good discussions of different levels of awareness we experience.

SYMPHONY OF NATURAL SOUNDS

Purpose: Increase one's sound awareness and to understand that all man-made sounds (guitars, car horns, etc.) are based on some natural sound.

Description: Have the group sit in a circle. Begin by asking them what man-made sounds are based on. Use examples such as flutes (birds), bass horns (bears), and pianoes (butterflies), to illustrate the point. Next, have a few seconds of sound awareness with the group. A good follow-up would be to have each group member find a natural object that makes noise and have a symphony of natural sounds. You may want to tape this and play it back to the group.

ROCK FRIEND

Purpose: To increase the awareness of senses other than sight in the participants.

Description: Ask each person to find a rock. Sitting in a circle, ask each person to feel his rock carefully. Tell them to get to know their rock as if it were their best friend. Then ask everyone to pass their rocks to you. Pass the rocks back out to your right and have the people identify their rock. After all the rocks have been identified, take the rocks back up. Now have the participants close their eyes, and identify their rock by how it feels. Do not tell them in advance why they are feeling the stone and emphasize the importance of not looking at the stone. After everyone has his rock, tell them that this is their rock friend, and they may do whatever they want with it. Suggest that they give it to a special friend without that friend knowing where the rock came from.

ANGLES

Purpose: To illustrate the fact that any object has more than one side to it, and to increase sensory awareness

Activity: Have the group sit in a circle. The leader picks up a natural object, such as a pine cone, and passes it around the circle. As each person receives the object, he must describe it from a different point of view. Encourage participants to use senses other than their sight. Imagination on the part of the leader is a must.

EMPATHIZING

Purpose: To increase awareness by becoming personally involved with the processes of nature.

Activity: Role playing is effective because it requires a high degree of involvement on the part of each individual. The possibilities are limitles but the following activities have proven successful:

hatching--become a bird or a butterfly and emerge into a new world

animal locomotion--become an animal and move as that animal does

what song would you sing?--sit in a tree and sing your own bird song

trees--become trees and change with the circle

rocks--form a tight circle in the middle of a creek, close your eyes, and become a rock

ant's eye view--crawl along the ground looking at the world as an ant would

Note: don't use too many empathizing activities with the same group.

IDENTIFICATION WITH A NATURAL OBJECT

Purpose: To encourage the people to learn to identify with nature, also good as an ice-breaker and in activities involving communications skills.

Preparation: As the people walk along the trail ask eack person to pick up a natural object that reminds him of himself. Tell them that these objects will be used in an activity, and be sure to allow sufficient time

Activity: In a clearing have the group sit in a circle, talk about why activities are done in a circle. Ask the group what they usually say to a person when they are first introduced (name, title, occupation, etc.) Then ask them how much about themselves these things really tell (not very much). Tell them that this time they're going to introduce themselves a little differently. Ask them to tell what they are really like by comparing themselves to the object. The leader should go first, and <u>every</u> person in the group should have a turn. Encourage openness by being open yourself. Explain beforehand that you do not want scientific definitions and <u>do not</u> allow them. By asking leading questions, the leader may guide those participants who have trouble. Always be encouraging!

BUILD A BIRDNEST

Purpose: To point-out the evolutionary advantage of the opposable thumb. Works especially well in adaptation programs.

Materials: Masking tape

Description: Following a discussion on adaptations and interactions, tape down each person's thumbs. Instruct them to build a birdnest. Let them select their own materials, find them, then do the construction. Afterwards, follow up with a discussion of the importance of man's thumb for gripping, etc.

CREEPY CRAWLER RACE

Purpose: To show the different adaptations of little critters to their environment and to help participants become less afraid of bugs.

Materials: Watch with a second hand

Description: Ask each person to find a small crawling animal (beetles, caterpillars, worms, etc.) With a stick draw a circle in the dirt and mark a spot in the center of the circle. Let each person start his creepy crawler at the center spot and have the timekeeper time how long it takes for each contestant to reach the circle's edge.

NATURE'S KALEIDOSCOPE

Purpose: To illustrate how color enables a plant or animal to adapt to its environment

Materials and preparation: 100-200 colored toothpicks. Count the number of each color. There should be an equal number of each color. Leader selects an area with as much variety of ground cover as possible. He scatters the toothpicks over the area. The object is not to hide the toothpicks, but to scatter them over a wide area.

Description: Following a discussion on adaptation and interrelatedness, including protective coloration and coloration for attraction (such as reproduction), the leader takes the group to the area where the toothpicks have been scattered. They are instructed to find as many toothpicks as possible, paying attention to the colors they find and where. After approximately five minutes, call the group to sit in a circle. Count the numbers of the different colors, and compare these to the numbers scattered. Discuss where the various colors were found, and why.

THE WEB OF LIFE

Purpose: To illustrate how plants and animals (including man) are dependent upon each other and upon the environment (sun, air, water, and soil) for survival through a "web" of inter-relationships, and what happens if the web is damaged.

Materials: ball of string, magic marker, "Name" cards

Description: Players form a circle. Each player is given a "name" card which identifies him as some part of the environment, such as the sun, air, water, soil, different types of plants and animals. Be sure to include the four basics (above). The participants should keep their cards face down until the web is made. The leader unwinds the string from player to player, criscrossing back and forth across the circle. When each player is connected, the leader begins by turning over his card and explaining why his connection with the next person is important. After all the participants have explained their importance in the web, the leader lets his end of the string go, resulting in an unraveled web. A discussion follows concerning the interrelatedness of all things in the web, and what happens when the web is upset.

SCAVENGER HUNT

Purpose: To awaken ones' awareness to detail around him

Materials: Lists of things to hunt

Description: Depending on the size of the group, have the participants divide themselves into groups of 2,3, or 4 people. Give them about 20 minutes to collect their things. When all the groups have returned, let them share with the others what they found. You may have to elaborate a bit on some of the articles listed depending on the age and sophistication of the people. Also, don't be afraid to make up your own list or make changes in this list.

Each group will collect evidence of the following phenomena:

1. A simple machine
2. Three simple shapes
3. A sweet and sour taste in Nature
4. A pleasant and unpleasant smell in Nature
5. A trace from an animal
6. Three primary colors and two secondary colors
7. Three different textures
8. One sound from Nature
9. An example of non-biodegradable litter being degraded
10. Something older than you and something younger
11. A producer, a consumer, and a decomposer

ACTIVITIES FOR SELF-EXPRESSION.....

Haiku and Cinquain Poetry

Poetry forms or other self-expression activities used most effectively in the middle or near the end of an ESA hike. Ask the participants to write about something they have experienced in the ESA up to that point (a sound, a smell, an object, a thought, a feeling, etc.) Let those who wish to do so share their poetry with the others.
(See the formats for Haiku and Cinquain)

Group Story

At a spot that particularly sparks the imagination, let the group make up a story. You could start it off, then let each person add something to the story.

Group Poetry

Group poetry can be done by letting each person write a line or two as part of one whole poem.

Wishful thinking

Pick a good spot where everyone can sit or lie down and be quiet for a few moments. Then ask each person, "If you could be anything other than a human being, what would you like to be out here and why?"

Haiku is a three line verse form which originated in thirteenth century Japan.

Characteristics of Authentic Haiku:

Three lines: Line 1 contains 5 syllables; Line 2 contains 7 syllables; Line 3 contains 5 - 17 syllables in all.
English translations do not always follow this pattern.

Each poem includes the season, location, reference to nature.

No subject matter deals with simple ordinary things.

No rhyme (Japenses words end in vowels or "n" sounds)

Few articles or pronouns - syllables can be used for better purpose.

Thought comes first; then the syllables are adjusted to fit the form.

Examples of Haiku for inspiration and demonstration by the Japenese masters.

Departing spring
Hestates
In the late cherry-blossoms

Buson

Simply trust:
Do not the petals flutter down
Just like that?

Issa

The old pond;
A frog jumps in, --
The cound of the water.

Basho

Some student expressions

EARTHQUAKE
A monster trying
To escape from his dungeon
Beneath the earth's crust.
Bob Thompson

MOTHER TREE
Stretching out her arms
To protect the world from the
Fury of the skies.

THE SEA
The sea is like life --
Mighty, big, and beautiful
At dawn and at dusk.
Jimmy Farnsworth

SADNESS
The dying of the flowers,
The turning of the grass, the autumn breeze.
Jean Gregory

Word CINQUAIN

1. _____

2. _____ _____

3. _____ _____ _____

4. _____ _____ _____ _____

5 _____

1. Use one word to name the subject you are writing about.

2. Use two words to describe #1.

3. Use three words about what #1 is doing.

4. Use four words to tell how you feel about #1.

5. Use a word that means the same as #1.

In the strict poetic sense, cinquain poetry (pronounced san (d) cano) has few lines with a certain number of syllables per line.

2
4
6
8
2

Instead of a number of words. You might try to get fancy as you go on with poetry. Look at Haiku next. Form is not the important factor, the expression of feeling is. Poetic licinse allowed and encouraged!

