

# Habits of Creation



*A Facilitator's Manual*

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Ecological Working Group  
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*Habits of Creation Workshop*  
**Facilitator’s Handbook**

***Table of Contents***

Why The Habits of Creation Workshops?.....	5
Premises of the Workshop .....	7
How to Use This Handbook.....	9
The Workshop In Detail.....	11
Part One – Introduction and Overview .....	12
Part Two – Basic Ecological Principles .....	13
Part Three- Seeing the Connections to Our Faith .....	16
Part Four – Ecology, Poverty and Development.....	17
Part Five – Developing Habits of Creation – Teaching Activities For Creative Habits .....	19
Part Six – Brainstorming New Habits.....	21
Part Six (a) – Opportunity for Developing New Habits .....	23
Part Seven – Closing Prayer and Commissioning.....	24
Appendix A – Suggested “Habits of Creation” Cards .....	25
Appendix B – Readings .....	26
Appendix C – Judeo-Christian Scriptures.....	27
Appendix D – Psalm 139 .....	29
Appendix E – Music With An Eco-Justice Theme.....	30
Appendix F – Beginning Prayers.....	31
Appendix G – Creeds.....	33
Appendix H – The Cosmic Walk .....	34

Appendix I – Statements and Quotations.....	37
Appendix J – Wendell Berry Excerpts .....	39
Appendix K – Meditations with Meister Eckhart .....	41
Appendix L-Commitment Activity .....	43
Appendix M – Understanding Four Basic Ecological Principles .....	44
Appendix N – An Exercise For Making Connections Between Faith and Ecology .....	47
Appendix O – Fact Sheets for Ecology and Poverty Exercise.....	51
Fact Sheet on Food and Agriculture.....	52
Fact Sheet on Cars and the Environment.....	55
Fact Sheet on Consumerism.....	57
Appendix F – Habits of Creation Teaching Activities .....	64
What are “Habits of Creation”? .....	65
Groceries, Gardening and Good Health.....	67
Groceries, Gardening and Good Health.....	68
Groceries, Gardening, and Good Health.....	70
Composting For Waste Reduction and Soil Health.....	72
Composting for Waste Reduction and Soil Health.....	73
Reducing Waste: “Getting To Know Your Garbage ... It’s Time!” .....	75
Recycling Waste: “Getting To Know Your Garbage ..... It’s Time!” .....	77
Reducing Waste: “Getting To Know Your Garbage ... It’s Time!” .....	78
Reducing Waste: “Getting To Know Your Garbage ... It’s Time!” .....	81
Energy Audit .....	84
Energy Audit .....	85

Energy Audit .....	87
The Hidden Side of the Supermarket.....	89
“For the Birds” .....	90
“To Flush Or Not To Flush? Water Use and Misuse” .....	91
Transportation: How Do We Get There From Here? .....	92
Ecology Resource Organizations: A Starter List Focusing on Virginia-Based Organization.....	93
Ecological Resources for Parishes: An Annotated Bibliography .....	97

## **Why The Habits of Creation Workshops?**

“Modern society will find no solution to the ecological problem unless it takes a serious look at its life-style. In many parts of the world, society is given to instant gratification and consumerism while remaining indifferent to the damage which these cause. It is manifestly unjust that a privileged few should continue to accumulate excess goods, squandering available resources, while masses of people are living in conditions of misery at the very lowest level of subsistence.”

Pope John Paul II, New Year’s Address 1990

The Ecological Working Group (EWG) of the Richmond Catholic Diocese has developed this “Habits of Creation” process to help people of faith respond to the deeply rooted, habitual problem of ecological destruction. Examples of this destruction abound:

According to the Environmental Defense Fund, 2006 was ranked as the hottest year on record in the continental United States and America was the top global warming polluter in the world. Since 1990 there has been a 20% increase of America’s carbon dioxide emissions from the burning of fossil fuels. The US fire season has increased by 78 days over the past 20 years and is closely tied to the increased temperatures and earlier snowmelt. If this trend continues it is estimated that 200 million people around the world will be displaced by more intense droughts, sea level rise and flooding by 2080. In order to prevent the worst consequences of global warming, there must be an 80% decrease in U.S. global warming pollution by 2050.

Despite the years of efforts to clean up the Chesapeake Bay, in December 2007 the Chesapeake Bay Foundation gave the estuary an overall grade of D for the ninth straight year, citing poor water quality, lack of habitat for critters living in the Chesapeake and continuing fish kills and low-oxygen zones caused by pollution.

Appalachian Voices writes that mountaintop removal , “one of the greatest environmental and human rights catastrophes in American history is underway just southwest of our nation’s capital”. In the coalfields of Appalachia, individuals, families and entire communities are being driven off their land by flooding, landslides and blasting resulting from mountaintop removal coal mining.” Mountaintop removal, a relatively new type of coal mining uses dynamite to blast away up to 1000 feet of the mountaintop including the hardwood forests and rich soils. The waste is then dumped into valleys and often buries streams. People living in this central Appalachian area often suffer from airborne dust and debris; drinking water is contaminated and sometimes homes have been damaged beyond repair from the blasting.

“We...call for a civil dialogue and prudent and constructive action to protect God’s precious gift of the earth’s atmosphere with a sense of genuine solidarity and justice for all God’s children.”—U.S. Catholic Bishops

Another way to understand our ecological struggles is by looking at the closely related problem of hunger. Around the globe, an average of 40,000 children die daily from hunger-related causes. Yes, 40,000 – every day. This catastrophe will only worsen as our planet becomes warmer; storms increase in intensity; and drought devastates the forests and cultivated food producing fields. Yet most of us only turn our attention to hunger when famine grips nations like Ethiopia or Somalia. We’re far more likely to respond to the dramatic crisis of famine than to the chronic, daily hunger that kills, literally, millions of people every year.

We are often roused to action only by crises like the Exxon Valdez spill or the devastation wild fires of southern California. Although disasters like these are quite real and deserve our attention, they are only symptomatic of the ongoing, daily degradation of creation. Damage that is caused not by one renegade oil tanker pilot or a segment of urban development, but by us. Our lifestyles and our daily practices of consumption, disposal and economic decision making....OUR HABITS.

## Premises of the Workshop

The Habits of Creation process, as outlined in this handbook, begins with these understanding:

Because of the spiritual roots underlying consumerism, individualism and social injustice, our Judeo-Christian scriptures give us a particular voice to bring to these issues.

**“The church needs to address the deeper issue of changing our wasteful lifestyles and the anti-ecological values under girding our consumer oriented culture.”**

Rev. Donald Conroy, President  
North American Conference on Religion & Ecology

Christians and activists alike must move beyond responding to poverty OR ecological problems, for the two are inextricably linked.

**“Human activity is increasing green house gases in the atmosphere and the impacts on God’s creation and his people will be tragic. To ignore this is unthinkable. To grasp the problem with faith and courage, and with the wind of American ingenuity and goodness at our backs, is morally right and, in our view, faithful to our Creator God.”**

The Evangelical Climate Initiative 2007

Just as we have adopted individual and societal habits that are ecologically destructive, we can – and must – develop habits that are creative.

**Of any course of action, Christians must never ask first, ‘Is it scientifically possible?’ and ‘Can we pay for it?’ ( Our first question must be) ‘Does it nurture people?’ and ‘Does it protect our environment?’**

Doris Janzen Longacre, Living More With Less

These habits of creation are also habits of community building and of greater justice. They give flesh to the idea of covenant and the commandment to “Love one another as I have loved you.”

**“It may be that our marriages, kinships, friendships, neighborhoods, and all our forms and acts of homemaking are the rites by which we solemnize and enact our union with the universe. These ways are practical and accessible to everyone.....Moreover, they give the word ‘love’ its only chance to mean, for only they can give it a history, a community, and a place. Only in such ways can love become flesh and do its worldly work.”**

Wendell Berry; Home Economics

## How to Use This Handbook

This workbook is designed to help a small group of people (2-4) facilitate a Habits of Creation workshop. The workshop is an interactive, day-long process in which people learn about creation by delving into it. As such, it is preferable to conduct as much of the workshop as you can out of doors in God's original creation. This does not mean that you must "flee to the country" or rent an idyllic retreat center. Try instead to find whatever open space or bits of wilderness there are within your own community.

The Habits process is also intended as a seed. It should be useful as it is for many congregations or faith gatherings. But we encourage you to adapt it to your community, your own religious traditions and specific ecological situation. Such adaptation might require research, for example, about the natural resources in your area or the work of grassroots organizations for healthy and sustainable development. Undertaking such an active preparatory learning is good – it will strengthen your workshop and will probably surface hands-on ways for participants to begin developing creative habits.

We have included background materials to help you better understand some of the issues treated in the workshop. There are fact sheets and teaching activities for use with small groups during the workshop, and suggested readings and processes for prayer. Facilitators should familiarize themselves with all these materials prior to making final plans for how they will lead the workshop.

### Workshop Preparations

#### *Publicize the Workshop*

- Prepare flyers to take to appropriate events and meetings.
- Send notice of workshop to parishes and other denominations in your area.
- Seek support of parish ministers in publicizing workshop.
- Provide process for registration (mail-in card or phone number to call).

#### *Preparing for the Workshop*

- Identify and recruit 4-6 people to help facilitate the workshop, your 'team'.
- Provide each member with "Facilitator's Handbook".
- Hold a team meeting after members have had a chance to review the handbook.
  1. Decide who will facilitate each section.
  2. See what resources materials members have access to.
  3. Decide whether or not to add a "local" fact sheet or additional teaching activities.
  4. Plan publicity for the workshop.
  5. Decide on registration fee

6. Select a site for the workshop, and food preparation.
7. Visit the site for the Workshop to help in planning site-specific aspects of the workshop.

## **The Workshop In Detail**

The workshop is divided into seven segments, which are explained in detail in the next section:

1. Introduction (preferably outdoors)
2. Understanding Basic Ecological Principles (outdoors)
3. Connections To Our Faith (indoors)
4. Ecology and Poverty Exercise (in or out)
5. Teaching Activities For Creativity (outdoors)
6. Brainstorming Habits and Action Planning (indoors)
7. Summary and Recap (preferably outdoors)

Prayer is interspersed in at least three different places during the process.

The symbols below, which are intended to help you in planning and organizing, will appear at the beginning of the instructions for each part:



**Advance preparations:**



**Supporting handouts:**



**Time needed to do this part:**



**Breaks:**



**Prayer:**

*The Habits of Creation Workshop*

**Part One – Introduction and Overview**

**Purpose:** Break the ice, welcome folks and introduce the idea of habits.



**Advance preparations:** Make Habits of Creation cards (see Appendix A for “how-to-make” ideas) and have them scattered or arranged creatively, perhaps placing them in and around various kinds of natural artifacts. Spread cards out so participants don’t become too congested as they pick them up.



**Supporting handouts:** Your choice of prayer resources, scripture readings and/or readings from other traditions (see Appendix B).



**Time needed to do this part:** 40 minutes



**Prayer:** Celebratory, 10 minutes

15 minutes

**Working with the “Habits of Creation” Cards.** As workshop begins, have participants look over the cards and pick up all those which apply to them or to their households (suggested Habit Cards are included in Appendix A).

In small groups of 3-6, have participants introduce themselves and discuss one or more of the habits they chose. This discussion need not be reported back to the larger group.

20 minutes

Prayer. **Cosmic Walk** (Appendix B – The Cosmic Walk)

5 minutes

Setting the tone for the rest of the workshop. The leader should now give an overview of the day. Emphasize practicality; encourage each participant to consider concrete steps and changes they’ll make by day’s end.

## **Part Two – Basic Ecological Principles**

**Purpose:** To learn, in a direct way, the four basic ecological principles below (if you are not already familiar with these principles, turn to Appendix C now). With the exception of principle two, “Interiority”, the principles are earthy and easily taught, as you will see with the exercises themselves.

Helping people understand these four principles clearly is most important to the success of the workshop. These principles provide the basis for learning creative, ecologically responsible habits.



**Advance preparations:** Read “Understanding Basic Ecological Principles” (Appendix C – Page 34), and collect these materials: (1) Big sheet of paper (cut-open grocery bags do well) and marker to record group observations, and (2) Three buckets containing (a) raw organic materials (leaves, grass, kitchen scraps, paper) (b) partially decomposed organic materials (a backyard composter will have this!) (c) finished compost (could come from municipal leaf pile or backyard compost pile)



**Supporting handouts:** None



**Time needed to do this part:** 40 minutes



**Prayer:** Contemplative, 5 minutes

15 minutes     **Principles One and Two – Diversity and Interiority.** Send folks out with a square foot frame (can be made by lashing four sticks together to form a square 12X12 inches). Encourage them to get down on their knees and dig around a bit within the frame. Ask them to note the different kinds of plants, animals, rocks, etc. that they find. All participants re-gather into one large group and record all the observed species on group paper, which demonstrates the incredible diversity of creation, even within a small space.

Discuss diversity and interiority. Diversity gives ecosystems adaptability, health and resilience (you may wish to draw comparisons to human diversity, or to the Corinthians reading, “Many gifts but one body”). Interiority is the sacredness and holiness of each piece or part of creation, which has its own individual integrity and wisdom.

10 minutes

**Principle Three – Interconnectedness** (or Community). Do the “Web of Life” Exercise: identify and divide the group as follows (based on a group of 20)

Soil 1 person      Water 1 person  
Plants 8 people      Herbivores 6 people  
Carnivores 4 people

*Note: These numbers are approximate, meant to convey the general progression from a large number to a smaller number as you move up the food chain*

Once divided, have the soil and water people stand side by side, linking one arm at the elbow. Next have the “plants” surround the soil and water, making sure that each person places one hand on the arm or shoulder of the soil person or water person.

Now have the “herbivores” surround the plants, each putting one hand on a plant person and the other hand reaching in to either the water or soil person. Lastly have the “carnivores” spread out around the herbivores, putting one hand on a herbivore person and at least attempting to reach the other hand into the soil or water.

Now have everyone in the circle spread out as much as they can, maintaining their initial touch contact with one another. The idea is to have a certain amount of tension among all of these “species” and “elements”. The circle must not be limp. There should be a dynamic “pull” so that it feels a bit precarious.

Next have one plant and one herbivore person attempt to leave the circle. Have everyone observe what this does to the surrounding “species” and perhaps to the whole circle. Now have the plant and herbivore return to their position. Ask the soil and water folks to sit down. If the tension in the circle is as it should be, this should pull almost everyone down at least to some degree.

Lastly, help the group observe what happened when, for example, the soil person sat down. Correlate this with the ripple effects that are felt in an ecosystem when a basic resource like soil or water is dramatically eroded. Make these observations while everyone is still in the interconnected group formation.

10 minutes      **Principle Four – Regeneration/Transformation** (decay/death/rebirth cycle). Display the three buckets containing (a) raw organic materials (b) partially decomposed organic materials, and (c) finished compost. Pass the buckets around and ask participants to look at, smell and touch the materials. Ask for observations about these three different “stages”. Discuss the decay-death-rebirth process in nature, how this helps regenerate fertility and recycle what people call “waste”. Explain that we are all suppose to be transformed.5 minutes

5 minutes      **Prayer:** Build on the discoveries that have been made of species and the elemental building blocks of life, as well as “decay/composting and regeneration/rebirth”. We recommend a quiet place out of doors. You may wish to have someone read “The Work of Local Culture” (Appendix B – Page 31).