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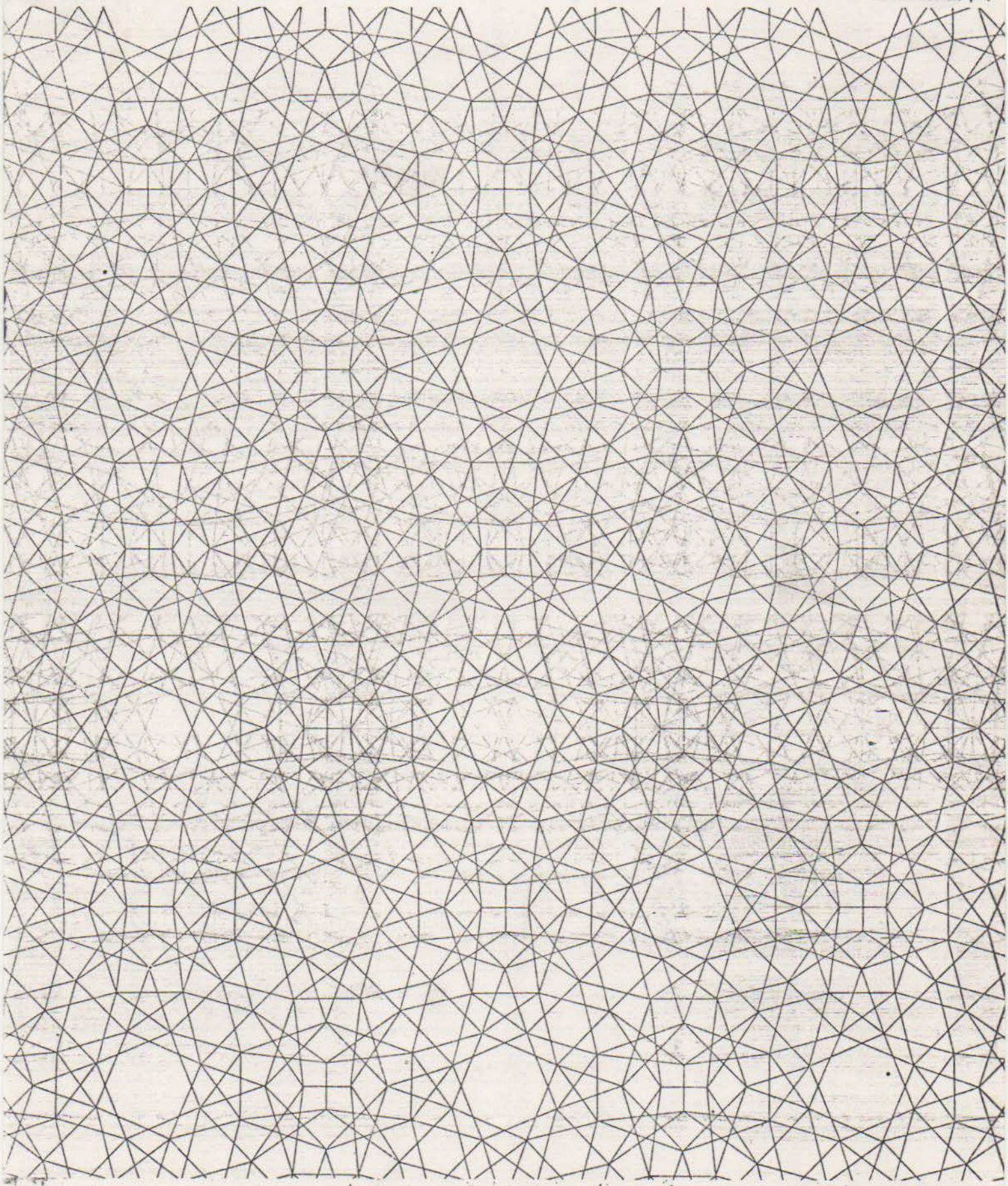


MAN'S SEARCH FOR HIMSELF

Rollo May

Near the beginning of the nineteenth century William Wordsworth, among others, clearly saw this loss of the feeling for nature, and he saw the overemphasis on commercialism which would be its result. He described what was occurring in his familiar sonnet:

The world is too much with us; late and soon,
Getting and spending, we lay waste our powers:
Little we see in Nature that is ours;
We have given our hearts away, a sordid boon!
This Sea that bares her bosom to the moon,
The winds that will be howling at all hours,
And are up-gather'd now like sleeping flowers;
For this, for everything, we are out of tune;
It moves us not. --Great God! I'd rather be
A Pagan suckled in a creed outworn;
So might I, standing on this pleasant lea,
Have glimpses that would make me less forlorn;
Have sight of Proteus rising from the sea;
Or hear old Triton blow his wreathed horn.

It is not by poetic accident that Wordworth yearns for such mythological creatures as Proteus and Triton. These figures are personifications of aspects of nature--Proteus, the god who keeps changing his shape and form, is a symbol for the sea which is eternally transforming its movement and its color. Triton is the god whose horn is the sea shell, and his music is the echoing hum one hears in the large shells on the shore. Proteus and Triton are examples of precisly what we have lost--namely the capacity to see ourselves and our moods in nature, to relate to nature as a broad and rich dimension of our own experience.

Descartes' dichotomy had given modern man a philosophical basis for getting rid of the belief of witches, and this contributed considerably to the actual overcoming of witchcraft in the eighteenth century. Everyone would agree that this was a great gain. But we likewise got rid of the fairies, elves, trolls, and all of the dimi-creatures of the woods and earth. It is generally assumed that this, too, was a gain since it helped sweep man's mind clean of "superstition" and "magic". But I believe this is an error. Actually what we did in getting rid of the fairies and the elves and their ilk was to impoverish our lives; and impoverishment is not the lasting way to clear men's minds of superstition. There is a sound truth in the old parable of the man who swept the evil spirit out of his house, but the spirit, noticing that the house stood clean and vacant, returned bringing seven more evil spirits with him; and the second state of the man was worse than the first. For it is the empty and vacant people who seize on the new and more destructive forms of our latter-day superstitions, such as beliefs in the totalitarian mythologies, engrams, miracles like the day the sun stood still, and so on. Our world has become disenchanted; and it leaves us not only out of tune with nature but with ourselves as well.

As human beings we have our roots in nature, not simply because of the fact that the chemistry of our bodies is of essentially the same elements as the air or dirt or grass. In a multitude of other ways we participate in nature--the rhythm of the change of seasons or of night and day, for example, is reflected in the rhythm of our bodies, of hunger and fulfillment, of sleep and wakefulness, of sexual desire and gratification, and in countless other ways. Proteus can be a personification of the changes in the sea because he symbolizes what we and the sea share--changing moods, variety, capriciousness, and adaptability. In this sense, when we relate to nature we are putting our roots back into their native soil.

But in another respect man is very different from the rest of nature. He possesses consciousness of himself; his sense of personal identity distinguishes him from the rest of the living and nonliving things. And nature cares not a fig for man's personal identity.

***

FOG

Gena Elizabeth Ungerer

The fog rolls in,
A moist ball of dreams
That soaks the earth with shivers.

TO A YOUNG FRIEND

Robert Nathan (1942)

You asked me:
Cannot youth save the world?
Cannot the young build here, on this earth, a shining house,
Out of our hearts, out of our good intentions??
And I made some stupid reply;
I think I said, No
Now that you are gone, I think, as always, of the things I should have said to you:
How youth is a seed, falling across the earth,
Blowing over the land, forever blowing, forever falling;
How some of it finds good soil, and grows with beauty,
How some of it withers to death among the stones...
Here, in one spot, roses; and elsewhere, the desert.
(Someone else said that, long ago; --do you remember?)
Loam and sand, the seed falls, it cannot keep from falling.
How youth is a wave, rolling away in all directions,
Part of it to break against rocks, or die on the beaches,
Or in the great calms--.
And yet, how the wave itself must rush on foaming, far out into the distance,
Into the darkness...
And the next wave,
And the next,
Forever rising, forever breaking...
Those are the things I should have told you.
I do not know why I did not remember them.

Excerpt from THE FIFTH ESSENCE by Freeman Tilden

The early Greek philosophers looked at the world about them and decided that there were four elements: fire, air, water, and earth. But as they grew a little wiser, they perceived that there must be something else. These tangible elements did not comprise a principle; they merely revealed that somewhere else, if they could find it, there was a soul of things--a Fifth Essence, pure eternal, and inclusive.

It is not important what they called this Fifth Essence. To modern science, weighing and measuring the galaxies with delicate instruments, the guesses of the ancient thinkers seem crude. Yet these men began a search that still goes on. Behind the thing seen must lie the greater thing unseen.

"Heard melodies are sweet, but those unheard are sweeter."