**Break:** 15 minutes

*The Habits of Creation Workshop*

### **Part Three- Seeing the Connections to Our Faith**

**Purpose:** To ground ecological concerns in our scriptures and church teachings: to help participants begin to see some of the common threads between our faith and basic ecological principles.



**Advance preparations:** (1) Make slips of paper with various scriptural and other quotes on them (see sampling of appropriate quotes in Appendix D), (2) Display the four ecological principles just discussed (Diversity, Community, Interiority and Regeneration) on wall posters (cut-open grocery bags do well), and (3) have tape or tacks on hand.



**Supporting handouts:** Slips of paper with scripture and quotes on them (see quotes in Appendix B).



**Time needed to do this part:** 25 minutes

Have participants draw the prepared slips of paper with various scriptural and other quotes on them. Each person then reads the quote or the scripture and tapes it under the appropriate ecological principle discussed. Open it for discussion.

## **Part Four – Ecology, Poverty and Development**

**Purpose:** To begin to explore the close relationship between problems of poverty and unequal development on the one hand, and ecological degradation on the other; and to surface and examine some of the specific underlying causes of both.



**Advance preparations:** (1) Preview the DVD, **Renewal**, and (2) select two or three of the parts for viewing during this part of the workshop.

Renewal is a 90 minute documentary made up of 9 individual stories (each about 10-15 minutes in length) about faith communities addressing issues around care of creation. Find more information about this DVD and how to order at:

[www.renewalproject.net](http://www.renewalproject.net)

or

Select a local issue and invite a guest who might speak on the topic. Ask the presenter to address the following question, “What are the problems or causes underlying degradation of both the human community and the ecosystem in the topic you are covering?”

or

Select one of the issues addressed in the Fact Sheets from Appendix E. Divide the group into smaller groups and ask each to discuss one of the issues.



**Supporting handouts:** Fact Sheets from Appendix E (depending on the topics presented), plus any local Fact Sheets.

Small groups will each consider an issue, so make enough copies for each participant in each small group.



**Time needed to do this part:** 60 minutes

20 minutes

Show one of the stories from the Renewal DVD. Ask participants to consider as they view the documentary: “What are the problems or causes underlying degradation of both the human community and the ecosystem in the topic you are covering?”

10 minutes                    Have the group members answer the question they were considering in a general group discussion

Follow with more of the stories depending on the time allowed.

**or**

30 minutes                    Have folks divide up according to topics depending on the size of the group. Topic is presented by the guest presenter or they use the fact sheets from Appendix E. Fact sheet should be read aloud in the group for better understanding of the topic. It is a good idea if using this method to allow for questions around the topic.

20 minutes                    Re-gather as a large group. Each small group should briefly (2-3 minutes) explain their issue and name what they believe to be the underlying cause(s).

10 minutes                    As a large group, discern the common causes (whether loss of diversity, political or cultural powerlessness, lack of control of local resources, etc.) which underlie each of the issues discussed in small groups.



**Break:** 45 minute lunch break (25 minutes for brown bag lunch plus 20 minutes for nature walk).

## **Part Five – Developing Habits of Creation – Teaching Activities For Creative Habits**

**Purpose:** Provide hands-on experiences of creative habits and help surface connections between these and their systemic context (as in, for example, the relationship between our eating and food buying habits, and our agriculture and food production system).



**Advance preparations:** (1) Familiarize yourself with the “creativity concept” (Appendix F). (2) Post the Four Ecological Principles (Diversity, Community, Interiority and Regeneration) on wall posters (cut-open grocery bags do well), and (3) post Wendell Berry’s “Three Questions for Development” (1. What is already here?, 2-What does Nature allow us to do here?, 3-What will Nature help us to do here?)



**Supporting handouts:** Varies (see individual Exercises in Appendix F.)



**Time needed to do this part:** 35 minutes

5 minutes

Introduce the “creativity concept” (Appendix F). Draw attention to posters of the Four Ecological Principles and Wendell Berry’s “Three Questions For Development” and touch on the “habitual”, local nature of ecology and justice problems. Emphasize the need for love (reverence) and skill to develop creative habits.

30 minutes

Select from these Suggested Teaching Activities (Appendix F):

- Groceries, Gardening and Good Health
- Composting For Waste Reduction and Soil Health
- Reducing Waste: Getting To Know Your Garbage...It's Time!
- Energy Audit
- The Hidden Side of the Supermarket
- For the Birds
- To Flush Or Not To Flush? Water Use and Misuse
- Transportation: How Do We Get There From Here?

Or use a Teaching Activity you have developed on your own. Break your large group into small groups of no more than 5-7 Teaching Activities). If too many people want to do an activity, run that activity in two groups, or ask folks to join another group.

Do the Teaching Activities, and then re-gather as a large group. Small groups do not report formally to the big group, but encourage folks to share new insights or skills with each other.

*The Habits of Creation Workshop*

**Part Six – Brainstorming New Habits**

**Purpose:** Utilizing one sector of the economy as it works now, such as “transportation”, participants will brainstorm creative responses, or new habits, at three levels: the **individual**, the **community** and the **systemic**. Participants will then be encouraged to make “action plans” for concrete steps they will take to put their new habits in motion.



**Advance preparations:** Mount a large poster or grid on the wall that looks like this:

	Sector ( <i>Transportation</i> )
Individual	
Communal	
Systemic	



**Supporting handouts:** You may wish to have information available on pertinent legislation, resource organizations, etc.



**Time needed to do this part:** 40 minutes

20 minutes      Have participants choose a sector of the economy to focus the brainstorming. Suggestions: Transportation, Food and Agriculture, Energy, Waste Disposal, or Water.

Based on earlier discussions of problems and underlying causes related to this area, encourage participants to brainstorm what they can do to improve the situation as it is – what new habits of creation they can develop at each of the three levels. “Community” habits are those which must involve more people than simply those in one’s household; “Systemic” responses focus on the laws and institutions related to the subject. Below is a short example of some of the habits that might be brainstormed in the area of Transportation:

- **Individual:** keep my car tuned; walk to the grocery store with the kids; ride bike to work or visit neighbors
- **Community:** carpool to work or church; coordinate shopping/errands with neighbors; form biking or hiking clubs in your community
- **Systemic:** advocate with local officials for bike paths; research transportation subsidies; advocate for equity between mass transit and highway building/maintenance; get involved with your county planning commission.

20 minutes      As participants to gather in their natural groupings: **families, congregational committees, neighborhood groups**, etc.

Drawing on the ideas surfaced today, have each group begin an “action plan” for fostering creative habits. Encourage them, as they work, to

- Be very specific
- Choose at least 2 concrete steps they’ll take within the next 6 months
- Encourage them to consider all three levels of response – individual, communal and systemic

*The Habits of Creation Workshop*  
**(OPTIONAL)**

**Part Six (a) – Opportunity for Developing New Habits**

**Purpose:** Describe organizations in the local community which provide opportunities to develop new habits at the communal and systemic levels, and/or working on social justice issues.



**Advance preparations:** Develop a handout that lists local groups seeking to improve the quality of our environment.



**Supporting handouts:** Sheet of local groups mentioned above.



**Time needed to do this part:** 30 minutes

10 minutes      Gather the group together. Distribute handout, and describe the organizations included. Then, invite the participants to add to the list and/or ask questions.

20 minutes      Ask if there are parishes represented by more than one person. Split into parish groups with the task of discussion the possibility of starting a parish ecology group and identifying the next action steps. If there are people not included in these groups, ask them to explore which groups, if any, might help them to develop creative habits.

## **Part Seven – Closing Prayer and Commissioning**



**Time needed to do this part:** 10 minutes

- Thank everyone for participation
- For closing prayer, have each person (or grouping) share one new Habit of Creation that they plan to carry forth
- Close with a song or “commissioning” ritual (see Appendix B for suggested commissioning)

## **Appendix A – Suggested “Habits of Creation” Cards**

On a scrap or recycled 5x7 cards (cereal boxes work well), use pictures or words to represent common habits. Make a roughly equal number of “bad” and “good” habit cards – and you may wish to color code the cards, perhaps making the “good” cards green and the “bad” cards other colors. The point of these cards is to introduce participants to the daily nature of our involvement in the eco system; therefore they should cover a broad range of ecological topics from food to energy to water to waste. Here are some suggestions to get you going – but be as creative as you can be!

NOTE: Make as many copies of each card as there will be participants. Collect cards after the exercise so that they can be used again.

### **“Good” Habits**

Raising Garden  
Walking to grocery store  
Buying from local (or organic) growers  
Purchasing recycled paper for home or business

Letters to editor about justice/ecology issues  
Composting leaves, kitchen scraps, grass  
Turn off the water when brushing, soaping  
Start a biking club  
Make some Christmas and birthday gifts

Pledge some of Christmas budget to social change groups

Storytelling with kids  
Taking train or bus  
Recycling everything you can  
Family games and singing instead of TV  
Carpooling  
Minimize flushing!  
Buy groceries in bulk  
Start a kid’s ecology club  
Contacting elected officials about justice/ecology issues

### **“Bad” Habits**

Ten or more hours of TV a week  
Driving more than 100 miles a week  
Leaving your thermostat above 67 in winter  
Nintendo

Buying non recycled paper  
Drive through banking and eating

Long, hot showers  
Warming up your car on cold mornings  
Air Conditioning  
Using Styrofoam disposables at meetings  
Lots of fast food meals  
Microwavable and other prepackaged meals

**Appendix B – Readings**

This appendix contains prayers, liturgies, scriptures and readings that can be used in the Habits of Creation process. Feel free to gather and use additional pieces that mean something to you.

Judeo-Christian Scriptures (listing).....	27
Psalms 39.....	29
Music with an Eco-Justice Theme(listing).....	30
Gathering Prayer.....	31
Morning Body Prayer.....	27
The Pacific Women’s Creed.....	27
Statement of Chief Seattle.....	27
Cosmic Walk.....	28
The Assisi Declarations, 1986.....	31
Riverdale Papers, by Thomas Berry (excerpt).....	31
Martin Luther King, Jr.....	31
“Healing”, by Wendell Berry (poem).....	32
“The Work of Local Culture,” by Wendell Berry (excerpt).....	32
Meister Eckhart Meditations.....	33
Commitment Activity.....	34

## **Appendix C – Judeo-Christian Scriptures**

### Hebrew Scriptures

Genesis, Chapter One.....	First creation story
Genesis, Chapter Two.....	Second creation story
Deuteronomy 24:19.....	Commandment: leave some harvest for the poor
Leviticus 25:1-22.....	Earth Sabbath
Leviticus 25:23-28.....	Jubilee Year
Hosea 4: 1-3.....	No justice, the land mourns
Isaiah 2:2-5.....	Swords into plowshares
Isaiah 42:5-7.....	I have called you to serve the cause of justice
Isaiah 44:23.....	Creation gives praise. Thanksgiving for Lord's redemption
Isaiah 45:18-19.....	God is designer and maker of the Earth
Isaiah 58:6-11.....	Fasting is tied to justice
Job 12:7-10.....	Ask the peasants to teach you
Daniel 3:52-90.....	In praise of creation

### *Psalms*

72:1-19.....	Shalom!.....	Justice/Peace
85:2-14.....	Restore again our life.....	Justice/Peace
80:2-20.....	The ravaged vine.....	Pleading
19:1-6.....	The skies reveal God's glory.....	Praise
67:2-8.....	A harvest song.....	Praise
96:1-13.....	Praise the Lord who made the Heavens.....	Praise
100:1-5.....	Let the earth rejoice.....	Praise
104:1-35.....	Praise God the creator.....	Praise
148:1-14.....	Cosmic hymn of praise.....	Praise
23:1-6.....	Restful waters.....	Trust
65:6-14.....	God cares for the earth.....	Trust
84:2-13.....	The beauty of God's earthly dwelling place....	Trust
89:2-17.....	The heavens are yours, the earth is yours.....	Trust
131:1-3.....	A weaned child on its mother's breast.....	Trust

### *Christian Scriptures*

Matthew 13:1-9.....	Sower and seeds
Mark 10:17-22.....	Rich young man
Luke 6:20-26.....	Sermon on the plain
Luke 12:13-14.....	On greed
Luke 12:22-32.....	Lilies on the field

1 Peter 4:10.....Use gifts to serve others  
Romans 6:3-11.....Resurrection  
Colossians 1:15-20.....Jesus as the image of God and firstborn of  
creation  
Colossians 3:11.....Christ is all and in all  
Ephesians 1:17-23.....The power of God and Christ over everything  
Romans 8:18-25.....Creation groaning in hope of freedom and  
redemption

**Appendix D – Psalm 139**

O God, You know me inside and out,  
    Through and through.  
Everything I do,  
    every thought that flits through my mind,  
    every step I take,  
    every plan I make,  
    every word I speak,  
You know, even before these things happen.  
You know my past;  
    You know my future.  
Your encompassing presence covers my every move.  
Your knowledge of me sometimes comforts me,  
    sometimes frightens me;  
    but always it is far beyond my comprehension.

There is no way to escape You, no place to hide.  
If I ascend to the heights of joy,  
    you are there before me.  
If I am plunged into the depths of despair,  
    you are there to meet me.  
I could fly to the other side of our world  
    and find You there to lead the way.  
I could walk into the darkest of nights,  
    only to find You there  
    to lighten its dismal hours.

You were present at my very conception.  
You guided the molding of my unformed members  
    within the body of my mother.  
Nothing about me, from beginning to end,  
    was hid from Your eyes.  
How frightfully, fantastically wonderful it all is!

May Your all-knowing, everywhere-present Spirit  
    continue to search out my feelings and thoughts.  
Deliver me  
    from that which may hurt or destroy me,  
    and guide me along paths of love and truth.

**Appendix E – Music With An Eco-Justice Theme**

1. “We Praise You”, by the Dameans, Remember Your Love
2. “Water From Another Time”, by John McCuthcheon, Water From Another Time
3. From Come and Journey, by Haugen, Haas, and Joncas:
  - “Sing Out Earth and Skies”
  - “God of Day, God of Darkness”
  - “Canticle of the Sun”
4. “Lord, Send Out Your Spirit,” by The Dameans, Path of Life
5. “All the End of the Earth,” by Bob Dufford, Glory and Praise
6. “Lover Of Us All”, by Dan Shutte
7. “Now We Remain” by David Haas
8. “You Are the Voice” by David Haas
9. “Voices That Challenge” by David Haas
10. “Let Justice Roll” by Marty Haugen
11. “O Healing River” by Michael Joncas, arranger, G.I.A. Publishing
12. “Inheritance,” by SGGL, Headin’ South
13. “All You Works of God”, by Haas, Haugen and Livingston, How Can I Keep From Singing

*Habits of Creation Workshop*  
**Appendix F – Beginning Prayers**

**Gathering Prayer**

**Apprehend God in all things, for God is in all things.  
Every sing creature is full of God and is a book about God.  
Every creature is a word of God.  
If I spent enough time with the tiniest creature – even a caterpillar –  
I would never have to prepare a sermon. So full of God is every creature.**

**Meister Eckhart**

Send participants outside to find something from nature that particularly speaks to them about God today. Gather again as a group in a spirit of quiet reflection.