**

Ray S. Baker, friend and biographer of President Woodrow Wilson, wrote for diversion a remarkable series of essays under the pen name of David Grayson. In his "Adventures in Contentment", Grayson hears the Scotch preacher saying that the "saddest line in all literature"are these from Milton, writing on his blindness:

Seasons return; but not to me returns
Day, or the sweet approach of even or morn,
Or sight of vernal bloom or Summer's rose,
Or flocks, or herd, or human face divine.

Once you let these lines take hold inside, they are not easily forgotten. And they admonish us to "see" harder and more perceptively than commonly we do.

***

UNARMORED

by Pauline Harvard

A leaf, a wing against blue sky
Can shake the heart like a loud cry;
While many a mind, long numb, is stirred
By the sudden song of a midnight-bird.
They who think that they're immune
To loveliness will hear the croon
Of small streams and be torn apart;
There is no armor for the heart;
And for the mind no real defenses
For those alert in all five senses.

***

Excerpt from PSYCHOLOGY by William James

. . . . . Every stir in the forest is for the hunter his game; for the fugitive his pursuers. Every bonnet in the street is momentarily taken by the lover to enshroud the head of his idol. The image in the mind is the attention; the preconception is half of the perception of the looked for thing.

It is for this reason that men have no eyes but for those aspects of things which they have already been taught to discern. Any one of us can note a phenomenon once it has been pointed out, which not one in ten thousand could ever have discovered for himself. Even in poetry and the arts someone has to come and tell us what aspects to single out, and what effects to admire before our aesthetic nature can 'dilate' to its full extent and never with the wrong emotion...In short, the only things which we connomly see are those which we preperceive, and the only things which we preperceive are those that have been labeled for us, and the labels stamped into our mind. If we lost our stock of labels we should be intellectually lost in the midst of the world.

SPRING IS LIKE A PERHAPS HAND by E.E. Cummings

Spring is like a perhaps hand
(which comes carefully
out of nowhere) arranging
a window, into which people look (while
people stare
arranging and changing, placing
carefully there a strange
thing and a known thing here) and

changing everything carefully

spring is like a perhaps
Hand in a window
(carefully to and fro moving New and
Old things, while
people stare carefully
moving a perhaps
fraction of flower here placing
and inch of air there) and

without breaking anything.

****

A very special friendship
Is a blessing ever-new
When that friendship is shared
with someone
As wonderful as you.

Excerpt from WILD GRAPES by Robert Frost

I had not taken the first step in knowledge;
I had not learned to let go with the hands,
As still I have not learned to with the heart,
And have no wish to with the heart - nor need,
That I can see. The mind - is not the heart.
I may yet live, as I know others live,
To wish in vain to let go with the mind -
Of cares, at night, to sleep; but nothing tells me
That I need learn to let go with the heart.

WHEN GOD DECIDED TO INVENT by E. E. Cummings

when God decided to invent
everything he took one
breath bigger than a circustent
and everything began

when man determined to destroy
himself he picked the was
of shall and finding only why
smashed it into because

Excerpt from YOU SHALL ABOVE ALL THINGS BE GLAD by E. E. Cummings

I'd rather learn from one bird how to sing
than teach ten thousand stars how not to dance.

Excerpt from MAY MY HEART ALWAYS BE OPEN TO LITTLE by E.E. Cummings

may my heart always be open to little
birds who are the secrets of living
whatever they sing is better than to know
and if men should not hear them men are old

THE SEEING EYE by Margaret Farrand

A curve in the road and the hillside,
Clear cut against the sky.
A tall tree tossed by the autumn wind,
And a white cloud drifting by.
Ten men went along that road,
And all but one passed by.
He saw the hill, and the tree, and the cloud,
With an artist's mind and eye,
And he put it down on canvas,
For the other nine men to buy.

LINES WRITTEN IN EARLY SPRING by W. Wordsworth

I heard a thousand blended notes
While in a grove I sat reclined,
In that sweet mood when pleasant thoughts
Bring sad thoughts to the mind.

To her fair works did Nature link
the human soul that through me ran;
And much it grieved my heart to think
What man has made of man.

Through primrose tufts, in that sweet bower
The periwinkle trailed its wreaths;
And 'tis my faith that ever flower
Enjoys the air it breathes.

The birds around me hopped and played.
Their thoughts I cannot measure: ---
But the least motion which they made,
It seemed a thrill of pleasure.

The budding twigs spread out their fan,
To catch the breezy air;
And I must think, do all I can,
that there was pleasure there.

If this belief from heaven be sent,
If such be Nature's holy plan,
Have I not reason to lament
What man has made of man.

WHEN I HEARD THE LEARN'D ASTRONOMER by Walt Whitman

When I heard the learn'd astronomer,
When the proofs, the figures, were ranged in columns before me,
When I was shown the charts and diagrams, to add, divide, and measure them,
When I sitting heard the astronomer where he lectured with much applause in the lecture-room,
How soon unaccountable I became tired and sick,
Till rising and gliding out I wander'd off by myself,
In the mystical moist night-air, and from time to time,
Look'd up in perfect silence at the stars.

****

I believe a leaf of grass is no less than the journeywork of the stars

****

O WORLD by George Santayana

O world, thou choosest not the better part!
It is not wisdom to be only wise,
And on the inward vision close the eyes,
But it is wisdom to believe the heart.
Columbus found a world, and had no chart,
Save one that faith deciphered in the skies;
To trust the soul's invincible surmise
Was all his science and his only art.
Our knowledge is a torch of smoky pine
That lights the pathway but one step ahead
Across a void of mystery and dread.
Bid, then, the tender light of faith to shine
By which alone the mortal heart is led
Unto the thinking of the thought divine.

Excerpt from DESERT by Vic Stoyanow

The desert is a magic spiritual place.
There are places in the world, not many,
Where the dynamic forces which, perhaps, hold our universe together
Comes more strongly in conjunction than anywhere else.
These places have characteristics much in common:
They are starkly primitive, they are grand in scale, and most of all
They are free of man and beast to dull the force
That achieves tremendous oscillation there.

Here the air is vibrant with the music of Eternity,
With a magnetism no measurement can grasp,
So far it is beyond the spectrum
Of men's extolled inventive genius.
Here is a feeling of vital, pulsating tension and infinite energy;
Of a vague uneasiness which suddenly resolves itself
Into what men call "peace of soul".
One is then momentarily in tune with all Creation.

THE EXAMPLE by W. H. Davies

Here's an example from
    A Butterfly;
That on a rough, hard rock
    Happy can lie;
Friendless and all alone,
On this unsweetened stone.
Now let my bed be hard,
    No care take I;
I'll make my joy like this
    Small Butterfly,
Whose happy heart has power
To make a stone a flower.

IX

Allons! whoever you are, come travel with me!
Traveling with me, you find what never tires.

The earth never tires;
The earth is rude, silent, incomprehensible at first--Nature is rude and incomprehensible at first;
Be not discouraged--keep on--there are divine things, well envelop'd;
I swear to you there are divine things, more beautiful than words can tell.

Allons! we must not stop here!
However sweet these laid-up stores--however convenient this dwelling, we cannot remain here;
However shelter'd this port, and however calm these waters, we must not anchor here;
However welcome the hospitality that surrounds us, we are permitted to receive it but a little while.

XI

Listen! I will be honest with you;
I do not offer the old smooth prizes, but offer rough new prizes:
These are the days that must happen to you:

You shall not heap up what is call'd riches,
You shall scatter with lavish hand all that you earn or achieve
You but arrive at the city to which you were destin'd--you hardly settle yourself to satisfaction, before you are call'd by an irresistible call to depart,
You shall be treated to the ironical smiles and mockings of those who remain behind you;
What beckonings of love you receive, you shall only answer with passionate kisses of parting,
You shall not allow the hold of those who spread their reach'd hands toward you.

XII

Allons! after the GREAT COMPANIONS! and to belong to them!
They too are on the road! they are the swift and majestic men! they are the greatest women. . . .

XIV

The Soul travels;
the body does not travel as much as the soul;
The body has just as great a work as the soul, and parts away at last for the journeys of the soul.

SONG OF THE OPEN ROAD

Walt Whitman (1855)

I

Afoot and light-hearted, I take to the open road,
Healthy, free, the world before me,
The long brown path before me, leading wherever I choose.

Henceforth I ask not good-fortune---I myself am good-fortune;
Henceforth I whimper no more, postpone no more, need nothing,
Strong and content, I travel the open road.

The earth--that is sufficient;
I do not want the constellations any nearer;
I know they are very well where they are;
I know they suffice for those who belong to them. . . .

II

You road I enter upon and look around! I believe you are not all that is here;
I believe that much unseen is also here. . . .

III

You air that serves me with breath to speak!
You objects that call from diffusion my meanings, and give them shape!
You light that wraps me and all things in delicate equable showers!
You paths worn in the irregular hollows by the roadsides!
I think you are latent with unseen existences--you are so dear to me.

You flagg'd walks of the cities! you strong curbs at the edges!
You ferries! you planks and post of wharves! you timber-lined sides! you distant ships!
You rows of houses! you window-pierc'd facades! you roofs! . . . .