**Song:** “We Praise You” by the Dameans

**Sharing:** (Have group leaders go first to set an example) “We praise you, O God, and we thank you for \_\_\_\_\_, which speaks to us of Your \_\_\_\_\_.”

**Closing Prayer:** “Canticle of the Creatures” by St. Francis of Assisi

**The Morning Body Prayer**

The following describes the “Morning Body Prayer”, also known as the “Prayer to the Four Directions”. Many people from many traditions have created these movements. They are deliberately described in general terms. Feel free to modify or extend them.

Start with East, then South, West and North. Face East, and settle within yourself.

- Slowly raise your left arm, rotating forward, up and all the way around. Rotate entire left side of body in concert with arm movement. This opens your heart to the blessings of the natural world.
- Repeat with your right arm. This opens your heart to the blessings of the world of human traditions.
- Reach down with both hands and gather in the blessings of the Earth. Flex both knees, keeping the back somewhat straight. Hold both hands and bring them up in front of body, then face, and then straight up above the head. With arms extended, open hands and rotate out from each other to give the blessings of the Earth to the heavens.
- Then reverse process to gather in the blessings of the heavens and give to the Earth.

- Stepping forward with left foot, reach out with both hands in an embracing motion to gather in all the blessings of the direction. Holding the blessings to your body, twist around to the right to face the opposite direction. Keeping the flow of the motion, give out the blessings to the universe by simply opening your hands and moving them out and away from you in a sweeping motion.
- Relax arms back to your sides as you twist to the left and face the next direction.

*At the end of the prayer to the North, stand silently for a while.*

*Habits of Creation Workshop*  
**Appendix G – Creeds**

**The Pacific Women’s Creed**

We believe that Creation is a gift from God, and expression of our Creator’s goodness.

We believe that the resources of our lands and waters and air are precious gifts from our creator, to be used and looked after with loving care.

We believe that there is rhythm to God’s creation, like a drum beat. When we lose the rhythm, or the drum is damaged, the music is out of tune.

We believe that as Christians, we are called to be peacemakers, in order that our world and our communities, and each person, may experience the true peace which God promises.

We believe this may sometimes mean “disturbing the peace”, as Jesus did, for a purpose: to restore the purpose of God.

We believe that our Pacific ways are also a gift from God. We are invited to use the values of our Pacific cultures to build societies of justice and peace.

**State of Chief Seattle, 1855**

Teach your children what we have taught our children, that the earth is our mother. Whatever befalls the earth, befalls the children of the earth. If we spit upon the ground we spit upon ourselves. This we know. The earth does not belong to us; we belong to the earth...

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 (sic) as you wish to own our land; but you cannot. He (sic) is the God of ALL people, and (His) compassion is equal for all. This earth is precious to God, and to harm the earth is to heap contempt on its Creator. So love it as we have loved it. Care for it as we have cared for it. And with all your mind, with all your heart, preserve it for your children and love .. as God loves us all.

## **Appendix H – The Cosmic Walk**

*Developed by Genesis Farm, Box 622, Blairstorm, NJ 07825*

This ritual was designed to provide an experience of the awesomeness of the time/space of the universe. You can change and adapt it as you see fit. It conveys the sense of sequence in the earth's unfolding process. It also dramatically conveys the brief history of humanity, as well as the uniqueness of each person's life.

### **Materials:**

- A length of thick yarn or rope to represent the time-line of the universe. We use 180 feet. The line is then divided into intervals when special events took place (see narrative). Tie a piece of colored yarn at each interval so it is always visible (see "Measuring the Yarn" at the end of these instructions).
- A tall candle to be placed at the center of the spiral.
- A "Sabbath" candle or taper to be carried by each participant.
- 23 small vigil candles to be placed at each interval marker. We suggest small glass vigils, or else, have coasters or pieces of cardboard under each candle to catch drippings.

### **Music:**

Use any appropriate solemn or contemplative piece. Our favorite music for this is the "The Fairy Ring" by Mike Rowland.

### **People:**

- One narrator
- One "walker" who is the first to walk the cosmos as the narration is read, and lights the vigil at each cosmic "event"
- All the participants You will need a large space with room for people to sit around the spiral.

### **Procedure:**

The narrator stands off to the side and reads from the prologue to John's gospel, substituting "dream" for "word", as suggested in Dream of the Earth. The walker waits in center of spiral until reading is finished.

NARRATOR: "In the beginning was the dream, the dream was with God and the dream was God. The dream was with God in the Beginning. Through the dream all

things came to be, not one thing had its being but through the dream.” ...And mystery created light.

WALKER: (Strikes match and lights “universe” candle as narrator reads:

NARRATOR: 15 billion years ago, the universe came into being.

WALKER: Pauses. Lights personal candle from universe candle and slowly begins to walk through spiral, pausing at each “event” as NARRATOR reads event and WALKER lights the vigil candle to represent it. In this manner, WALKER continues to end of the spiral.

NARRATOR:

5 billion years ago.....The sun, solar system and planet earth emerged  
3 ½ billion years ago.....Simple bacteria formed and the earth awakened into life  
2 billion years ago.....Oxygen formed in the atmosphere  
1 billion years ago.....Life learned to reproduce itself sexually  
800 million years ago.....Multi-cellular life appeared  
520 million years ago.....The first fish emerged, beginning the development of the earth’s nervous system  
420 million years ago.....The first land plants appeared  
360 million years ago.....The first insects appeared  
220 million years ago.....The first mammals evolved  
180 million years ago.....The first birds took flight  
80 million years ago.....The dinosaurs appeared  
5 million years ago.....Began the great ice ages of the Earth  
100 thousand years ago.....Homo Sapiens appeared  
10 thousand years ago.....Humans discovered agriculture  
7 ½ thousand years ago.....Abraham left Ur in Chaldee  
2 thousand years ago.....Jesus lived in Nazareth  
1 hundred years ago.....Human developed photography  
50 years ago.....Human split the atom  
22 years ago.....Human stood on the Moon and saw the Earth  
Yesterday.....The walls between East and West disintegrated  
Today.....The universe dreams us into existence

WALKER: (Leaves spiral and says) “I am \_\_\_\_\_(name).”

After first walker finishes, others may go to “universe candle”, light their Sabbath candle and walk the journey. At the end, each person should say boldly, “I am \_\_\_\_\_!” or “Today the dream dreams \_\_\_\_\_!”

Be sensitive to the makeup of your group when choosing events in human history. Our version is for a Christian group.

**Measuring the Yarn:** Tie off your intervals by measuring from the end of the walk, moving backward in time to the beginning.

Today through and including 80 million years ago.....	10” mark
130 million years ago.....	1’5”
180 million years ago.....	2’1”
220 million years ago.....	2’6”
360 million years ago.....	4’3”
420 million years ago.....	5’
520 million years ago.....	6’2”
800 million years ago.....	9’7”
1 billion years ago.....	12’
2 billion years ago.....	24”
3 ½ billion years ago.....	42’
5 billion years ago.....	60’

## **Appendix I – Statements and Quotations**

### **The Assisi Declarations, 1986**

What is needed today is to remind ourselves that nature cannot be destroyed without mankind ultimately being destroyed itself. With nuclear weapons representing the ultimate pollutant, threatening to convert this beautiful planet of ours into a scorched cinder unable to support even the most primitive life forms, mankind is finally forced to face its dilemma. Centuries of rapacious exploitation of the environment have finally caught up with us and a radically changed attitude towards nature is now not a question of spiritual merit or condescension, but of sheer survival.

This earth, so touchingly looked upon in the Hindu view as the Universal Mother, has nurtured mankind up from the slime of the primeval ocean for billions of years. Let us declare our determination to halt the present slide towards destruction, to rediscover the ancient tradition of reverence for all life, and even at this late hour, to reverse the suicidal course upon which have embarked. Let us recall the ancient Hindu dictum: The Earth is our mother, and we are all her children.

### **Riverdale Papers, by Thomas Berry**

There is an awe and reverence due to the stars in the heavens, the sun and all heavenly bodies, to the seas and the continents, to all living forms of trees and flowers, to all the forms of life in the sea, the animals of the forests and the birds of the air. To destroy a living species is to silence forever a divine voice.

### **Martin Luther King, Jr., Nobel Peace Prize Acceptance Speech**

I have the audacity to believe that peoples everywhere can have three meals a day for their bodies, education and culture for their minds, and dignity, equality and freedom for their spirits. I believe that what self-centered men have torn down, other-centered people can build up. I still believe that one day humanity will bow before the altars of God and be crowned triumphant over war and bloodshed, and non-violent redemptive goodwill will proclaim the rule of the land. And he lion and the lamb shall lie down together and every man shall sit under his own vine and fig tree and one shall be afraid. I still believe that we shall overcome.

**Riverdale Paper, by Thomas Berry**

Extinction is an eternal concept. It is not at all like a killing of individual life forms that can be renewed through normal processes of reproduction. Nor is it simply diminished numbers. Nor is it damage that can somehow be remedied, or for which some substitute can be found. Nor is it something that simply affects our own generation. Nor is it something that can be remedied by some supernatural power. No! It is an absolute and final act for which there is no remedy on earth or in heaven. A species once extinct is gone forever. However many generations succeed us in the coming centuries, none of them will ever see a passenger pigeon in flight or any of the other living forms that we extinguish.

## **Appendix J – Wendell Berry Excerpts**

Wendell Berry is a Kentucky farmer and essayist. From his experience on his small farm, he writes eloquently of ecology, culture, and community.

**Healing**, excerpted from What Are People For.

I

The grace that is the health of creatures can only be held in common.

In healing the scattered members come together.

In health the flesh is graced, the holy enters the world

II

The task of healing is to respect oneself as a creature, no more no less.

A creature is not a creator, and cannot be. There is only one Creation, and we are its members.

To be creative is only to have health: to keep oneself fully alive in the Creation, to keep the

Creation fully alive in oneself, to see the Creation anew, to welcome one's part in it anew.

The most creative works are all strategies of this health.

Works of pride, by self-called creators, with their premium on originality, reduce the Creation to novelty – the faint surprises of minds incapable of wonder.

Pursuing originality, the would-be creator works alone. In loneliness one assumes a responsibility for oneself that one cannot fulfill.

Novelty is a new kind of loneliness.

**From “The Work of Local Culture”, from What are People For, 1990**

For many years, my walks have taken me down an old fencerow in a wooded hollow on what was once my grandfather's farm. A battered galvanized bucket is hanging on a fence post near the head of the hollow, and I never go by it without stopping to look inside. For what is going on in that bucket is the most momentous thing I know, the greatest miracle that I have every heard of: it is making earth. The old bucket has hung there through many autumns, and the leaves have fallen around it and some have fallen into it. Rain and snow have fallen into it, and the fallen leaves have held the moisture and so have rotted. Nuts have fallen into it, or been carried into it by squirrels; mice and squirrels have eaten the meat of the nuts and left the shells; they and other animals have left their droppings; insects have fallen in to the bucket and died and decayed; birds have scratched in it and left their droppings or perhaps a feather or two. This slow work of growth and death, gravity and decay, which is the chief work of the world, has by now produced in the bottom of the bucket several inches of black humus. I look into the bucket with fascination because I am a farmer

of sorts, and I recognize there an artistry and a farming far superior to mine, or that of any human. I have seen the same process at work on the top of boulders in a forest, and it has been at work immemorially over most the land surface of the world. All creatures die into it, and they live by it.

The old bucket is doing in a passive way what a human community must do actively and thoughtfully. A human community, too, must collect leaves and stories, and turn them to account. I must build soil, and build that memory of itself – in lore and story and song – that will be its culture. These two kinds of accumulation, of local soil and local culture, are intimately related.

## **Appendix K – Meditations with Meister Eckhart**

Meister Eckhart was the head of a 13<sup>th</sup> century monastery. His sermons and writings have inspired reflection and contemplation down through the centuries.

What is my name?  
What is your name?  
What is God's name?  
Our name is: that we must be born.  
And the Creator's name is: to bear  
The soul alone among all creatures is  
Generative like God is. We are all  
meant  
To be mothers of God.

Because this Word is a hidden Word, It  
comes  
in the darkness of night.  
To enter this darkness put away all  
voices and  
sounds all images and likenesses.  
In stillness and peace In this unknowing  
knowledge God speaks in the soul and  
becomes fully expressed there.  
for no image has ever reached into the  
soul's  
foundation where God him/herself with  
his/her  
own being is effective.

In this birth you will discover all  
blessing.  
But neglect this birth and you neglect  
all blessing.  
Tend only to this birth in you and you  
will find  
there all goodness and all consolation,  
all delight, all being and all truth.

It is good for a person to receive God  
into

Himself or herself and I call this  
receptivity the  
Work of a virgin. But it is better when  
God  
Becomes fruitful within a person. For  
Becoming fruitful as a result of a gift is  
the  
Only gratitude for the gift. I call such a  
person  
a wife and in the same sense the term  
wife is the  
noblest term we can give the soul. It is  
far  
nobler than virgin. Every day such a  
person  
bears fruit a hundred times or a  
thousand  
times, giving birth and becoming  
fruitful out  
of the most noble foundation of all.

Pay attention now to exactly where this  
birth  
takes place: This eternal birth takes  
place in  
the soul totally in the manner in which it  
takes  
place in eternity, neither more or less.  
There is only one birth –  
and this birth takes place in the being  
and in the  
ground and core of the soul.

This birth takes place in darkness.  
And not only is the Son of the heavenly

Creator born in this darkness – but you  
too are  
born there as a child of the same  
heavenly  
Creator and none other. And the  
Creator  
extends this same power to you out of  
the  
divine maternity bed located in the  
Godhead to  
eternally give birth.

Let me express myself in even a clearer  
way.  
The fruitful person gives birth out of the  
very  
Same foundation from which the  
Creator  
Begets the eternal Word or Creative  
Energy  
And it is from the is core that one  
becomes  
Fruitfully pregnant. And in this power  
of

Birthing God is as fully verdant and as  
wholly  
Nourishing in full joy and in all honor  
as S/he  
Is in Her/Himself. The divine rapture is  
Unimaginably great. It is ineffable.

What good is it to me if this eternal  
birth of  
The divine Son takes place unceasingly  
but  
Does not take place within myself?  
And, what good is it to me if Mary is  
full of  
Grace and if I am not also full of grace?  
What good is it to me for the Creator to  
give  
Birth to His/Her Son if I do not also  
give birth  
To Him in my time and my culture?

This, then, is the fullness of time:  
When the Son of God is begotten in us.

## **Appendix L-Commitment Activity**

**NOTE:** *Have one “Hug a Planet” soft globe on hand*

### CLOSING PRAYER

**Leader** Give thanks to the Lord, for God is good. God’s mercy endures forever. (Daniel 3:89)

We join with the earth and with each other.

**ALL** To bring new life to the land, to restore the waters, to refresh the air.

**Leader** We join with the earth and with each other.

**ALL** To renew the forests, to care for the plants, to protect the creatures.

**Leader** We join the earth and with each other.

**ALL** To celebrate the seas, to rejoice the sunlight, to sing the song of the stars.

**Leader** We join with the earth and with each other.

**ALL** To recall our covenant, to renew our spirits, to reinvigorate our bodies.

**Leader** We join with the earth and with each other.

**ALL** To create the human community, to promote justice and peace, to remember our brothers and sisters.

**Leader** We join together as many and diverse expressions of one loving mystery: for the healing of the earth and renewal of all life.

### COMMITMENT ACTIVITY

Hug the earth

Give thanks for one thing

Commitment to a new “Habit of Creation”

**Leader** And all God’s people say...

**ALL** **AMEN!**

## **Appendix M – Understanding Four Basic Ecological Principles**

The earth is an extraordinary body, so full of life and energy, of diverse parts acting together, that some have likened it to an organism. This biosphere is comprised of hundreds of different ecosystems, distinct communities of plants and animals, and the water, air, soil and mineral resources that support them.

Ecosystems are like neighborhoods, or perhaps like neighborhoods of years past. All the “neighbors” interact with each other, either directly – a bee pollinating a berry flower, a fox eating a squirrel – or indirectly, as when rain leaches nutrients from deer droppings, which in turn enter a stream, fueling the growth of algae, a source of food for the fish.

Ecosystems vary in size, complexity, and vulnerability to human intervention. Some, like tropical forests or coastal wetlands are extremely sensitive and easily damaged. Other systems, like the mixed hardwood forests of Southwest Virginia are more resilient, more adaptable to changes and interventions. Unfortunately, these more resilient ecosystems have often sustained more protracted damage.

There are three basic principles inherent in all natural ecosystems:

- 1. Diversity**
- 2. Interconnectedness (or Community)**
- 3. Regeneration**

Each of these is discussed briefly below along with a related principle:

- 4. Interiority**

### **Principle One – Diversity enhances the health and stability of ecosystems.**

Diversity is that dynamic within the evolutionary process that leads to an increasing complexity and variety of expressions. From its beginning in hydrogen to the unnumbered variety of species today, the universe has been coded to become increasingly more complex differentiated. Evidence from biology, physics, and geophysics suggests that the greater the variety of parts that make up an organism, or system, the healthier that organism or system is.

The **diversity** of natural communities – the range of plant and animal creatures – varies widely across the globe. At one end of the spectrum are the tropical rain forests, where an area as small as 2 ½ acres has been shown to harbor over 230 different species. At the other end are the polar regions and high altitude systems which contain relatively few species. In all parts of the world that support a significant amount of life, **diversity** tends to make the ecosystem more adaptable,

more resilient, and more stable. A wide range of plants and animals means a broader genetic pool, a greater number of ways in which the soil, water and other elements are utilized, and greater resistance to disease or catastrophic changes, be they natural or human made. Thus when **diversity** is eroded – for example, when a forest is clearcut and row crops of cotton are planted in its stead – the stability and health of the system declines dramatically.

**Principle Two – All of the creatures in a given natural community are interconnected with one another and with the elements that sustain them.**

Creation as a whole functions as a living, maturing system. Just as every part of a living body is in communion with every other part, so everything in the universe is in communion with everything else in the universe. All that exists is interdependent and interrelated in an unbroken bond of communion. Like the deer and the fish described above, virtually all living creatures interact with each other and the water, soil and air within the ecosystem. These **interconnections** comprise the central nervous system of the community, sending messages, regulating interactions, maintaining the neighborhoods overall health and adaptability.

**Principle Three – Through the death and decay of plants and animals and the erosion of minerals, all material is recycled in the natural system, regenerating fertility and life.** Many of these interactions involve decay or death. In a healthy ecosystem, none of this death is wasted (try telling that to the squirrel eaten by the fox!) for it inevitably leads to new life, or **regeneration**, the third basic principle. In nature there is no trash or “waste”. All dead tissue is composted into the soil and becomes the nutrients of new life. Along with the energy of the sun and the elements of the atmosphere, this **regeneration** process is what makes creation vibrant and sustainable.

**Principle Four – All living creatures and every natural element have interiority, that is they are endowed by the Creator with both a sacredness and an integrity, a wisdom of their own.** Interiority is that principle which recognizes that every being of the universe possesses a unique identity and integrity since everything is a revelation of the divine. Everything in nature is a face of God. Every being, from individual atoms to individual persons to individual solar systems to individual galaxies, has a non-material center, an inner intelligence.

Though this is more a theological concept, it relates closely to the ecological principles discussed above. Interiority means that all natural elements are sacred and holy, for the simple reason that they, like humans, were created by God. The same all knowing and all powerful being who brought forth people “on the sixth day”, brought forth all of the elements and creatures in the preceding five. As St. John of Damascus said, “I do not worship matter. I worship the Creator of matter, who became matter for my sake, who willed to take his abode in matter; who worked out my salvation

through matter ... I honor it, but not as God. Because of this I salute all remaining matter with reverence, because God has filled it with his grace and power.”

Along with the idea of the sacredness of each and every element of creation is the idea of their inherent integrity, that is the meaningfulness or wisdom with which each is endowed. Put simply, a limestone rock, a decomposing micro-organism, and a grey wolf all exist for a reason, and all contribute thoughtfully to what Wendell Berry has called “an inconceivable multiplicity of beings acting in an inconceivable network of relations to create an inconceivable unity.” Each, therefore, has an inherent wisdom, a basic teaching function available to anyone who would observe.

*References on these principles:*

Thomas Berry. Dream of the Earth. Sierra Club Books, San Francisco, 1988. See Pages 45-49.

Brian Swimme and Thomas Berry. The Universe Story. Harper Brooks, San Francisco, 1992. See pages 73-79.

Michael Dowd. Earth Spirit. Twentythird Publications, Mystic, Conn., 1991. See Pages 41-45.

Wendell Berry. “An Argument for Diversity”, essay in What Are People For?, North Point Press, San Francisco, 1990.

## **Appendix N – An Exercise For Making Connections Between Faith and Ecology**

These quotes are meant to be used in “Part Three – Seeing the Connections To Our Faith”. We recommend that you photocopy this page and Page 23, and then cut each sheet apart into individual quotes. Make enough copies for each participant to have at least one quote.

For the Lord your God is bringing you  
into a  
Good land,  
A land of flowing streams,  
With springs and underground waters  
welling  
Up in valleys and hills,  
A land of wheat and barley,  
Of vines and fig trees and  
pomegranates,  
A land of olive trees and honey,  
A land where you may eat bread  
without  
Scarcity

*Deuteronomy*

8:7-11

Hurt not the earth,  
neither the seas or the trees.

*Old*

*Testament*

The arrow of Christ’s cross is a sign of  
Contradiction. It pierced the earth and  
Brought death, but it bore love and  
opened up  
Life. It was a saving arrow in the center  
of all  
History, a revolutionary beauty burst  
upon

The timeless evolutionary scene –  
something  
Radically new and glorious.

*Seasons of the Heart, by ??*

*Fitzgerald*

I am the vine, you are the branches.  
The person who lives in me and I in that  
person,  
will produce abundantly, for apart from  
me  
you can do nothing.

*Jesus, in John*

15:5

I solemnly assure you, unless the grain  
of  
Wheat falls to the earth and dies, it  
remains  
Just a grain of wheat.  
But if it dies, it produces much fruit.

*Jesus, in John*

12:24

One must take into account the nature  
of  
Each being and of its mutual connection  
in an  
Ordered system, which is precisely the  
cosmos.

*“On Social Concerns”, by Pope  
John Paul II*

We suggest setting up a Care of the  
Earth  
Ministry at every level of Church  
organization – from the basic Christian  
communities, through the parish  
structure  
and diocesan offices up to the national  
level.

*“What Is Happening To Our  
Beautiful  
Land?”, 1988 Pastoral Letter of the  
Filipino  
Bishops*

You set springs gushing in ravines,  
flowing between the mountains,  
giving drink to wild animals,  
drawing thirsty wild donkeys.  
The birds of the air make their nests  
and sink among the branches nearby.  
From your place you water the hills,  
You fill the earth with your fruit of your  
works.  
You make fresh grass grow for cattle,  
and fruit bear for your people.  
You bring forth food from the earth...

*Psalm*

*104:10-14*

Praise God, who is good;  
sing praise to our God, who is gracious.  
But now ask the beasts to teach you,  
and the birds of the air to tell you  
and the fish of the sea to inform you.  
Which of all these does not know  
That the hand of God has done this?  
In his hand is the soul of every living thing,  
And the life breath of all mankind.

*Job 12:7-10*

It is fitting to praise God.  
God rebuilds Jerusalem,  
Gathers the exiles of Israel.  
God heals the brokenhearted  
And binds up all their wounds.

*Psalm 147:1-3*

For the Catholic Christian, conversion and  
salvation occurs in the wheel – the faith  
community with the cross at its center. Our  
salvation involves an ongoing dance around

the wheel. Salvation is not a pitched camp, not simply an “I’m saved” snug harbor. It is more of a run and a dance, a lively spinning of the circle whose energy is to bring more harmony “out there”. It is ultimately not a “care-free dance”, but rather a “freed to care dance”.

*Seasons of the Earth and Heart,  
By ? Fitzgerald*

Arise, my beloved, my beautiful one, and  
Come! For see, the winter is past,  
The rains are over and gone,  
The flowers appear on the earth,  
The time of pruning the vines has come,  
And the song of the dove is heard in our land.

*Song of Solomon, 2:10-12*

“Which of these three, in your opinion, was Neighbor to the man who fell in with the Robbers?”

“The one who treated him with Compassion.”

Jesus said, “Then go and do the Same.”

Remember, God, that at your command

*Luke 10:36-37*

I provided from my elements the flesh and blood of the Savior.

I fed, sheltered and clothed his body.

And for the salvation of the world I, too, though innocent, was crucified with him.

I mourned, anointed and entombed him,

I, I alone witnessed his most holy rising.

Yet I am treated with utter contempt – torn, abused, scourged and violated.

How long, O Lord, must I and all creation Await deliverance?

Turn our death throes into birth pangs.

*Maryknoll Sisters, March 1993*

The body is one and has many member, but

all the members, many though they are, are one body; and so it is with Christ. It was in one Spirit that all of us, whether Jew or greek, slave or free, were baptized into one body. All of us have been given to drink of the one Spirit.

*Corinthians 12:12-13*

There is but one body and one Spirit, just as there is but one hope given all of you by your call. There is one Lord, one faith, one baptism; one God and Father of all, who is over all, and works through all, and is in all.

*Ephesians 4:4*

Just when they thought it was all over, a new mestizo Christianity unfolds. We are slowly ... learning that there is no other kind. Christ takes on the face of each people he loves.

*Richard Rohr, reflecting the story of  
Our Lady of Guadalupe*

...the Christian life involves detachment from superfluous goods and the acceptance of a poverty that sets us free, and enables us to discover God's presence and to welcome our brothers and sisters with an ever more active solidarity and in an ever wider fellowship.

*Pope John Paul II, 1993 Lenten Message*

*Habits of Creation workshop*

## **Appendix O – Fact Sheets for Ecology and Poverty Exercise**

The Fact Sheets that follow are to be used with “Part four – Ecology, Poverty and Development”. Select any that you wish to use for your workshop or make up your own around a significant local issue. Copy enough of each Fact Sheet so that everyone in that small group can have a copy.

### **Fact Sheets Included are:**

Food and Agriculture  
Cars and the Environment  
Haitian Poverty and Development  
Consumerism  
Coal Mining and Mountaintop Removal  
Global Climate Change

## *Habits of Creation Workshop*

### **Fact Sheet on Food and Agriculture**

Ramon Gonzales was a relatively healthy Mexican farm worker from the state of Oaxaca. In 1981, Ramon died at the age of 20 after first becoming sick while picking tomatoes in the fields of the Culiacan Valley. Ramon had also bathed in one of the irrigation canals (there was no other source of running water) which were generally contaminated with herbicides and insecticides. Doctors who examined Ramon prior to his death concluded he was suffering from pesticide poisoning.

Ramon Gonzales, in all probability, died as a result of acute exposure to insect and weed killers. The tomatoes he and thousands of other Mexican migrants were picking ended up in U.S. supermarkets, as did peppers, squash, cucumbers, eggplants and other vegetables. These were raised on vast, irrigated farms in northern Mexico, an area generally regarded as a model of agricultural modernization and productivity.

Ramon Gonzales was one of an estimated 20,000 people who die each year from pesticide poisoning; most of them farm workers (United Nations report, 2004). According to the UN report, there are an estimated 1 to 5 million cases of pesticide poisoning each year resulting in several thousand fatalities.

According to Dr. Angus Wright, who studied the farm workers and system of northern Mexico, the precise cause of farm worker death is usually difficult to determine because so many factors contribute to their poor health; contaminated drinking and bathing water, extremely poor housing, lack of health care facilities, and malnutrition resulting in a large part from very poor wages. Like farm workers of southern California, west Texas and Virginia, most of these people are hundreds, even thousands of miles from their home. Their labor helps make food abundant and cheap for American consumers.

As professor Wright has asked, “Why is it that people like Ramon can no longer make a living from their own land and must work instead where they own nothing and control nothing and where their only apparent future is to move on to work in some other alien land?”

#### **Some further facts:**

- It is commonly believed that pesticides and other contaminants will be filtered out by draining through the soil. But since 1980 research by the Iowa Geological Survey and other Iowa agencies has shown that many agricultural chemicals do not decompose as readily as expected and that, instead of clinging to surface soil, they often percolate quickly into underground water-bearing formations. About 785,000 people, or 27 percent of Iowa’s residents, drink water containing traces of one or more pesticides, a recent study said.
- Very large farms are often touted as highly productive because they achieve “economies of scale”. However such farms
  - a) become highly dependent on petroleum-based fertilizers and potent pesticides because their size makes organic or low-input methods more difficult.
  - b) Rely either on low wage, often migrant labor (fruits, vegetables) huge machinery (grains, animals)
  - c) Receive the bulk of federal farm subsidy payments (three quarters of all disbursements going to the top-grossing 10 percent of growers)
- Organic or “low-input” farming can equal or exceed the productivity of conventional farms on a per acre basis. What’s more, a recent study by Rutgers University demonstrated that organically grown vegetables had from two to ten times more calcium, potassium, magnesium and trace minerals than conventionally grown produce.
- The huge farms of southern California, northern Mexico and other regions are part of our “export oriented” agriculture system, which sends fruits, vegetables, meats and grains from these vast farms to cities, towns and even rural areas across the country. In addition to the impact this has on food quality and energy use (for transport and storage), this system ensures that farmers receive a small share of the food’ retail price, about 20% in 2002. The remaining 80% is absorbed by transportation, storage, packaging, advertising, etc. (USDA Economic Research Service).
- Americans spend about 12.8% of their income for food with 5.7% of than on food eaten away from home (US Dept. of Labor 2007). This compares with nearly 50% among developing nations of the world.