V

From this hour freedom!
From this hour I ordain myself loos'd of limits and imaginary lines,
Goint where I list, my own master, total and absolute,
Listening to others, and considering well what they say,
Pausing, searching, receiving, contemplating,
Gently, but with undeniable will, divesting myself of the holds that would hold me.

I inhale great draughts of space;
The east and the west are mine, and the north and the south are mine. . .

VI

. . . .Now I see the secret of the making of the best persons,
It is to grow in the open air, and to eat and sleep with the earth. . . .

Excerpts from SONG OF MYSELF by Walt Whitman

A child said, "What is the grass?" fetching it to me with full hands;
How could I answer the child? I do not know what it is any more than he.

I guess it must be the flag of my disposition, out of hopeful green stuff woven.
Or I guess it is the handkerchief of the Lord,
A scented gift and remembrancer designedly dropt,
Bearing the owner's name someway in the corner, that we may see and remark, and say "Whose?"

Or I guess the grass is itself a child, the produced babe of the vegetation.

****

Smile O voluptuous cool-breath'd earth!
Earth of the slumbering and liquid trees!
Earth of departed sunset-earth of the mountains misty-topt!
Earth of the vitreous pour of the full moon just tinged with blue!
Earth of shine and dark mottling the tide of the river!
Earth of the limpid gray of clouds brighter and clearer for my sake!
Far-swooping elbow'd earth - rich apple-blossom'd earth!
Smile, for your lover comes.

****

Excerpt from GIVE ME THE SPLENDID SILENT SUN by Walt Whitman

Give me the splendid silent sun with all his beams full-dazzling,
Give me juicy autumnal fruit ripe and red from the orchard,
Give me a field where the unmow'd grass grows,
Give me an arbor, give me the trellis'd grape,
Give me fresh corn and wheat, give me serene-moving animals teaching content,
Give me hights perfectly quiet as on high plateaus west of the Mississippi, and I looking up at the stars,
Give me odorous at sunrise a garden of beautiful flowers where I can walk undisturbed.

**

Will you give me yourself?
Will you come travel with me?
Shall we stick by each other
as long as we live?

Walt Whitman
SONG OF THE OPEN ROAD

When did the Environment become a problem?

Stages of Man's Attitude

1. Men fight the Environment - idea of environment as an enemy reinforced in man's mind by
   a. his efforts to survive under wilderness conditions
   b. adventures of explorers and settlers who set out to conquer new lands
   c. religious traditions of Judaeo-Christian world.

   And God said, Let us make man in our own image, after our likeness; and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing...So God created man in his own image...male and female created he them...and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it . . . .

2. Men Gain Control Over the Environment in Agricultural Revolution and the Industrial Revolution. Man considered himself above nature----- Man was "here" ---the environment "out there" ---a reservoir of valuable resources and a receptable for discarded wastes.

   Germans fled to America to escape the devastation following war; Irish followed the same route when potato famine struck; and American city dwellers moved to greater opportunities in the open lands of the West.

3. Men Concerned with Conservation in the 19th Century seeing that the earth's resources were limited and could not be exploited forever and that everyday activities of men placed great strain upon the environment as a whole. Because of the ideas of Thoreau and Marsh, a concern about the use of national land and natural resources in the U.S. gradually developed.

   I wish to speak a word for Nature, for absolute freedom and wilderness ... to regard man as an inhabitant, or a part and parcel of Nature, rather than a member of society .... Nowadays almost all man's improvements, so called, as the building of houses and the cutting down of the forest and of all large trees, simply deform the landscape, and make it more and more tame and cheap . . . .I can easily walk ten, fifteen, twenty, any number of miles, commencing at my own door, without going by any house, without crossing a road except where the fox and mink do: first along by the river, and then the brook, and then the meadow and the woodside. There are square miles in my vicinity which have no inhabitant. From many a hill I can see civilization and the abodes of man afar. The farmers and their works are scarcely more obvious

than woodchucks and their burrows. Man and his affairs, church and state and school, trade and commerce, and manufacture and agriculture, even politics, the most alarming of them all, --I am pleased to see how little space they occupy in the landscape. At present in this vicinity, the best part of the land is not private property; the landscape is not owned and the walker enjoys comparative freedom. But possibly the day will come when it will be portioned off into so-called pleasure-grounds, in which a few will take a narrow and exclusive pleasure only, --when fences shall be multiplied, and man-traps, and walking over the surface of God's earth shall be constructed to mean trespassing on some gentlemen's grounds ...

By the 1930's the growing concern for conservation had begun a new way of thinking about man's relationship with the environment. Instead of being above nature, he was considered to occupy a place within the environment along with other earthly inhabitants. John Muir had recognized this change as early as 1901 when he said:

> The tendency nowadays to wander in wilderness is delightful to see. Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life. Awakening from the stupefying effects of the vice of over-industry and the deadly apathy of luxury, they are trying as best they can to mix and enrich their own little ongoings with those of Nature and to get rid of rust and disease. Briskly venturing and roaming some are washing off sins and cobweb cares of the devil's spinning in all-day storms on mountains, sauntering in rosiny pinewoods or in gentian meadows, brushing through chaparral, bending down and parting sweet, flowery sprays; tracing rivers to their sources, getting in touch with the nerves of Mother Earth ...

4. In the last thirty years, the new science of ecology has demanded we rethink our relationship to the environment -- we are dependent upon the environment, the environment is limited in what it can do for us, we can destroy easily, and we must preserve the environment if we are to survive on earth.

Possibly the most significant statement of this ecological view of our relationship with the environment was included in a speech made in 1956 by United States Ambassador to the United National Adlai Stevenson, who described the earth as a spaceship on which all men are passengers. He said:

> We travel together, passengers on a little spaceship, dependent on its vulnerable reserves of air and soil; all committed for our safety to its security and peace, preserved from annihilation only by the care, the work and the love we give our fragile craft.

Poetry is one of man's most creative and personal expressions of his feelings to other men. So that he is able to communicate his very real feelings to another human being, a writer uses those "pictures" another person could easily recognize and relate to. Usually the "pictures" are nature's wonders and/or everyday items in the environment a man lives in. The "picture" is so real to the reader, he knows what feelings are being shared; the writer's talent comes in painting effective "pictures." All poets, in all times, in all cultures use the same or similar images, so understanding nature's tools or environmental factors can become the way we bridge those gaps of years and places and languages and understand the feelings of another.

What are some of man's basic feelings that he shares with others? Love, anger, fear and hope are most common. What "pictures" do we use most often to talk about those feelings? The seasons, flowers, clouds, roads and water are some of the most usual images--perhaps because they know no particular time or place or culture. Isn't "young love" dressed as Spring? Remember, "In Spring a young man's fancy turns to thoughts of ----." Summer is the full blossoming of love; Fall is a quiet loving. Winter seems to signify love's end. Do we learn these lessons watching Nature in action during the changing seasons and so compare our own human development? Then we have love through the flowers' differences; the "questioning" love suggested by the daisy, the shyness of the pansy or the violet, the faithfulness of the lily or the whole love story in the rose from a tiny bud awakening to a full bloom and still ending in full fragrance. Every flower has its own story; man's story isn't very different. Imagine what we suggest when we compare our feelings for another person in this manner--"My love is like a yellow dandelion"--"I worship you like the gladiolas fare the winter"--"Shall I compare thee to a pokeweed?" You can go on. We see man's oneness to nature.

Look at trees and talk about men through them. Do you know more or less about them by seeing the "picture of trees"?

WILLOW BEND AND WEEP
By Herbert Clark Johnson

Bend willow, willow bend down deep
And dip your branches into cold
Brown river water and then weep,
Weep, willow, for my land-sick soul.

Let river tears wash out land grief,
Let river water wash wounds made
By too much toil without relief
While you, willow, stood in the shade.

Willow, you owe this much to me,
I spared the ax for many years,
Your roots are in my land, now, tree
Bend down and weep. I have not tears.

The Poetry of the Negro
1746-1970

An Anthology Edited by Langston Hughes and Arna Bontemps
Doubleday & Co., Inc., Garden City, New York, 1970

The "weeping" willow is a widely cultivated tree, dating back to early China, having long, slender, drooping branches and narrow leaves.

A TREE DESIGN
By Arna Bontemps

A tree is more than a shadow
blurred against the sky,
more than ink spilled on the fringe
of white clouds floating by
A tree is more than an April design
or a blighted winter bough
where love and music used to be
A tree is something in me,
very still and lonely now.