- There have been two major changes in U.S. farms between 1989 and 2003. First, farm size shifted toward the smallest and the largest sales classes. Specifically, small farms with annual sales of less than \$10,000, very large farms, non family farms increased in number. At the same time, the number of small farms with annual sales between \$10,000 and \$249,999 declined.

**Some Thought Questions:**

- 1) What concerns, if any, do you have about our food and agriculture system? What impact do you think the current system has on the poor, on human and natural communities?
- 2) Do you believe we can farm creatively, that is with greater respect for farmers, farm workers and the eco system? How?
- 3) How are we – our households, parishes and communities – a part of this issue?

## **Fact Sheet on Cars and the Environment**

American cars and light trucks use over 8 million barrels of oil a day. An average car emits 35 pounds of carbon dioxide every day! In an August 2007 report on cars and carbon, the Environmental Defense Fund reported that per-vehicle emissions is still increasing, 4 percent higher than it was in 1988. This is due largely to the popularity of SUVs, which automakers classify as light trucks to lower the CAFÉ standard they're required to meet and the lack of CAFÉ standards for heavier light trucks such as the Hummer H and the F250 pickups.

Certain manufacturers have shown it is possible to cut the CO<sub>2</sub> emissions rate and still make a profit while significantly reducing carbon emissions through creative design and new technologies. The average CO<sub>2</sub> emissions rate from new vehicles fell 3 percent from 2004 to 2005 – the first drop in nearly two decades. Mark Warner, CEO of Sun Farm believes that making the first step toward sustainable transportation is switching to hybrid vehicles. The American fleet turns over every 7 to 8 years. If everyone in the US switched to a hybrid vehicle fueled by gas 10 million barrels of oil per day would be saved. The United States would be independent of imported oil.

Mass transit is a viable option to driving one's own car but it necessitates a change in the infrastructure of many communities and is often not perceived as feasible or practical for small communities. While difficult, it is possible. What is required is a change in the way we see things, the priorities we place on budgets and land usage.

While challenging our communities to create or improve existing mass transit service, there is much we can do in our individual lives right where we are. Each of us who owns a car makes important choices which affect our environment either for the positive or the negative. Owning a car brings with it a responsibility to the environment, a responsibility that begins when we go car shopping, continues as we use that car and culminates in the way in which we dispose of the car and/or automotive products.

When purchasing a new or used automobile, consider gas mileage both in the city and in the highway. When operating and maintaining your car, make sure it is properly maintained. A properly tuned engine is 9%

more efficient than a car that is improperly tuned, and properly filled tires will raise the efficiency another 6%. Make sure the garage you patronize recycles motor oil, antifreeze and CFCs.

Responsible car ownership can go a long way toward better stewardship of our environment. However, the best thing you can do is leave your car at home. Car pool or use mass transit whenever and wherever possible. Better yet, walk or bike – you and the environment will be in better shape!

**Some further facts:**

- Budget figures for the state of Virginia’s budget for the present fiscal year from the Department of Transportation:
  - a) \$1,047,658,628 for systems construction
  - b) \$1,583,253,995 for maintenance of highways and roads
  - c) \$694,164,198 for mass transit
- The United States transportation sector emits more CO<sub>2</sub> than all but three other countries’ emissions from all sources combined.
- The average American automobile is driven about 11,900 miles each year.
- The average per capita gas consumption in the US cities is four times that of average Western European cities and ten times that of Tokyo, Singapore and Hong Kong (Worldwatch Paper)

## **Fact Sheet on Consumerism**

“In one night I saw advertised an array of gadgets and comforts beyond the wildest dreams of any previous generation. Products and experiences beyond a king’s rich in former times are now offered as Christmas gifts among America’s affluent. The evening’s fare included automatic garage doors, wrist watches with built-in computer calculators, electronic toys that simulate battles in outer space, coffeemakers with an alarm system that starts your coffee perking before you get up in the morning, cocktail mixes for before dinner, wines to accompany it, and liquors to polish it off, designer jeans to make you sexy, perfumes guaranteed to inflame any passion, and a special one-way trip to Florida reduced to just \$99.00 so that anybody can afford it (an absurdity to poor people in neighborhoods like mine). In that one Madison Avenue phrase, poverty was abolished; the poor no longer existed! All these consumer “goods” were far beyond what any of us could ever need, especially in a world where millions of people find themselves locked in daily battle for mere survival.”

Jim Wallace, “The Call to Conversion”

When the burden of his older sister’s unemployment became too tough for his family to bear, 18 year old Miguel Angel Ortega of Chihuahua, Mexico decided to pitch in. The gangly youth, who dreams of becoming an accountant, took the best job he could find: sorting greeting cards for Hallmark Cards, Inc. at 80 cents per hour. “The pay is low, but the little I get is good for the family,” says Ortega, who for a time became the family’s biggest breadwinner on his Hallmark pay.

Mexico’s labor exploitation record is abysmal. Although the country boasts of labor laws often more stringent than American ones, the laws seldom protect those who the most protection. Wages are often barely enough to support a living, workplace safety can be inadequate, and workers often are powerless to organize for improvements. Into this environment, Hallmark, “When you care enough to send the very best”, and other American companies have moved in to take advantage of the desperate condition of the poor in third world countries.

### **Some further facts:**

- A child born in the United States puts a far heavier burden on the world's resources than one born in a poor developing country. Each American uses 28 times the energy of a person living in a developing country.
- Support for the affluent lifestyle of the world's wealthiest has been the driving force for damage to the Earth's resource base. Twenty percent of the world's people consume eighty percent of the Earth's resources.
- Stone-and acid-washed jeans are causing forests to be strip-mined for pumice, the rock used to give jeans the bleached look.
- Ninety percent of American new cars have air conditioning; Air conditioning can decrease fuel efficiency by as much as 12 percent in stop-and-go traffic.
- We spend 50 billion dollars a year on advertising which tells us from our earliest years that we are inadequate because of the products we lack.

## **Fact Sheet on Coal Fired Power Plants and Mountain Top Removal**

With the threat of foreign oil supplies becoming unavailable, coal becomes the most easily attainable source of fuel for heating and electrical generation. But it comes with a cost. Coal plants are also the largest domestic source of the greenhouse gas carbon dioxide, emitting 2 billion tons annually, about a third of the total for the country. The promise of cleaner technologies loses credence as the underlying profit motive becomes clearer. The risk is too high.

There's a 50 percent chance that your electricity comes from a coal-fired electric plant. More than 60 percent of the coal in this country is extracted using mountain top removal mining, which blasts the top off of mountains and moves the rubble into valleys. The result is destroyed forests, damaged communities, drifting haze, and rock and mining deposits that clog streams and hollows. As of 2001, 1,200 miles of Appalachian streams are buried by mining waste and 470 mountains have been lost due to mountaintop removal coal mining. Hazardous materials from the mines threaten the health of nearby communities. (Federal Programmatic Environmental Impact Statement on Mountaintop Removal Coal Mining, October 28, 2005).

### **Some further facts:**

- According to the [U.S. Environmental Protection Agency](#):

“The impact of mountaintop removal on nearby communities is devastating. Dynamite blasts needed to splinter rock strata are so strong they crack the foundations and walls of houses. Mining dries up an average of 100 wells a year and contaminates water in others. In many coalfield communities, the purity and availability of drinking water are keen concerns.”

- This is occurring right at the heart of one of the nation's main hotspots of biological diversity. According to the Nature Conservancy, the mountain region including southwest Virginia, southern West Virginia,

eastern Kentucky and northeastern Tennessee contains some the highest levels of biological diversity in the nation.

- Mountaintop removal strip mining is so profitable for the coal companies precisely because it replaces most of the need for labor with highly destructive, but nonetheless efficient, explosives and machinery. Although coal production rose 32 percent between 1981 and 1997, mining jobs dropped by 29 percent over the same period. Source: [\*Citizens of Coal Council\*](#)
- The Appalachian Highlands are characterized by some of the best and most diverse forest habitats in the world. Current reclamation practices are unable to restore native mixed hardwood forests, but rather replace these ecosystems with fields of non-native grasses. These changes in habitat may significantly impact neotropical bird populations, native salamander populations and other sensitive species. Source: [\*Trial Lawyers for Public Justice\*](#)
- Technologies for alternative sources of energy are currently available such as solar and wind generation and need to be considered.

## **Fact Sheet On Global Climate Change**

Photographs taken from the Apollo missions changed the way we see earth. For the first time we saw it as the fragile glowing blue-white sphere suspended in the black velvet stillness of space. One fourth grade child puzzled over the comparison of a classroom globe along side the Apollo photograph and observed: “There are no countries on the earth in the picture.” And right she was; observed from space there are no borders between countries, no dividing lines. The earth is our home, our whole wide world. We all breathe the same atmosphere. It evolved over billions of years at an exact rate that allowed life to unfold. Taking care of our air, our atmosphere is not just the job of one but the task of all if we are to survive.

The temperature of our planet is rising. The facts have been established by researchers who have gathered data over the past century. To track the changes and analyze them the United Nations Environment Programme and the World Meteorological Organization established the Intergovernmental Panel on Climate Change (IPCC). IPCC is made up of a large number of scientists who consult sharing data and making reports so it is therefore considered the most authoritative source possible on climate change.

IPCC issued a Third Assessment Report in 2001 finding strong evidence of the change and concluded, “most of the observed warming over the last 50 years is likely to have been due to the (human-induced) increase in greenhouse gas concentrations”. According to IPCC the rate of warming during this century appears to be the greatest increase in the last thousand years. Precipitation has increased in the northern regions and drier conditions increased in the subtropics. Snow cover and mountain glaciers as well as Arctic sea ice are melting resulting in a sea level rise of four to eight inches.

The delicately balanced gases in our atmosphere protect our plant from the intense heat and light of the sun make it habitable. If the mixture of these gases changes our atmosphere is altered. An increase in these gases including carbon dioxide causes the earth’s atmosphere to trap more of the Sun’s heat and results in what we call “global warming”. The major producers of these green house gases are a result of our industrial revolution

which was built on furnaces and engines which burn fossil fuels such as coal, natural gas and oil.

Global Climate Change will affect all of us. However, the first to be disproportionately affected will be the poor, the vulnerable, and generations yet unborn. There will be flooding of coastal areas as the sea rises. Storms will be more intense, droughts will leave wide areas as deserts. Diseases will increase along with famine and hunger.

### **Some further facts:**

- The number of Category 4 and 5 hurricanes has almost doubled in the last 30 years. (2)
- Malaria has spread to higher altitudes in places like the Colombian Andes, 7,000 feet above sea level. (3)
- The flow of ice from glaciers in Greenland has more than doubled over the past decade. (4)
- At least 279 species of plants and animals are already responding to global warming, moving closer to the poles.(5)
- If the warming continues, we can expect catastrophic consequences.
- Deaths from global warming will double in just 25 years – to 300,000 people a year.(6)
- Global sea levels could rise by more than 20 feet with the loss of shelf ice in Greenland and Antarctica, devastating coastal areas worldwide. (7)
- Heat waves will be more frequent and more intense.
- Droughts and wildfires will occur more often.
- The Arctic Ocean could be ice free in summer by 2050.(8)
- More than a million species worldwide could be driven to extinction by 2050.(9)
- There is no doubt we can solve this problem. In fact, we have a moral obligation to do so. Small changes to your daily routine can add up to big differences in helping to stop global warming.

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<sup>1</sup>According to the Intergovernmental Panel on Climate Change (IPCC), this era of global warming “is unlikely to be entirely natural in origin” and “the balance of evidence suggests a discernible human influence of the global climate.”

<sup>2</sup>Emanuel, K. 2005. Increasing destructiveness of tropical cyclones over the past 30 years. *Nature* 436: 686-688

<sup>3</sup>World Health Organization

<sup>4</sup>Krabill, W., E. Hanna, P. Huybrechts, W. Abdalati, J. Cappelen, B. Csatho, E. Frefick, S. Manizade, C. Martin, J. Sonntag, R. Swift, R. Thomas and J. Yungel. 2004. Greenland Ice Sheet: Increased coastal thinning. *Geophysical Research Letters* 31.

<sup>5</sup>Nature

<sup>6</sup>World Health Organization

<sup>7</sup>Washington Post, "Debate on Climate Shifts to Issue of Irreparable Change," Juliet Eilperin, January 29, 2006, Page A1.

<sup>8</sup>Arctic Climate Impact Assessment. 2004. *Impacts of a Warming Arctic*. Cambridge, UK: Cambridge University Press. Also quoted in *Time Magazine*, *Vicious Cycles*, Missy Adams, March 26, 2006.

<sup>9</sup>Time Magazine, *Feeling the Heat*, David Bjerklie, march 26, 2006.

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*Habits of Creation Workshop*

**Appendix F – Habits of Creation Teaching Activities**

The activities following are to be used as needed with “Part 5 – Developing Habits of Creation – Teaching Activities for Creative Habits”. Materials in this appendix include:

What are “Habits of Creation?” .....65

**Teaching Activities Included**

Groceries, Gardening and Good Health.....67

    SUPPLEMENT: Organic Foods: Are they Worth the Extra Expense?..68

    SUPPLEMENT: Community Supportyed Agriculture: An Alternative  
    Approach To Growing and Buying our Food.....70

Composting for Waste Reduction and Soil Health.....72

    SUPPLEMENT: Composting: Everything You Always Wanted to Know  
    But Were Afraid To Ask.....73

Reducing Your Waste: “Getting to Know Your Garbage...It’s Time!”75

    SUPPLEMENT: Learning to Save Every Scrap of Paper.....77

    SUPPLEMENT: Enviroshopping... The 5 R’s.....78

    SUPPLEMENT: Garbage Through the Ages.....81

Energy Audit.....84

    SUPPLEMENT: Inspecting a Building for Excessive Energy  
    Consumption.....85

    SUPPLEMENT: Improving Home Energy Efficiency.....87

**Shopping:** The Hidden Hide of the  
Supermarket.....89

**Biodiversity:** “For the  
Birds”.....90

**Water Use:** “To Flush or Not to Flush? Water Use and  
Misuse”.....91

**Transportation:** “How Do We Get From Here to  
There?”.....92

## *Habits of Creation Workshop*

### **What are “Habits of Creation”?**

The genesis for the idea of “Habits of Creation” come from two sources: a new insight into creativity provided in large part from the writings of Wendell Berry; and secondly, the realization of the habitual nature of many of our ecological problems. As an introduction to the teaching activities contained in this Appendix, we provide here an overview of the development of these ideas.

#### **Creativity**

In his poem entitled “Health”, (Page 27), Wendell Berry says this of creativity:

“A creature is not a creator and cannot be. There is only one Creation, and we are its members. To be creative is only to have health: **To keep oneself fully alive in the Creation, to keep the Creation fully alive in oneself...**”

The insight here is that creative processes are by definition linked to the creation, to our association with other people, creatures, and all the other elements of the natural world. To keep ourselves fully alive in the Creation, we must interact with it respectfully, learning to live within those principles that govern it: **Diversity, Interiority, Community, and Regeneration.** Simply put, creative habits are those which help nurture these four principles in our relationships with other creatures. A diversified, organic farm is clearly more creative than a chemically intensive, 1000-acre field of corn: it promotes diversity and maintains its fertility largely through regenerative processes (composting, cover crops that feed the soil when it is “fallow”, etc.)

A walk with our children to the local market is more creative than a drive-through stop at a fast food shop: it fosters family community and our own physical health, while reducing our use of non-renewable (non-regenerative) fuels.

#### **Habits**

There are many facts (some provided in this book) to help us understand the habitual nature of our ecological problems. American families use more than 2,000 gallons of water per day. In Virginia, we produce more than 13 tons of trash per person each year. Nearly 16,000 pounds of top soil is washed away from American fields and farms per person each year.

These examples illustrate that our system and economy, though tremendously productive, is also enormously wasteful and extractive. Perhaps even more importantly, we are generally unaware of the wasteful, polluting side effects of our lives. The average American family doesn’t use that 2,000 gallons of water just washing hands, taking showers and flushing the toilet (although we use more water doing those three things that we need to). No, our per capita water use comes from our part as end consumers in the industrial and agricultural processes from which we’re far removed – and to which we are often blind.

Our task, then, is twofold: restructure our economic system to be far more conserving meaningful relationships; rekindle diversity among people and the ecosystem; work with the earth's regenerative cycles; and respect the sacredness and wisdom of all of God's creation.

To do this, we need "to keep the Creation full alive" in ourselves; that is, we must learn from it, and learn, anew, to love it. Through the learning, we begin to develop the wide range of skills which enable us to live more humbly, more respectfully of the ecosystem and one another. This building of skills and love is what developing the habits of creation is all about.

*Habits of Creation Teaching Activity*

## Groceries, Gardening and Good Health

**Purpose:** While there has recently been a resurgence of interest in farmers' markets and gardening in the US, most of us – whether urban, suburban or rural – purchase the vast majority of our food from large grocery store chains. The purpose of this exercise is twofold: (1) By carefully examining grocery store food items, to understand better where our food comes from and the impact it has on the environment and workers it comes from, and (2) To build some skills in intensive, organic gardening methods.

**Advanced preparations:** (1) Purchase a bag of produce from any supermarket chain. Ask the produce manager where each fruit or vegetable was grown, and note these. (2) Educate yourself on existing examples of local farmers' markets or "community supported agriculture", and add local contacts for these to the "Community-Supported Agriculture" handout (see following) (3) Arrange for a working demonstration of raised-bed, organic, intensive gardening.

**Supporting handouts:** (1) Organic Foods and Their nutritional Value (see following) (2) Community-Supported Agriculture (see following) (3) Some sample organic supplies, catalogs, such as Gardens Alive (812)537-8650

**Time needed to this part:** 30 minutes

- 10 minutes    Take the groceries out of your grocery bag and ask participants to guess where each item was grown. Now note
- Where each item was really grown
  - Information on farm size, ownership, pesticide and herbicide use, and farm worker conditions (from Fact Sheet on Food and Agriculture, Page 39).
  - Which of these items could have been grown locally or within your region?
- 15 minutes    Visit a neighbor's raised bed organic garden (if available nearby) or a "model" of one you have constructed. In either case, have participants
- Feel the soil with their hands, and note its color
  - Note the spacing and diversity of plants in a single bed
  - If possible, demonstrate how to raise a small bed, by adding composted materials and raking up the sides
- 5 minutes    As your return from garden site, distribute handouts on "Organic Foods and Their Nutritional Value" and "Community Supported Agriculture". Discuss the potential for organic, intensive gardening and agriculture and for support of local growers/farmers.

*Habits of Creation*

**Groceries, Gardening and Good Health**

SUPPLEMENT: Organic Foods: Are They Worth the Extra Expense?

Organically grown food is often touted as superior to similar types produced by agribusiness because

Of ethical reasons linked to cultivation that does not deplete the soil of valuable minerals and because it

Is free of harmful pesticide and herbicide residues.

This claim to superiority has been criticized by big agriculture and grocery chains as subjective and based on criteria that has been at best suspect. Because of these arguments and because of higher costs associated with organic foods – sometimes two hundred percent higher – many markets and consumers avoid organic foods. New data from Rutgers University now show another reason for the claim that crops grown organically are superior.

Researchers went to local supermarkets and purchased a selection of produce which they analyzed for mineral content. They repeated their purchases at health food stores that featured organically grown produce. The Rutgers team expected the organic produce to test slightly superior in comparison, but the actual results far exceeded their expectations. Many trace elements were entirely absent in the commercial produce but very much in evidence in their organically grown counterparts. The following chart shows a sample of the test results.

**Variations in Mineral Content in Vegetables**

elements parts per million dry matter		Percentage of Dry weight		Millequivalents per 100 grams of dry weight					Trace	
		Total Ash or Mineral matter Cop-	Co-	Phos- Phoga-Rus nese	Cal- cium	Mag- ne- per sium	Potas- sium balt	So- dium		Bo- ron
SNAP BEANS										
Organic	60	227	69	10.45	.36	40.5	60	99.7	8.6	73
Inorganic	2	10	3	4.04	.22	15.5	14.8	29.1	0	10
CABBAGE										
Organic				10.38	.38	60	43.6	148.3	20.4	42
				13	94	48	.15			

Inorganic	6.12	.18	17.5	13.6	33.7	.8	7
	2	20	.4	0			
LETTUCE							
Organic	24.48	.43	71	49.3	176.5	12.2	37
	169	516	60	.19			
Inorganic	7.01	.22	16	13.1	53.7	0	6
	1	9	3	0			
TOMATOES							
Organic	14.2	.35	23	59.2	148.3	6.5	36
	68	1938	53	.63			
Inorganic	6.07	.16	4.5	4.5	58.8	0	3
	2	2	0	0			
SPINACH							
Organic	28.56	.52	96	203.9	237	69.5	88
	117	1584	32	.29			
Inorganic	12.38	.27	47.5	46.9	84.6	.8	12
	1	19	.3	.2			

The significance of the Rutgers report is more than nutritional. The epidemic of high blood pressure in the U.S. population has been linked to too much sodium in the diet. But recent tests have led some researchers to believe that this view is simplistic. Calcium and potassium, in addition to sodium, interact in the bloodstream to regulate blood pressure. Within certain limits there is an ideal proportion of these three elements which must be maintained for optimum health. What medical authorities once saw as an excess of sodium they now view as a deficiency of potassium, and especially calcium. Some nutritionalists now say that excluding sodium from the diet is not only unnecessary, but is the wrong track to take. Instead, eating more foods with potassium and calcium in proportion to the amount of sodium is the appropriate way to keep blood pressure within safe bounds. A diet that combines land and sea vegetables is the easiest way to insure a balance of these important minerals. (Most sea vegetables are already organic which may account for their superabundance of minerals).

In summary, the Rutgers research shows that commercially grown produce is nutritionally anemic while organically grown produce is not. In fact, the organic vegetables contain these important minerals in far richer quantity.

Could it be that not only do we need to eat more vegetables to overcome the modern plague of high blood pressure (and other health problems related to nutritional deficiencies), but those vegetables need to be organically grown?

Reprinted from Firmament Magazine, Spring 1991

## **Groceries, Gardening, and Good Health**

SUPPLEMENT: Community Supported Agriculture: An Alternative to Growing and Buying Our Food

Most consumers do not know where the food they buy in their local supermarkets comes from. In fact, it is likely that even the workers in the supermarkets have only limited knowledge of where the produce they sell is produced. There is little meaningful contact between the people who produce our food and those those who sell and consume it.

Community Supported Agriculture, (CSA) is an opportunity for people to participate in their own food supply by entering into a more direct relationship with the farmers and the land. **Members support a local farm by purchasing shares in the harvest.** The farmers provide members with a variety of high quality fresh food throughout the season.

The origin of the CSA concept, the partnership between consumers and farmers, can be traced to Japan in the mid-1960's. Homemakers began noticing an increase in imported foods, the consistent loss of farmland to development, and the migration of farmers to the cities. In 1965, a group of women approached a local farm family with the idea to address these issues and also provide their families with fresh fruits and vegetables. The farmer agreed to provide produce if multiple families made a mutual commitment to support the farm. A contract was drawn and the "Seikatsu" – loosely translated, "food with the farmer's face on it" – was born. A successful model, the Seikatsu Clubs in Japan today serve as many as 1,500 people and are comprised of up to 15 farmers.

This innovative concept did not come the United States until the mid-1980's. Today, there are at least 300 active examples of CSAs throughout North America.

In addition to getting a fresh weekly supply of homegrown produce at a modest cost and the opportunity to help support local farms, shareholders have a say in what varieties are planted and how the plants are grown (organically, for example). Generally, CSAs find that consumers are less concerned about price than they are about freshness, nutritional content, freedom from chemical contamination and supporting their local growers.

Since customers pay in advance, this guarantees the farmers a market for everything he or she grows. Advance payment creates working capital at planting time so the farmer can purchase equipment and supplies as needed. The farmer gets a paycheck weekly throughout the season, and at some CSAs the grower also receives health and life insurance, vacation and sick days. CSAs also allow for

better off-season planting. If the farmer knows ahead of time what's going to be produced, s/he can match planting to a pre-sold market.

CSA farming offers an urban-rural link that many feel is the soul of community-supported agriculture. As one subscription farmer said: "I did not anticipate the enthusiasm which would be generated by offering my town-dwelling customers an opportunity to come to a farm and learn directly about the sources of their food. My subscription marketing system satisfied the need for good, organically-grown food, and the longing that many Americans feel to live in the country and have a part in the production of their food."

The CSA concept is based on the assumption that farmers around the world have a right to a decent living, and that consumers have a right to know how their food is produced, including the farmer and the farm where it is grown. When you buy a share in CSA, you are voting with your dollars for the restoration of your region's farmland and rural economy, and for protection of farmlands and farmworkers worldwide.

For more information on Community Supported Agriculture, try these contacts and publications:

Virginia Biological Farmers Association  
P.O. Box 252  
Flint Hill, VA 22627

Seven Springs Farm  
Rt. 1 Box 229C  
Check, VA 24072  
(703)651-3228

Or read: Community Related Agriculture, An Introduction, available from Biodynamic Farming and Gardening Association, PO Box 550, Kimberton, PA 19442

Parts of this supplement excerpted from:

"Community Supported Agriculture", Small Farm News, Nov/Dec 1993. Cooperative Extension, University of California. Farming Alternatives, Fall 1993. Cornell Farming Alternatives Program.

## **Composting For Waste Reduction and Soil Health**

**Purpose:** To teach backyard, household composting by (a) learning simple composting techniques that participants can immediately use; and (b) illustrating the “regeneration” principle.

**Advance preparations:** (1) Three buckets containing (a) fresh organic materials like leaves, grass, kitchen scraps, junk mail, etc. These can – in fact, should be – gathered on site. (b) partially decomposed organic materials (a backyard composter will have this) (c) finished compost (could come from municipal leaf pile or backyard compost pile) (2) A shovel and pitchfork

**Supporting Handouts:** Everything You Ever Wanted To Know About Composting, But Were Afraid To Ask (see following)

**Time needed to do this part:** 30 minutes

15 minutes

Participants gather fresh organic materials. Non-meat kitchen scraps (donuts, apple cores, napkins, wooden coffee stirrers) should have been accumulating since the beginning of the day in the “fresh organic materials” bucket. Outdoor materials can be gathered now.

As folks gather compostable material and come together at composting site,

- Leader explains the types of materials you want and don’t want; mixing nitrogenous materials (green, moist) with carbon rich materials (brown, dry); and benefits of composting to soil and plant life.
- Participants mix materials in a small pile while leader further explains the do’s and don’ts of successful composting (air, moisture requirements, etc.)
- When mixture is complete, participants compare the result with the buckets containing partially and full decomposed compost.

Distribute handout entitled “Everything You Ever Wanted To Know About Composting, But Were Afraid To Ask”. Allow for questions about the composting process, and continue discussion of composting benefits (for waste reduction, for gardeners, as a way to build topsoil instead of destroying it, and as an alternative to chemical fertilizers).

## **Composting for Waste Reduction and Soil Health**

SUPPLEMENT: Composting: Everything You Always Wanted to Know But Were Afraid To Ask

### **What is compost?**

Composting is the natural process by which organic materials – plants, animals and animal manures – die, decay and regenerate. The end result of this process, compost, is a fertile, nutrient-rich part of the soil. Making compost on a farm or in your backyard is simply a way of accelerating and concentrating this natural process.

### **Why compost?**

Composting saves landfill space. Although it varies from one community to another, compostable materials like grass, leaves and shrub trimmings usually make up from 20-35% of the total solid waste stream. What's more, organic materials can actually be harmful in the airless environment of a landfill, contributing to the leaching of metals from other materials in the dump. Thus composting will not only reduce our waste stream by nearly a third, it will make our landfills more stable as well.

Of course the best reason of all to compost is because of what you get: a rich, inexpensive material that restores and loosens depleted soils, provides numerous trace elements missing from chemical fertilizers, and enhances plants' abilities to withstand drought and disease.

### **How can I compost?**

Building a compost pile does not require purchased plastic or metal composters.

Instead, composting requires your attention to four basic elements: air, water, volume and materials.

The decomposing microorganisms in your pile will produce compost in 2 to 3 months if you provide these elements in the right supply.

#### Steps in composting

- 1) Choose your location. Most any spot will do although it is best to have good drainage. You can pile your materials loosely or preferably use or build a fenced area resembling a 4-foot square with an open side.
- 2) Know your materials. Any vegetative materials can be used, such as grass clippings, leaves, sawdust, wood chips, any non-meat kitchen scraps, even shredded paper (although this could be somewhat toxic if the paper does not

use a soy-based ink). The important thing to remember about the materials you use is to try to mix roughly equal amounts of nitrogen rich materials (grass, hay, kitchen scraps, animal manures) with carbon rich materials (sawdust, straw, leaves, wood chips). Too little nitrogen will simply slow down the process, for nitrogen is the “protein” the microbes need to do their work. The carbon provided by the leaves and similar materials is, essentially, the carbohydrates the microbes need. Any animal manures are good except cat and dog feces which are toxic and should not be used. A good rule of thumb is to try and include green materials, kitchen scraps or manures with “brown” or wood-based materials.

- 3) Shred or chop the materials. This is critical, especially with leaves, to avoid matting and to provide plenty of air. Kitchen scraps can be easily chopped with a garden shovel and leaves shredded with a push mower. Sawdust and grass clippings are already fine enough.
- 4) Keep the pile moist, but don’t let it get waterlogged. If you have a hose, you can soak the materials lightly as you’re putting them in a pile. A little rain is also good for the pile, but if several days of heavy rain are coming, it helps to cover the pile with a sheet of plastic.
- 5) Provide plenty of air. Shredding the materials helps. If you want your compost soon – 2-3 months – you’ll have to turn the pile a couple of times each week. The more you turn it, the faster it will decompose. If you don’t turn it often, it simply take longer (6 months to a year) to fully decompose.
- 6) Volume: Try to start with a pile at least 3 feet deep, 3 feet wide and 3 feet tall. A 3-4 foot pile is the ideal size, and will heat up and break down the fastest. Smaller piles will decompose but not as rapidly.
- 7) Use your compost! When partially decomposed, it makes an excellent mulch around flowers, shrubs and vegetables. When fully broken down – it will look and feel like very light, fibrous, dark soil – dig it into the soil before planting flowers, veggies, trees and shrubs. It is especially helpful to heavy clay or sandy soils.