LEAVES FROM THE LAUGHING TREE
By Marly Thomas

LAUGH FOR ME TREE
LAUGH FOR ME
FALL YOUR FLUTTERING LEAVES, FALL ON ME
FLOATING DOWN TO SHOWER ME
TO SHOW ME
TO BECOME ME
LAUGH FOR ME TREE
TILL I LEARN TO LAUGH WITH THEE

I SAW IN LOUISIANA A LIVE-OAK GROWING

By Walt Whitman

I saw in Louisiana a live-oak growing,
All alone stood it and the moss hung down from
the branches,
Without any companion it grew there uttering joyous
leaves of dark green,
And its look, rude, unbending, lusty, made me think
of myself,
But I wonder'd how it could utter joyous leaves
standing alone there without its friend near,
for I knew I could not,
And I broke off a twig with a certain number of
leaves upon it, and twined around it a little moss,
And brought it away, and I have placed it in sight
in my room,
It is not needed to remind me as of my own dear friends,
(For I believe lately I think of little else than
of them,)
Yet it remains to me a curious token, it makes me
think of manly love;
For all that, and though the live-oak glistens there
in Louisiana solitary in a wide flat space,
Uttering joyous leaves all its life without a friend
a lover near,
I know very well I could not.

LITTLE BUSH

A Song

By Elizabeth Madox Roberts

A little bush
At the picnic place,
A little bush could talk to me.

I ran away
And hid myself,
And I found a bush that could talk to me,
A smooth little bush said a word to me.

The Hako is a Pawnee Ceremony emphasizing man's dependence on the supernatural for all the gifts of life and his dependence on the family tie for the gifts of peace and happiness. Trees are among the lesser powers and so when we see trees we must sing to them.

SONG TO THE TREES AND STREAMS

I

Dark against the sky yonder distant line
Lies before us. Trees we see, long the line
of trees,
Bending, swaying in the breeze.

II

Bright with flashing light yonder distant
line
Runs before us, swiftly runs, swift the river
runs,
Winding, flowing o'er the land.

III

Hark. Oh, hark. A sound, yonder distant
sound
Comes to greet us, singing comes, soft the
river's song,
Rippling gently 'neath the trees.

A children's story, The Giving Tree, and a Puerto Rican song of "A Girl and the Tree" show an interdependence of one for the other and their continuity as they change.

THE GIVING TREE
by Shel Silverman

Once there was a tree...
and she loved a little boy.
And every day the boy would come
and he would gather her leaves
and make them into crowns and play king of the forest.
He would climb up her trunk
and swing from her branches
and eat apples.
And they would play hide-and-go seek.
And when he was tired, he would sleep in her shade.
And the boy loved the tree...
very much.
And the tree was happy.
But time went by.
And the boy grew older.
And the tree was often alone.
Then one day the boy came to the tree and the tree said, "Come, Boy, come and climb up my trunk and swing from my branches and eat apples and play in my shade and be happy." "I am too big to climb and play," said the boy. "I want to buy things and have fun. I want some money. Can you give me some money?" "I'm sorry," said the tree, "but I have no money. I have only leaves and apples. Take my apples, Boy, and sell them in the city. Then you will have money and you will be happy."
And so the boy climbed up the tree and gathered her apples and carried them away. And the tree was happy.
But the boy stayed away for a long time...and the tree was sad. And then one day the boy came back and the tree shook with joy and she said, "Come, Boy, climb up my trunk and swing from my branches and be happy."
"I am too busy to climb trees," said the boy. "I want a house to keep me warm," he said. "I want a wife and I want children, and so I need a house. Can you give me a house?" "I have no house," said the tree. "The forest is my house, but you may cut off my branches and build a house. Then you will be happy."
And so the boy cut off her branches and carried them away to build his house.
And the tree was happy.
But the boy stayed away for a long time. And when he came back, the tree was so happy she could hardly speak. "Come, Boy," she whispered, "come and play." "I am too old and sad to play," said the boy. "I want a boat that will take me far away from here. Can you give me a boat?"
"Cut down my trunk and make a boat," said the tree. "Then you can sail away... and be happy."
And so the boy cut down her trunk
and made a boat and sailed away.

And the tree was happy...
but not really.
And after a long time the boy came back again. "I am sorry, Boy," said the tree, "but I have nothing left to give you--
My apples are gone." "My teeth are too weak for apples," said the boy.
"My branches are gone," said the tree. "You cannot swing on them--"
"I am too old to swing on branches," said the boy. "My trunk is gone," said the tree. "You cannot climb--" "I am too tired to climb," said the boy. "I am sorry," sighed the tree. "I wish that I could give you something...but I have nothing left. I am just an old stump. I am sorry..."
"I don't need very much now," said the boy, "just a quiet place to sit and rest. I am very tired." "Well," said the tree, straightening herself up as much as she could, "well, an old stump is good for sitting and resting. Come, Boy, sit down. Sit down and rest."
And the boy did.
And the tree was happy.

"The Girl and the Tree"

EN EL TRONCO DE UN ARBOL UNA NINNA
GRABO SU NOMBRE HINCIDA DE PLACER
Y EL CARBOL CONMOVIDO ALLI EN SU PECHO
A LA NINA UNA FLOR DEJO CAER

YO SOY EL ARBOL CONMOVIDO Y TRISTE
TU ERES LA NINA QUE MI TRONCO HIRIO
YO GUARDO SIEMPRE TU QUERRIDO NOMBRE
Y TU QUE HAS HECHO CON MI POBRE FLOR

ON THE TRUNK OF A TREE A LITTLE GIRL ONCE
CARVED HER NAME WITH GREAT DELIGHT
THE TREE SO VERY DEEPLY MOVED
BY THE LITTLE GIRL, A FLOWER HE LET FLOW TO HER.

I AM THE TREE DEEPLY MOVED AND SAD
YOU ARE THE LITTLE GIRL THAT CARVED MY TRUNK
I WILL ALWAYS KEEP YOUR DEAR NAME
BUT WHAT HAVE YOU DONE TO MY POOR FLOWER?

The city and urban life has its moods, its feelings; and man uses those "pictures" as comfortably as he uses nature's. The lessons are there.

THE AIR IS DIRTY
By Glen Thompson

The air is dirty,
the streets are dirty,
the water is dirty,
half the people are dirty,
you call this living?

You see the ugly houses,
you breathe the ugly air,
you walk the ugly streets,
you hear the ugly noises,
and call it living?

You can call it living if you like,
But I don't dig it and I'm going to
split from it and I'm going to

Breathe fresh air,
walk clean streets,
meet good friends,
listen to sweet sounds,
and live, live, live.

Soulscript, Afro-American Poetry, Edited by June Jordan,
Zenith Books, Doubleday & Co., Inc., Garden City, New York, 1970

CITY
By Langston Hughes

In the morning the city
Spreads its wings
Making a song
In stone that sings.

In the evening the city
Goes to bed
Hanging lights
About its head

WHEN DAWN COMES TO THE CITY

By Claude McKay

The tired cars go grumbling by.
The moaning, groaning cars.
And the old milk carts go rumbling by
Under the same dull stars.
Out of the tenements, cold as stone,
Dark figures start for work;
I watch them sadly shuffle on,
'Tis dawn, dawn in New York.

But I would be on the island of the sea,
In the heart of the island of the sea,
Where the cocks are crowing, crowing, crowing,
And the hens are cackling in the rose-apple tree,
Where the old draft horse is neighing, neighing, neighing
Out on the brown dew-silvered lawn,
And the tethered cow is lowing, lowing, lowing,
And dear old Ned is braying, braying, braying,
And the shaggy Nannie goat is calling, calling, calling

From her little trampled corner of the long wide lea
That stretches to the waters of the hill stream falling
Sheer upon the flat rocks joyously!
There, oh there! on the island of the sea,
There I would be at dawn.

The tired cars go grumbling by,
The crazy, lazy cars,
And the same milk carts go rumbling by
Under the dying stars.
A lonely newsboy hurries by,
Humming a recent ditty;
Red streaks strike through the gray of the sky,
The dawn comes to the city.

But I would be on the island of the sea,
In the heart of the island of the sea,
Where the cocks are crowing, crowing, crowing,
And the hens are cackling in the rose-apple tree,
Where the old draft horse is neighing, neighing, neighing
Out on the brown dew-silvered lawn,
And the tethered cow is lowing, lowing, lowing,
And dear old Ned is braying, braying, braying,
And the shaggy Nannie goat is calling, calling, calling
From her little trampled corner of the long wide lea
That stretches to the waters of the hill stream falling
Sheer upon the flat rocks joyously!
There, oh there! on the island of the sea,
There I would be at dawn.

SHARE 2


If'en Share Square had um a square share of rumatiz medicine, they wouldn't be worryin' bout the Environment.....
...or anything else.
FOR SALE
UNPOLLUTED
WATER
Bob Griffin

An Afternoon of Environmental
Investigative Techniques
Presented by
SHARE ^{2}
October 8, 1975 1:00 - 6:00 p.m.

Welcome:

The experiences we are going to share have been drawn from environmental education techniques developed and used by several federal resource agencies. Each of these agencies is represented here by individuals who work in those agencies.

We have two common bonds:

The first is a conviction that environmental education that changes people's behavior toward the environment must enduce and grow in effectiveness.