### **The big question: “But doesn’t it smell bad?”**

Many people associate compost with the smell of a dump or of rotting vegetables. These do smell bad, but that’s because of how they’re decomposing: in a nearly airless, often waterlogged pile. The odor comes from the microbes doing the dirty work in those piles, which are anaerobic, or those that work without oxygen.

A healthy compost pile has plenty of air. The aerobic microbes in this environment smell only “musty”. The work they do heats the pile (a good pile will steam when you turn it), killing most diseases and foul-smelling microbes. Just follow the steps above faithfully and you won’t chase away your neighbors!

## **Reducing Waste: "Getting To Know Your Garbage ... It's Time!"**

**Purpose:** To demonstrate the need for recycling by illustrating the amount of waste generated by even one individual, and to discuss practical ways to reduce waste.

**Advance Preparations:** (1) Develop a graphic display of how much trash an individual generates per day or week (the generally accepted figure is 3-4 lbs of trash per person per day, or 21-28 lbs. per week!) You could either make this as an actual physical pile, or illustrate it on newsprint or brown bags from the grocery store. Here is the breakdown of what is usually in our trash\* (you don't have to use all of this if you don't have it!):

41% Paper/paper board leather	17.9% Yard wastes	5.5% Rubber,
8.7% Metals Fabric	8.2% Glass	2.5% Wood,
7.9% Food	6.5% Plastics	1.8% Other

Request catalogs from some or all of these recycled paper (and other products) suppliers: Earth Care Paper(608)277-2900 (100% post-consumer paper plus miscellaneous recycled products); Viking Office Products (800)421-1222 (Hammermill 100% recycled paper); Atlantic Recycled Paper Company (800) 323-2811 (Hammermill 100% recycled paper, plus miscellaneous recycled home and office products).

**Supporting handouts:** "Enviroshopping: The Five R's of Waste Reduction", and "Garbage Through the Ages" (see following)

15 minutes

Display the pile of trash generated by one individual in one day (or week) and read the story "Learning To Save Every Scrap of Paper" (see following) aloud.

10 minutes

Distribute the handout on "The Five R's of Waste Reduction", and allow time for reading. Ask participants to discuss how they might already be doing some of the suggestions, and what ideas could be added to the list. Consider these questions: (1) Is all of the packaging waste on display recyclable in the local area?\* (2) Is

the packaging waste environmentally responsible, and if not, what alternatives are available (buying in bulk using your containers, using vinegar from a glass jar instead of Windex from a pump bottle, etc.)?

5 minutes

Display samples of recycled paper (and other) products. Have supplier catalogs – or catalog contact numbers – on hand, and encourage folks to purchase for their home and office.

\*About ½ of our household trash, by volume, is product packaging. Some packaging is difficult or impractical to recycle and nearly indestructible when discarded (one of the most difficult is coated paperboard encased in plastic, like the disposable fruit juice containers).

## **Recycling Waste: "Getting To Know Your Garbage ... It's Time!"**

SUPPLEMENT: Learning To Save Every Scrap of Paper

This story is taken from Living More With Less, by Doris Janzen Longacre:

“Marie Moyer, a missionary in India, tells this story. ‘In 1952 I was studying the Hindi language with my teacher, Panditji. From his philosophic mind, which probed the meaning of events and circumstances, I learned more than Hindi.

I especially remember one lesson. It was Christmastime and as I awaited the arrival of Panditji, I quickly opened stacks of delightful cards, discarding the envelopes in the wastebasket. When Panditji entered the room, he sat down soberly and studied the situation. Then he solemnly scolded me in perfect English with these words: “The reverberation of this wasteful act will be felt around the world!” Stunned, I asked, “What do you mean, Panditji?” “Those envelopes,” he said, pointing to the wastebasket. “You could write on the inside of them.”

Chagrined, I apologized and began taking them out of the basket. He carefully helped me, almost caressing each one. For every Hindi lesson he taught thereafter, I took notes on the back of the envelope. Our class also began sharing envelopes with Panditji’s growing family, for he could no longer afford tablets for his children. Today I still carefully save paper in my home and office.”

## **Reducing Waste: "Getting To Know Your Garbage ... It's Time!"**

SUPPLEMENT: Enviroshopping ... the 5 R's

Enviroshoppers need to consider the 5 R's: **Reducing; Reusing; Recycling; Rejecting; and Responding**, in making environmentally aware decisions about the products and packaging they purchase, use and ultimately, dispose of.

### **Reduce**

Consumers have become hooked on convenience and pay millions of dollars for it. We prefer to buy sixteen one-use spray bottles full of ready to use spray cleaner rather than a single bottle of concentrate and mix our own. Why? Because we like convenience!

Enviroshoppers, however, are willing to give up some of that convenience to reduce their garbage production. They reduce their garbage before they buy it – **precycle**. When you precycle, either you choose products and packaging with less environmental impact, or you decide to do without it. If you never buy it and bring into your home in the first place, then you don't have to figure out if it can be reused or recycled, and you don't have to dispose of it.

### **Reuse**

Present day packaging is a wonder of modern technology. It is durable, versatile and attractive. Whenever you can, think of ways to reuse packages. Reuse will save you money of buying a replacement item, it will save the energy, materials and landfill space and reduce pollution. Here are some "reuse" examples:

- Drawstring mesh citrus bags make good laundry bags. Hang one on the door knob of each child's room. (Use only for children old enough to handle the string safely).
- Frozen and microwavable convenience foods often come with their own dish. Reuse these dishes for making your own convenience meals. When you cook extra or use leftovers to refill the dishes, wrap in freezer wrap or place in a freezer container and you have your own "instant" meals.
- Plastic bags and wraps can be reused for storing items.
- Packaging materials such as polystyrene, plastic quilting and similar packaging materials can be saved and reused for the same purpose.
- Plastic containers can be reused for food storage, scoops and watering devices to name a few. Glass jars can help organize nails and tacks and other household and shop items.

- Empty containers can be used for projects by schools, child care centers and senior centers.

Packaging provides an excellent resource for your creativity. You have paid for it – you might as well make use of it and reuse it again and again.

## **Recycle**

Recycling is an important part of our waste management strategy. Some states are passing laws to reduce the solid waste through recycling. Recycling saves energy. Producing packaging material from recycled stock takes less energy than making it from new raw materials. Aluminum yields the greatest energy savings. In fact, if every day for a year each member of a family of four saves one can each, they would save the equivalent energy in gasoline to drive a 30 mile per gallon car about 2,000 miles. We cannot afford to waste either the aluminum or the energy. It's important for each of us to recycle as much as possible.

What kind of packages can you recycle? Aluminum and glass are recyclable. Some paper and some plastic containers can be recycled. Steel or “tin” cans are recyclable. They are all easier to recycle when they are single material packages, rather than a mixture of two or more in one package.

For recycling to succeed, it depends on you. You have to provide used materials to be collected and reprocessed. But that is only the beginning of your role in recycling. No material is really recycled until you buy it again after it is made into something new. It is up to you, as an Enviroshopper, to buy recycled materials whenever you can. Look for recycled symbol on packages you buy.

## **Reject**

Enviroshoppers reject materials and products that cannot be reduced, reused or recycled. For example, reject packaging that is wasteful and purposeless. You have the most powerful tool in our economy – your wallet. If you buy products and materials that are wasteful, harmful to the environment or of poor quality, you are sending a message that you want these to be produced. On the other hand, if you do not buy them, you are also sending a message. The marketplace will listen, either way.

## **Respond**

There will be times, however, when you will not have a choice. A product you want to buy may not be available in a package that is recyclable or reusable.

In this case, it is time for the fifth “R” of Enviroshopping: Respond. Start with your local store manager. Let him know you are concerned about the solid waste problem. Ask him to stock refills and concentrates and loose produce. Encourage him to consider source reduction and recyclability in the products he offers for sale.

Contact the manufacturer of products in which the packages are not recyclable or are obviously excessive. You can request that manufacturers reduce the toxicity of their packaging through changes in design and use of non-toxic inks, for example. You will find the name and address of the company on the package of all consumer goods. Many companies offer a toll-free telephone number. Look for one on the package or contact your local consumer affairs office or local library to get telephone numbers for major companies. It takes only a few letters or phone calls for manufacturers to consider changes in their products.

Encourage local government officials to initiate or expand a recycling program in your community. Suggest that government regulation be revised to allow for the purchase of recycled materials for municipal supplies.

(Excerpted from an article written by Marie S. Hammer and Joan G. Papadi, University of Florida, which appeared in a 1991 edition of Waste Facts , a publication of the Virginia Cooperative Extension.)

## **Reducing Waste: "Getting To Know Your Garbage ... It's Time!"**

SUPPLEMENT: Garbage Through the Ages

### **A Brief History**

**Prehistoric Aeons:** Cave people live very economically though somewhat sloppily. When an animal is killed, just about everything is eaten, used for clothing, or fashioned into utensils. The rest is pitched out of the cave. But not to worry; everything is biodegradable.

**3300 BC:** As civilization spread, Minoans dig compost pits near the city, where organic wastes can be dumped and rendered less potent.

**300 BC:** Garbage dumps become popular on the outskirts of many cities in the Greco-Roman world. Jerusalem makes use of a large one called Gehenna (which Jesus later said looked like hell).

**1988:** The US EPA announces that "we have been avoiding too long the issue of reducing the amounts of throwaways we produce" and said that it's time we do something.

### **What Our Trash Looks Like**

Corrugated Cardboard	12.6%	
Newspaper	8.3%	
Books, Magazines and Paperboard	6.6%	Office
Paper	3.3%	
Other Paper	11.2%	Yard
Wastes	16.1%	
Food Wastes	7.3%	Glass
Containers	8.6%	
Aluminum	1.1%	Other
Metals	8.1%	
Plastic Containers	1.6%	Other
Plastics	4.9%	
Wood Wastes	3.4%	Rubber and
Leather	2.3%	
Textiles	1.9%	
Rest	12.7%	

(Typical breakdown of trash from the American household as determined by Franklin Associates. The percentage of yard waste varies considerably with location and season.)

### **Did You Know?**

- Over 3000 landfills in the United States have filled up and been closed in the past 3 years
- About 90% of the nation's garbage is disposed of in landfills
- Each individual averages 4-5 pounds of trash daily, amounting to one ton of trash yearly
- Each household averages two tons of solid waste yearly
- Americans represent only 5% of the world population, but produce over 50% of the world's trash
- Is one day Americans produce enough trash to fill the New Orleans Superdome – twice!
- (Statistics from the Athens-Limestone Recycling Board, Alabama)

Our Garbage in landfills sometimes contains enough toxic materials to create a danger to nearby water supplies!

### **Using Garbage Creatively: Mt. Trashmore**

Trash was used to build popular Mount Trashmore in Virginia Beach, Virginia. It was the first landfill to be built above ground. It sits on a 4-foot clay foundation. The trash mountain, which is now a popular recreation spot, was built in layers: 12 inches of garbage, 8 inches of dirt. Each layer was compacted before the next layer was added to it.

### **What To Do?**

“It boils down,” says Janet Green, “not so much to a garbage crisis as a crisis in individual responsibility. The public assumes it's a government problem when it's really an individual problem. Nobody wants to deal with the stuff. It's that kind of thinking that pushes politicians to want to come up with a new solution, some kind of fix. That's how we got pushed into big landfills. And that's how we're getting pushed into big incinerators. But to solve this problem we need educators more than we need engineers and politicians. We need people to accept responsibility for their own wastes and to insist that their politicians look for a systems approach. That means starting fresh ... trying to look at an approach that calls for us to reduce and recycle and compost.”

(Janet Green, a botanist who sits on the citizen board of the Minnesota Pollution Control Agency and the board of the National Audubon Society. Quoted in Audubon magazine of March, 1990).

## Some Questions To Consider

- 1) Given the statistics regarding the amount of garbage we generate in our country, indicate some specific steps you would recommend in dealing with the waste crisis,
  - for the federal/state government
  - for your local government
  - for your neighborhood/church community
  - for yourself/family
  
- 2) In regard to your own town/community, what is your awareness level:
  - of where your landfill is located? Have you been there?
  - do you know your landfill's status in terms of "life left", or its safety?
  - are you aware of or belong to a group monitoring the landfill?
  - how much do you know about any problems with the landfill?

*Habits of Creation Teaching Activity*

## **Energy Audit**

**Purpose:** Teach how to do an energy audit.

**Advance preparations:** Educate yourself on the connection between energy consumption and environmental destruction and familiarize yourself with the supplement entitled “Improving Home Energy Efficiency” (see following).

**Supporting handouts:** “Inspecting a Building for Excessive Energy Consumption” (see following)

**Time needed to do this part:** 30 minutes

5 minutes

Initiate discussion on connections between home/business energy usage and environmental destruction.

5 minutes

Distribute handout on “Inspecting a Building for Excessive Energy Consumption”.

Present concept of an energy audit:

- type of heating and cooling for building
- how water is heated and cooled
- the role of landscaping in heating and cooling
- the role of building orientation to solar gain and heating/cooling
- air infiltration around windows and doors, and in the attic
- identifying type and size of light bulbs
- use of unnecessary outdoor lighting

10 minutes

Have group split into twos or threes and begin an energy audit on some nearby room or aspect of building/landscaping

10 minutes

Report back and discuss findings in large group. Explain that quantitative estimates can be made to justify changes from both a cost and environmental standpoint.

## *Habits of Creation*

### **Energy Audit**

SUPPLEMENT: Inspecting a Building for Excessive Energy Consumption

If we could see our energy usage with the eyes of an energy efficiency expert, most of our buildings would appear to be sieves, leaking energy in many forms through many holes and in many ways. This simple audit concentrates on the parts of a building that a lay person can easily observe, and about which a common-sense conclusion may be reached. Make notes about potential energy loss or poor efficiency in as many of the areas below as you can:

#### **Up Into the Attic**

Are there any pathways where air could leak up from the living space or basement?

Are exterior walls open at the top?

Is there enough insulation?

#### **Down Into the Living Space**

Are there any single-glazed windows without storm windows?

Do the windows have any cracked or broken glass? Cracked or missing putty?

Do the window sashes rattle in the frames? Are there visible gaps between frames and walls?

Is there moisture condensation on windows in winter?

Are the doors drafty?

Do the walls need insulation?

Do you have drafty spots?

Are there energy efficient bulbs in the light fixtures?

#### **Down to the Basement or Crawl Space**

Is there air leakage at the top of the basement wall?

Are there any cracks or gaps in the basement walls that would allow air leakage? Are the walls insulated?

Does the crawl space need insulation?

#### **Heat and Cooling Systems**

Is the furnace due for maintenance or a tuneup? Is the air filter dirty?

Do heating or cooling ducts leak air?

Is the outdoor unit of your air conditioner or heat pump in direct sunlight or blocked from freely circulating air?

#### **The Water Heater**

Does the tank need to be insulated?

Is the water temperature too high?

Do the hot water supply pipes need insulation?