The second is affiliation in the organization called SHARE ^{2} (Southeastern Headquarters for Agency Resources in Environmental Education). SHARE is a simply structured coordinating committee of Southeastern based natural resource agency representatives. SHARE's single objective is "Facilitating the Sharing of Environmental Education Materials, Physical Resources, and Knowledge for the mutual benefit of all."

Our objectives for these environmental experiences are:

To increase your natural awareness of this environment through personal involvement activities using the senses.

To introduce you to various teaching methods for interrelating environmental factors through group activities and exercises.

To acquaint you with numerous tools and techniques for investigating various environments.

To share with you methods of communicating facts and feelings about environmental attitudes to others.

I. DISCOVERING YOUR ENVIRONMENT

A. Natural Awareness

1. Scavenger Hunt - Bridging the Gap from Concepts to the Natural World
2. Natural Identification - Expressing Yourself Through Natural Objects
3. "Sense of Place" Walk - Learning to Trust Each Other
4. Sensory Wheel - Looking at Your Environment in Another Way

B. Process Awareness

1. Six Bits - A Group Trust Building Exercise
2. STRANDS - A Concept Approach of Environmental Education
3. Web of Life - A Game that Visualizes Environmental Interrelationships

II. INVESTIGATING YOUR ENVIRONMENT

A. Soil - Man Manipulates and Soil Responds

B. Forest - Seeing the Trees Instead of the Forest

C. Wildlife - Recognizing the Requirements of Wildlife Habitat

III. VALUING YOUR ENVIRONMENT

A. Nature Art and Poetry - A Creative Way of Sharing Environmental Values and Feelings With Others

B. Land Use Simulations - A Painless Means of Examining Land Use Decisions

IV. EXAMINING OUR EFFECTIVENESS

Ways of evaluating our program effectiveness

Although various agency representatives have responsibility for facilitating the activities listed above, all representatives and their agencies are capable and knowledgeable in most of the activities carried out today.

Please feel free to discuss any of these techniques with any of the facilitators.

U. S. Fish and Wildlife Service
National Park Service
Tennessee Valley Authority
U. S. Forest Service
U. S. Army Corps of Engineers
Bureau of Outdoor Recreation
Soil Conservation Service

S. T. E. P.
Volunteer Teacher Assistant
Resumé

Name _____ High School _____
Address _____ Grade Level _____
_____ Home Phone _____

INVOLVEMENT IN STEP

Activity:	Date:	Location:
S. T. E. P. 10-hr. course		
Instructor, 10-hr. course		
Teacher Assistant		
S. T. E. P. CONFERENCES		
Ecology Projects		
Other:		

PERSONAL EXAMPLE

_____ Recycle paper

_____ Recycle glass

_____ Recycle cans

_____ Use recycled paper

_____ _____

_____ _____

_____ Feed birds and/or wildlife

_____ Pick up litter

_____ Non-smoker

_____ Participate in a car pool

_____ Walk or ride bicycle to work and/or to school

RECREATIONAL INTERESTS

_____ _____

_____ _____

_____ _____

SPECIAL SKILLS AND INTERESTS

_____ English/speech

_____ Math

_____ History

_____ Physical Education

_____ Art

_____ Music

_____ Photography

_____

STATEMENT OF CAREER INTERESTS

_____

_____

_____

National Park Service Verification

_____

Environmental Education Coordinator

It is easy to identify 5 basic strands in the Web of Life, and the Strands Pocket Model is an easy way to remember them.

SIMILARITY & VARIETY

There are five fingers on your "pocket model." They are so similar to each other they are all called fingers. But there is so much variety in them that no two fingers are exactly alike. Similarity and Variety.

PATTERNS

There is a pattern on the end of every finger - your fingerprints. There is an endless variety of fingerprints, though they all follow a similar pattern. There is a pattern in the way the blood flows through your hand: in through the arteries to the tiny capillaries and out through the veins. Patterns.

INTERACTION & INTERDEPENDENCE

There's interaction when the blood in your hand delivers sugar to every tiny cell in exchange for waste material. Your fingers interact, though independently, when they are playing the guitar or holding a hamburger. Your hand interacts with the elements by shivering when it's cold and by perspiring when it's hot. Interaction and interdependence.

CONTINUITY & CHANGE

The veins and arteries in your hand change as the temperature changes. The cells in your hand are constantly dying and being replaced by new cells. In fact the hands that you put in your pocket today are not the same hands you had six weeks ago.

EVOLUTION & ADAPTATION

Over the years your baby hands changed, and changed and changed until finally they weren't baby hands any more. They had changed into adult hands. Evolution is change over a long period of time. If you practice the guitar every week your fingers will form callouses. That's a natural adaptation or evolution. Evolution and adaptation.

Watch for the Strands in everything natural and man-made, and think of them as the S.P.I.C.E. of Life. And when you can't remember what they are, you'll find all of them in your pocket.

Quercus alba

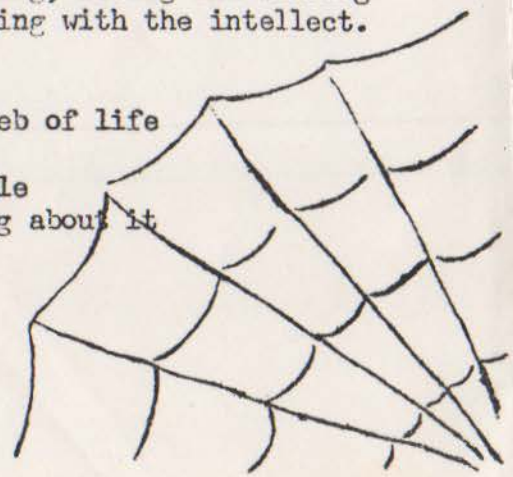
If I only knew your name,
would I really know you?

To know a tree is to love it. A tree has real personality traits. When we go on a nature hike we need to be sensitive to the nature of bark, the aroma of wood, the poetry of form, the taste of fruit and nuts, and the sound of leaves. It is not only sentimentality when we ask the question, "Have you hugged a tree today?"

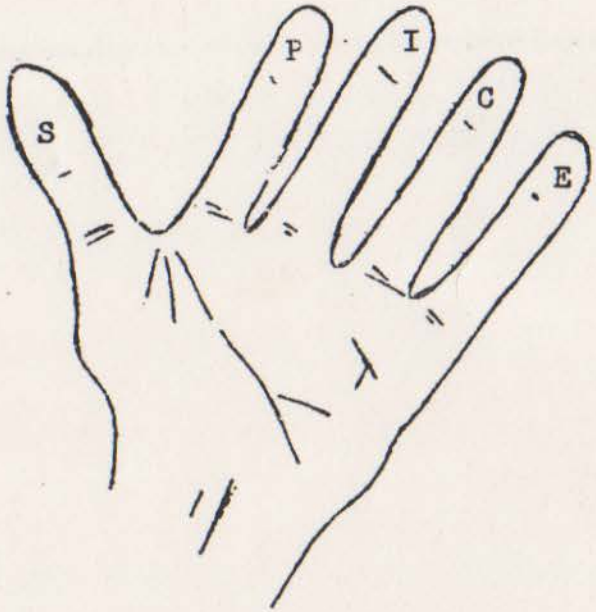
To know a tree is also to understand it. A tree is a complicated system of interrelationships. A tree is a viable part of a dynamic matrix - the web of life. When we go on a nature hike we need to discern those interrelationships. The National Park Service calls them strands. We like to think of taking a "strand walk" rather than just a nature hike.

Balanced environmental awareness is just as much touching, tasting, seeing and hearing as it is understanding with the intellect.

There is only one web of life
You are part of it
The web is in trouble
You can do something about it



THE STRANDS POCKET MODEL



THE S.P.I.C.E. OF LIFE

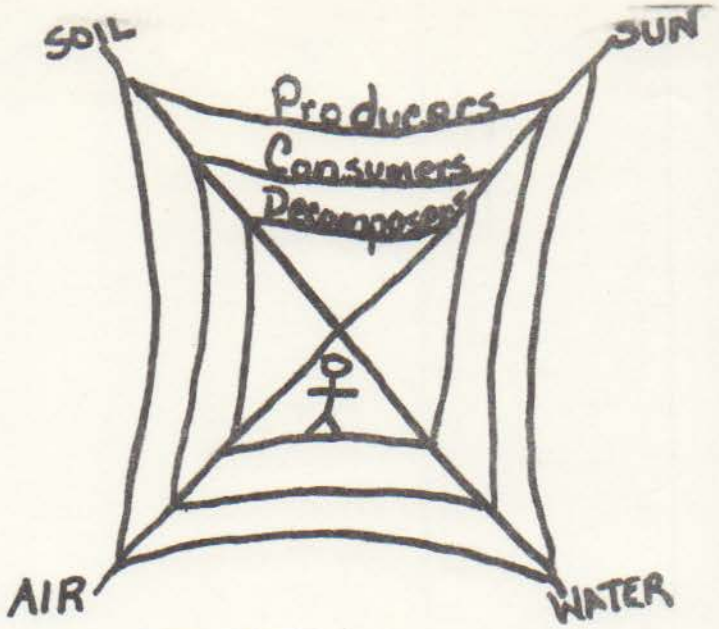
Similarity & variety

Patterns

Interaction & interdependence

Continuity & change

Evolution & adaptation



WEB OF LIFE

LIGHT, AIR, WATER, AND SOIL ARE THE ELEMENTS OF LIFE, LIFE IS DIVIDED INTO PRODUCERS, CONSUMERS, AND DECOMPOSERS, EVERYTHING IS BECOMING SOMETHING ELSE: HOMES IN A DEFINED AREA FORM A COMMUNITY, INHABITANTS OF THESE COMMUNITIES LIVE TOGETHER IN COMPETITION, COOPERATION, OR NEUTRALITY: MAN IS THE CHIEF PREDATOR.

The Web of Life is actually an ecosystem. In an ecosystem the living and nonliving elements interact, using the energy of the sun and inorganics to manufacture food, then use the stored food and return it through the decomposers back to simple inorganics.

"When we try to pick out anything by itself, we find it hitched to everything in the universe"

John Muir

STEP
Students Toward
Environmental Participation

I. WHAT IS STEP?

STEP stands for Students Toward Environmental Participation. STEP members are high school students who:

1. Are environmentally aware of the wholeness of the earth, who understand the interdependence of all living things, and who can relate to nature in a personal manner;

2. Are personally committed to the redemption of the environment, both human and natural;

3. Prove their own commitment by communicating environmental awareness to younger children in Environmental Study Areas as a group or on a one-to-one personal basis. STEP members also communicate these same environmental values and concerns to their peers and elders by many other methods using a variety of techniques;

4. Act individually or in concert with other STEP members, or STEP Clubs, on a 10-STEP, 100-STEP, Giant STEP, National STEP, or International STEP basis in environmental action and activities that are an integral part of the life in their community. Environmental Action that grows out of true awareness and genuine commitment will be relevant and effective.

STEP means Environmental Awareness! Environmental Commitment! Environmental Communication! and Environmental Action! STEP members know! believe! tell! and do!

II. WHAT IS ENVIRONMENTAL AWARENESS?

Environmental Awareness is now being taught by the STEP 10-Hour Environmental Study Area Leader Awareness Course developed at Kennesaw Mountain National Battlefield Park. The course varies as to exact format but the essential elements are always the same. An overview is given of the Environment and the magnitude of the crisis relating to it. The importance of seeing the environment and environmental problems as a whole in the historical, cultural, and social context is stressed. The Park Service Strand Method is used which interprets the environment through the "big picture" approach. Experience has shown that learning and using the strands are not enough to enable one to become a good Environmental Study Area Interpreter. Equal course value is placed on sensing and feeling.

Touching, seeing, smelling and hearing are used as well as poetry and emotion to help the STEP learner relate to nature, trees, and grass. The heart must augment the mind in the environment.

Various approaches to bring the 10-Hour STEP Awareness Course to all prospective STEP members are being developed. Where STEP clubs are formed near National Park Service Areas local NPS personnel can teach the course.

Traveling teams of NPS personnel, teachers and students will be formed to teach the course initially. STEP orientation centers will be developed in several NPS regions at existing National Environmental Education Development (NEED) areas. In the Southeast Region it is hoped that NEED centers at Tremont in the Great Smoky Mountains National Park, at Cumberland Gap National Historic Park, and at Land Between the Lakes (a TVA NEED area in Kentucky), can be used along with other NPS areas as STEP orientation areas. In the Southwest Region, Goddard NEED Center at Platt-Arbuckle will be utilized. Other NPS regions may follow suit. At certain times in the year, high school students who want the STEP orientation awareness course could go to these NEED Centers on specified week-ends and receive the 10-hour course or its equivalent.

Several NPS areas have already developed the capability to teach the entire course using STEP high school students from their area schools. One high school, Osborne Senior High in Cobb County, Georgia, has its own 10-hour STEP awareness training team. Any high school STEP Club lead by an enthusiastic teacher can do the same. Stones River National Battlefield and Cemetery, Great Smoky Mountains National Park, and Kennesaw Mountain National Battlefield Park all teach the course with local STEP members.

An individual instruction kit will be developed with audio-visual aids, tapes, and lesson plans to enable local teachers who find other methods unavailable to orient their group in environmental awareness. Until such a kit is developed, sufficient materials and information can be sent to any school by the NPS Field Coordinator and/or Representative.

The STEP Member has not become environmentally aware and cannot be a STEP Member until he or she can understand and use the strand approach to the environment, until he or she can personally relate to the environment with feelings and emotions, and until he or she can conduct younger children through an ESA using the Strands and feelings.

III. COMMITMENT AND COMMUNICATION

Personal commitment to the environment can be elusive. Yet the evidence and results are obvious. No pledge can be binding. None is necessary. The following is how one STEP member expressed himself on this commitment:

I love you world, wholly,
Not as a thing apart but as trees and people.
Held together by a slender life thread of air between us -
exchanging life.
And out of my love, my commitment, and youth do pledge to you
a troth
To gladly teach those younger than myself to know and love,
And feel as well the warmth of my hand as we hug a tree, or
smell a flower, or listen to sweet sounds of birds or brooks, and
to communicate my awareness and concern to peer and parents
in my community.
Together, we will pledge our living commitment to make you, world
Whole and beautiful again
As loving you has made me whole and beautiful.

The proof of commitment is communication. STEP can help prepare students in Environmental Awareness and help to arrange opportunities to conduct grade school children through Environmental Study Areas. An Environmental Study Area is where two or more living things interrelate. An ESA may be natural, historical, cultural, or social. This could be woods, the city street, the city dump, your school yard, or a national park.

The ESA is not the only method of meeting a commitment to communicate. Perhaps some STEP members would like to work with slum kids, or other younger children on a one-to-one basis. Once the joys of communicating commitment and awareness to younger children have been experienced life never seems quite the same. Perhaps Walt Whitman was speaking to you as you remember your frustrations in understanding nature and in trying to communicate to younger children when he wrote:

The earth never tires;
The earth is rude, silent, incomprehensible at first -
Nature is rude and incomprehensible at first;

Be not discouraged - keep on - there are divine things,
well envelop'd;
I swear to you there are divine things, more beautiful
than words can tell.

IV. ENVIRONMENTAL ACTION

Environmental Action is a necessary conclusion of Awareness and Commitment. The communication of Commitment to younger children and to peers and elders should result in a natural outgrowth. This leads naturally and normally into environmental Action and activism. This phase of STEP is the primary concern of the National

The Centralization for most practical purposes should be a Federal Region corresponding to the Regions of the National Park Service. Each Region will include the 100-STEPs in those states, a NPS working coordinator and a school coordinator. Both these are field rather than simply administrative positions.

An InterAgency Advisory Council should be formed with each local 10-STEP and/or 100-STEP to provide a clearinghouse for the environmental needs of a community, to communicate the activities and the needs of the high school students, and to provide a means of support, financial or otherwise, for the activities of the group. On this Council should sit the student leader of each STEP or 10-STEP group and representatives from educational, industrial, federal, and community agencies. These agency representatives should be chosen on terms of interest in youth and means and desire to support a project of an environmental nature, directly or indirectly. A student and an adult chairman should be selected for a year--September to September.

The Advisory Council might include one, two or more 10-STEPs (based upon size of community) when a 100-STEP Council is not a practical working agency. Great flexibility can be utilized with end results rather than organizational structure determining the final form.

A yearly agenda for 100-STEP down might include:

1. Monthly meetings of local STEP groups in the high school.
2. Fulfillment of the Environmental Awareness Activity for new STEP members and two or three major action projects for the year.
3. Monthly STEP activities could follow this outline:
   Sept. - InterAgency Advisory Council meeting.
   Oct. - 10-STEP Meeting; in addition, Environmental Study Area Course to be offered for all new members on a designated weekend, preferably at a NEED Center.
   Nov. - 100-STEP Meeting
   Dec. - InterAgency Advisory Council meeting. Leadership Workshops offered for all leaders or co-chairmen in 100-STEP group - preferably at a NEED Center site to offer students a chance for 24-hr. partnership.
   Jan. - 10-STEP Meeting
   Feb. - 100-STEP Meeting
   Mar. - InterAgency Advisory Council to plan a conference for entire region in May to share year's work and problems.
   Apr. - 10-STEP Meeting
   May - 100-STEP Meeting or Regional Conference
   June - InterAgency Advisory Council Meeting to evaluate year, provide a summer activity, and select new leaders for coming year.

To provide maximum communication and sharing of ideas among STEP members we suggest workshops and/or conferences to provide this opportunity.

Proposed:

1. Yearly Regional Conference to be held in early Spring--April or May, from which delegates could be chosen to represent their Regions at:

2. Yearly National Conference to be held in August, moving from Region to Region in subsequent years.

3. International Conference to be held every two years with delegates selected from the National Conferences.

Representatives from all Advisory Councils will attend specifically designed workshop at all conferences.

ATLANTA 100-STEP (Models)

The working corps of the Atlanta 100-STEP is the Kennesaw 10-STEP composed of ten high schools from five different school systems covering a radius of fifty miles of Atlanta; the Atlanta City Schools and the schools of Marietta, Paulding, Douglas, and Cobb. The school year 1971-72 had two different schools and systems represented as co-chairmen; 1972-73 has co-chairmen from a single school. The Kennesaw 10-STEP has fifteen STEP groups from fifteen separate high schools as members. If more STEP clubs are added, a new 10-STEP will be formed, thus adding the second 10-STEP of the Atlanta 100-STEP.

Presently active 100-STEPs are beginning in Central Tennessee with the very active Stones River 10-STEP. The Great Smoky Mountains 100-STEP has the very active Tremont 10-STEP and the Chattahoochee National Forest 10-STEP.

THE ATLANTA 100-STEP INTERAGENCY ADVISORY COUNCIL HAS THE FOLLOWING COMPOSITION:

Marietta Schools
Cobb County Public Schools
Georgia State University, students and faculty
Bureau of Outdoor Recreation
Cobb County Water and Sewer System
DeKalb County Fernbank Science Center
Georgia Forestry Commission
Mercer University
Georgia Institute of Technology
Atlanta Urban Corps
Atlanta City Schools
Douglas County Board of Education
Northwest Georgia Girl Scout Council

Georgia Science and Technology Commission
Kennesaw Mountain National Battlefield Park
Atlanta Department of Parks and Recreation
Region 10, Environmental Protection Agency
U.S. Forest Service
Marietta Parks and Recreation
Cobb County Youth Museum
Sierra Club
National Audubon Society
Keep America Beautiful - Regional Administration
U.S. Brewers Association
Cobb County Bank - President
University of Georgia, faculty
Soil Conservation Service
Kennesaw Junior College

A monthly newsletter (100-STEP) is suggested to be sent to all members in the group including:

1. report of individual school activities,
2. review of books and films of an environmental scope,
3. recent legislation dealing with environmental concerns,
4. reprint of timely items from other journals and publications, and
5. list of coming events.

The Stones River 10-STEP has a very good monthly newsletter, and the Giant STEP Southeast has a newsletter presently sent to all STEP members.

WHERE CAN I LEARN MORE ABOUT STEP?

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National Park Service
U.S. Department of the Interior
Washington, D.C. 20240
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STEP Representative
U.S. National Commission of UNESCO
P. O. Box 19321
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Raymond J. Geerdes
STEP Representative - NPS Field Areas
Environmental Education Coordinator
Southeast Region, National Park Service
3401 Whipple Avenue
Atlanta, Georgia 30344
Tel. (404) 526-7652

Patricia M. Stanek
STEP Representative - National
STEP Coordinator
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John Yocom
Kennesaw 10-STEP Coordinator
Teacher, Robert L. Osborne Sr. High School
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Marietta, Georgia 30060
Tel. (404) 435-3273

Greg Batista
Stones River National Battlefield and Cemetery
P. O. Box 1039
Murfreesboro, Tennessee 37130
Tel. (615) 893-9501

Lorri Sprague
Tremont 10-STEP Coordinator
Environmental Education Specialist
Great Smoky Mountains National Park
Gatlinburg, Tennessee 37738
Tel. (615) 436-5615

Paul Engstrom
Kennesaw 10-STEP NPS Coordinator
Kennesaw Mountain National Battlefield Park
Box 1167
Marietta, Georgia 30060
Tel. (404) 427-4686

NESA *Awareness* NEED

STUDENTS TOWARD ENVIRONMENTAL PARTICIPATION

(STEP)

THIS CERTIFICATE IS AWARDED TO:

MICHAEL DREW WATSON

Communication

who has completed the Ten-Hour National Park Service STEP Environmental Awareness Course of Study to fulfill Step One *Awareness* and to qualify as a LEADER for Environmental Study Groups.

Commitment

EVERGLADES NAT'L. PARK
Course Location

NOVEMBER 8, 1975
Date Course Completed

Patricia M Stanek
National Park Service STEP
Course Coordinator

Martha S. Aikens
National Park Service STEP
Field Representative

NEEL *Action* STEP

NESA *Awareness* NEED

STUDENTS TOWARD ENVIRONMENTAL PARTICIPATION

(STEP)

THIS CERTIFICATE IS AWARDED TO:

CAROLYN WATSON

Communication *Commitment*

who has completed the Ten-Hour National Park Service STEP Environmental Awareness Course of Study to fulfill Step One *Awareness* and to qualify as a LEADER for Environmental Study Groups.

EVERGLADES NAT'L. PARK
Course Location

NOVEMBER 8, 1975
Date Course Completed

Patricia M Stanek
National Park Service STEP
Course Coordinator

Martha B. Aikens
National Park Service STEP
Field Representative

NEEL *Action* STEP

STEP* NEWS/international

*students toward environmental participation

VOLUME 1 NUMBER 1

SEPTEMBER 14, 1973

Cosponsored by the U.S. National Commission for UNESCO and the U.S. National Park Service

German pioneers

Christiane Helmbrecht, delegate from the Federal Republic of Germany to the International Conference on Youth and the Environment in Chicago, has provided the following report on a pioneer environmental - educational program in her home-town high school:

The Theodor Heuss School in Baunatal is a fully integrated comprehensive school at the secondary level to the tenth class (15-16 year olds).

The Federal Minister for Science and Research gave the school permission to begin a new project on envirnomental protection and provided a subsidy of DM 200,000 ($85,500) for this purpose. Thus, the Theodor Heuss School is the first school in the Federal Republic of Germany to offer environmental protection as a subject. Some of the money given by the Government is being used to build a laboratory for the project.

"Environmental Protection" is now one of ten subjects offered from class 7 onwards, from which pupils must choose one to study in

Making it Pay

Terée Silas, a member of the Youth Advisory Board of Keep

America Beautiful, tells of a GARBAGE-A-THON run by her YWCA "Teen Time" club in Paterson, New Jersey. They asked their neighbors to make a small pledge – a dime, quarter, or whatever – for every bag of recyclable trash they collected on a given day throughout their neighborhoods. Newspapers, cans and bottles were the popular items. They did so well on the first go-round that they are now planning another.

For more information, write:

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7-2 Grimes Place
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addition to the normal compulsory curriculum. Within the subject, scientific (physics, chemistry and biology) and social studies are integrated. For example, when we (that is, the group taking this subject in the tenth class) discuss in science the formation of low and high pressures areas and various atmospheric components, we also talk about sociological problems connected with climate and weather in parallel social studies classes.

To obtain basic knowledge, we covered the following

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Father Melvin Tracy (lower left), science teacher at J.F.K. Prep in St. Nazianz, Wisconsin, demonstrates water-monitoring techniques to delegates to the first International Conference on Youth and the Environment. High school students from ten foreign nations, the ten Federal Regions of the United States and the Virgin Islands attended, together with high school students and teachers from the Chicago area and northeastern Wisconsin.

An organic Thanksgiving

The Willow Glen Community Recycling Center, created in 1970, is manned by students from the environmental studies classes of Willow Glen High School in San Jose, California, and by members of the community at large. As of May 1973, the Center had processed over 330,000 pounds of metal (from cans) and glass (from bottles). Profits from recycling go into a scholarship fund to aid outstanding Willow Glen students who intend to pursue environmental disciplines in college. Other environmental enterprises at Willow Glen include:

- A year-round project of landscaping the school campus with trees donated by students, faculty members, and the Gro-Rite nursery of San Jose.
- STORE TURN-A-ROUNDS, an effort to distribute environmentally oriented literature to customers at independent markets. Recommendations made by the Center become a form of consumer education, which will hopefully lead to purchasing habits in favor of the environment. They include the purchase of laundry soaps instead of

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3500 employed last summer

During the past summer, the Youth Conservation Corps (YCC) employed about 3,500 young men and women aged 15 through 18, from a variety of economic, ethnic, and social backgrounds, under a Congressional appropriation of $3.5 million authorized by Public Law 92-597.

The YCC operates under the joint jurisdiction of the Department of the Interior and the U.S. Forest Service of the Department of Agriculture to create summer employment for American youth and to promote an understanding and appreciation of the nation's natural environment and heritage.

The sponsors have designated recruiting areas for each of the fifty states, and for Puerto Rico, the Virgin Islands, and American Samoa. School districts and community youth organizations recruit, select, and process corps members within their areas of responsibility for service at nearby camps, thereby minimizing transportation costs.

Participants in the eight-week program receive about $300 for the season plus room and board, for service in either residential or nonresidential camps, most of which are co-educational. In 1973, 46% of the participants were young women.

Applicants must be 15 to 18 years old and in good physical condition, show an active interest in conservation of the nation's natural environment, have no history of serious criminal or anti-social behavior, and possess work permits in states where required. Opportunities for the handicapped are available in some of the camps.

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