Could the plumbing fixtures be more water-efficient? Is there a low-flow shower head?  
Are any faucets leaking?

**Outside the Building**

Are trees planted that provide cooling shade in summertime?

## **Energy Audit**

SUPPLEMENT: Improving Home Energy Efficiency

According to Rocky Mountain Institute, we in the US could save, by using today's cost-effective energy-efficient technologies, about 75% of our energy use with no loss of comfort or benefit!

### **Why home energy use is important**

Most of the energy we use to heat our homes and power our appliances comes from the burning of fossil fuels. The burning of these fuels in turn is one of the major sources of acid rain and CO<sub>2</sub> (carbon dioxide), a major contributor to the greenhouse effect.

Home energy use accounts for about 17% of all energy use in the US. It is responsible for 3.95 tons of CO<sub>2</sub> per person per year and 15lbs. of acid rain producing SO<sub>2</sub> and NO<sub>x</sub>. Less energy use means less CO<sub>2</sub> and other pollutants get spilled out into the air. Thus improvements in home energy efficiency are directly connected to the global goal of preserving the climate and atmosphere.

Fortunately, there is much you can do through energy efficiency to get more comfort and benefit from your energy use while using less – often considerably less.

The Earth Day goal for home energy use is a 30% reduction by the year 2000, enough to head us onto a sustainable path. There are easy steps you can take right away to reduce your energy use by at least 5%, and other steps you will take during the next few months as part of this program will further reduce your energy use.

Achieving the 30% reduction goal will save, on average, about 1 ton of CO<sub>2</sub> per person per year. That ton is as much as the CO<sub>2</sub> that gets absorbed in a year by 5.4 trees or that gets released by burning 100 gallons of oil. At \$1.00 per gallon, achieving your 30% reduction thus represents a typical yearly savings for your household of \$100 per person. At higher oil prices, the savings are even greater.

Using this month's program you will be able to find out just how much CO<sub>2</sub> your household is generating. If your energy use now is greatly different from the average, you may want to adjust your goals according to your circumstances.

In any case, since saving energy generally also means saving money, there is really no reason to stop improving your energy efficiency just because you have reached a new efficiency. Energy efficiency is a win-win benefit, not a compromise. By becoming efficient, you will help the environment; improve your own quality of life and save – all at the same time. Changing your habits is up to you!

### **Guidelines**

- Develop energy saving habits
- Plug your energy leaks by insulating and weatherstripping

- Buy the most energy-efficient appliances and lighting
- Use good architectural and landscape design to get the most out of passive solar heating, summer shade, and natural ventilation

### **Your Goals**

- Get your systems in place to bring environmental balance into your home energy use
- Reduce your home energy use by at least 5% by the end of the month
- Reduce your home energy use by at least 10% by the end of 6 months
- Reduce your home energy use by at least 30% by the end of the decade

(Excerpted with permission from Global Action Plan EcoTeam Workbook, by David Gershon and Robert Gilman. Produced by Global Action Plan for the Earth, 84 Yerry Hill Road, Woodstock, NY 12498. 1990.)

## **The Hidden Side of the Supermarket**

**Purpose:** By examining a bag of non-food items from supermarket, department store or discount store, develop an awareness of how every product has an associated impact on the economy and environment, and to explore alternatives to various items.

**Advance preparations:** (1) Assemble a shopping bag of typical non-food items (2) Educate yourself on lower-impact, lower-toxic ways of doing what each product does (we recommend *The Green Consumer*, by John Elkington, Et. Al., Penguin Books, NY, NY. 1988.) (3) For all of the packaging in the bag, find out whether or not your local recycling program accepts the packaging. (4) For all of the products that might have “leftover” contents when it is thrown away (pesticides, lighter fluid, paint thinner, etc.) find out if there is a local recycling or hazardous waste collection point for these, and how it operates.

**Supporting handouts:** None.

**Time needed to do this part:** 30 minutes

15 minutes

Go through the bag item and initiate group discussion on each item:

- Do I need this product?
- What alternatives could I use instead?
- Is it healthy for my body or the environment?
- Is the packaging environmentally responsible? If not, what alternatives can I use?
- Is the packaging recyclable in my area?
- Do I know where this is produced?
- What is the company’s record on worker’s conditions and pay rates?
- What is the company’s record on environmental issues?
- Where can I go to get this information on individual companies?

After going through the entire bag, ask participants what they’ve learned as a result of this careful examination:

- What changes might I make, if any, in light of what I’ve heard?
- How much do I spend on unnecessary non-food items in comparison to what I spend on charitable contributions?

*Habits of Creation Teaching Activity*

## **“For the Birds”**

**Purpose:** Through the experience of looking and listening for birds in the field, to encourage reflection on birds as one (important) element that can put us in touch with the beauty, diversity, strength and fragility of creation.

**Advance preparations:** Bring an easy-to-use birdwatching book (or better yet, several!).

**Supporting handouts:** None.

**Time needed to do this part:** 30 minutes

5 minutes

Read this quote from *A Field Guide to the Birds East of the Rockies*, by Roger Tory Peterson:

“Birds undeniably contribute to our pleasure and standard of living. But they also are sensitive indicators of the environment, a sort of “ecological litmus paper,” and hence more meaningful than just chickadees and cardinals to brighten the suburban garden, grouse and ducks to fill the sportsman’s bag, or rare warblers and shorebirds to be ticked off on the birder’s checklist. The observation of bird leads inevitably to environmental awareness.”

25 minutes

Go outside and search for the sights and sounds of birds in the area. As you identify a bird, find it in the birdwatching book and see what its food sources and habitat requirements are. Now try to identify the bird’s habitat and food sources.

Discuss your observations and findings, and raise these questions:

- What kinds of similarities are there between habitat and food sources for birds and those for people (such as distance to food and water, housing opportunities, travel routes, social and family life, etc.)?
- How does the world of birds change participants’ understanding of diversity in creation? Among peoples? About customs and traditions?, etc.?
- How well-developed are your own skills of observation? How aware are you of the world and people around you?

*Habits of Creation Teaching Activity*

## **“To Flush Or Not To Flush? Water Use and Misuse”**

**Purpose:** To illustrate how we misuse water in our lifestyle by observing how much water is used to flush an average toilet, and to suggest alternatives.

**Advance preparations:** (1) A regular tank toilet with a turn-off knob to keep tank from refilling after flushing (2) A one-gallon bucket (3) A water source at some distance from the toilet.

**Supporting handouts:** None.

**Time needed to do this part:** 30 minutes

15 minutes

Remove top on toilet tank and note level of water inside. Turn off water feed into toilet, and flush (tank should drain and remain dry). Fill the tank with as many buckets as necessary to reach previous tank level, and note how many gallons were used. Now flush toilet again, emptying out the tank again.

Next fill the tank with one gallon of water, and see if it will flush completely, then two gallons, then three gallons. Note the smallest amount of water needed to flush the toilet completely, and compare that with the number of gallons that automatically fill the tank. Have each participant multiply the number of unnecessary gallons times the amount of times they flush their own toilet daily at home to discover the unnecessary amount of water they waste every day on flushing alone.

Share specific solutions to the “toilet problem”, such as low flush toilets and composting toilets – as well as other ideas for reducing water use, such as turning off water while brushing teeth or shaving, and sweeping driveway instead of hosing it down.

15 minutes

Discuss the growing problem of water pollution in general, and the importance of conserving our precious water resources for the necessities of life (mention a recent article that cited Virginia for more toxic discharges into state water than either New York or New Jersey).

*Habits of Creation Teaching Activity*

## **Transportation: How Do We Get There From Here?**

**Purpose;** (1) To observe local transportation modes (2) To enable a discussion of transportation usage and the effects on the environment (3) To promote responsible transportation “usership”.

**Supporting handouts:** “Automobile Fuel Efficiency Standards” or “Land Stresses Caused By Highways and Urban Sprawl” (see above).

**Time needed to do this part:** 30 minutes

5 minutes

Walk (or drive if too far) to the nearest busy road or street

15 minutes

Discuss and tabulate what you see transportation-wise:

- Local mass transit availability
- Number of cars observed and number of occupants
- Alternate means of transportation available
- Auto emissions
- Observe the distance between residences and workplaces, grocery stores, parks, churches, etc.
- Can I walk or ride a bicycle where I want to go?

10 minutes

While walking (or driving) back to the workshop site, discuss the transportation and its effects on the environment, and responsible car ownership habits. Discuss creative and/or responsible alternatives.

*Habits of Creation Workshop*

## **Ecology Resource Organizations: A Starter List Focusing on Virginia-Based Organization**

### **Waste, Hazardous Waste**

Environmental Action  
6930 Carroll Avenue  
Takoma Park, MD 20912  
(301)891-1100

VA Dept. of Waste Management  
11<sup>th</sup> Floor, James Monroe Bldg.  
101 N. 14<sup>th</sup> Street  
Richmond, VA 24219  
(804)371-0044

Citizens Clearinghouse for Hazardous Wastes  
PO Box 926  
Arlington, VA 24219  
(703)745-3400

### **Water Quality**

Clean Water Action  
1208-A W. Franklin Street  
Richmond, VA 23220  
Lori Beckwith (804)359-1945

VA Water Resources Research Center  
617 N. Main Street  
Blacksburg, VA 24060  
Susan Parker, (703)231-5624

### **Eco-Spirituality**

North American Conference on  
Religion & Ecology  
S. Thomas Circle, NW  
Washington, DC 20005  
(202)462-2591

United Methodist Church Board  
Of Church & Society  
Environmental Justice Division  
Strausburg, VA 22657  
(540)465-3529

Earthcommunity Center  
15726 Ashland Drive  
Laurel, MD 20707  
Jane Blewett (301)498-2553

Ecological Working Group  
Catholic Diocese of Richmond

### **Mining and Land Reclamation**

VA Dept. of Mines, Minerals and  
Energy  
The bookbindery Building  
2201 West Broad Street  
Richmond, VA 23220  
(804)367-0330

Dickenson County Citizens Committee  
Rt 1 Box 602  
Clintwood, VA 24226  
Barney Reilly (276)835-8857

### **Recycling and Recycled Products**

Recycling Committee  
Blessed Kateri Tekakwitha  
Catholic Church  
PO Box 2231  
Poquoson, VA 23662  
Danny Quinlan (804)868-7175

Atlantic Paper Company  
(800)323-2811

Seventh Generation  
(800)456-1177

Dept. of Waste Management Recycling Hotline  
(800)KEEP-ITT

**Coastal and Wetlands**

Chesapeake Bay Foundation  
1001 E. Main Street  
Suite 815, Heritage Bldg.  
Richmond, VA 23219  
(804)780-1392

Southeastern Association for VA's Environment  
(SAVE)  
2129 General Booth Blvd., #103-22  
VA Beach, VA 23454  
(804)427-6606

VA Coastal Resources Management Program  
202 North 9<sup>th</sup> Street  
Richmond, VA 23219  
(804)786-4500

**Alternative, Organic Farming**

VA Assoc. of Biological Farmers  
Po Box 252  
Flint Hill, VA 22627  
Archer Christian (540)231-7624

Institute for Alternative Agriculture  
Suite 117  
9200 Ed Monston Road  
Greenbelt, MD 20770  
(301)441-8777

**General**

Sierra Club, VA Chapter

2860 Marcey Road  
Arlington, VA 22207  
Al Matino (703)841-2383

Izaak Walton League  
1701 N. Fort Meyer Drive, #1100  
Arlington, VA 22209  
(703)528-1818

Coalition for Jobs and Environment  
114 Court St.  
PO Box 645  
Abingdon, VA 24210  
(276)628-8996

## **Ecological Resources for Parishes: An Annotated Bibliography**

### **Faith and Stewardship**

**Presbyterian Eco-Justice Task Force.** **Keeping and Healing the Creation.** Presbyterian Church (USA), Louisville, KY, 1991, 114pp. A thorough, yet brief profile of the ecological crisis (42 pp.) is followed by theological reflection that finds the concept of stewardship helpful “if it is cleansed of connotations of domination”. A section on ethics calls for sustainability, participation, sufficiency and solidarity.

**Loris Janzen Longacre.** **Living More With Less.** Herald Press, Scottsdale, Pennsylvania, 1980. A jam-packed book of inspiration and practicality for those who continually seek to simplify their lifestyle. The author has combined personal testimonies of ordinary people all over the world with five “Life Standards” which must become second nature to Christians: Do Justice, Learn From the World Community, Nurture People, Cherish the Natural Order, Nonconform Freely. All this can be done while living a rich, joyful and creative life.

**Helda Camara.** **Sister Earth.** New City Publishers, London, 1990. Sub-titled “Ecology and the Spirit”, the author, long-known for his stance on poverty and human exploitation, brings his deeply human spirituality to the problems threatening our planet. Camara’s reflections, poetry and questions challenge the reader to prayer and personal conversion in the face of abuse and misuse of our fragile and beautiful “Sister Earth”.

**Richard Austin.** **The Environmental Theology Series.** This is a four-part series written by noted Protestant theologian and organic farmer, Dick Austin. Dick Austin lives just outside Dungannon in Southwest Virginia. He has attempted to blend an alternative lifestyle with an examination of the theological roots of ecology. This four part series begins with a review of naturalist John Muir’s life and writings and takes us through an examination of scripture understood from an

ecological perspective.

**Michael Dowd. Earth Spirit.** Twenty-third Publications, Mystic, Connecticut, 1991, 117 pp. Dowd shows that “cosmology”, how we understand the universe and our place in it, is the foundation of meaning—economics, philosophy, science and religion. We are in the process of moving to a new cosmology in which “the universe is a subject which is alive! It is an

evolving, maturing organism – a living system. The human is the being in whom the universe has reached that degree of complexity that the universe is now able to consciously reflect on itself.” Dowd describes how our cosmology has evolved, how the Gospel relates to this new cosmology, and what it means to be Christian in light of it.

**Thomas Berry. The DREAM of the EARTH.** Sierra Club, San Francisco, California, 94109, 1988. In this book Thomas Berry outlines a new cultural context for all of our institutions. He suggests that we “listen” to what the earth has to tell us about itself as an emergent, self-organizing process governed by “the primordial dream whence all things came into being”. By partaking of that dream the human community can experience the universe “as a single, gorgeous, celebratory event.”

### **Ecology and Social Justice**

**Lester R. Brown, editor. State of the World.** World Watch Institute, WW Norton & Company, NY. 1990. World Watch Institute is an international research organization which reports annually on the state of the international economy and its ecological and human problems. this report details various global problems including water scarcity, air pollution, global warming, and chronic hunger and poverty. The final chapter, “Picturing a Sustainable Society”, looks down the road at new methods of energy use, farming and technology. Contains extensive statistical data documenting these issues.

**Ronald J. Sider. Rich Christians In An Age of Hunger.** Intervarsity press, Downers Grove, IL 60515, 1984. A thorough examination of both the hunger problem and of the biblical teachings on hunger, justice and Christian responsibility. The final section highlights practical opportunities for families, small groups, parishes and communities to get involved.

**Wendell Berry. What Are People For?** Northpoint Press. A collection of essays on faith, ecology, technology and culture. Berry

presents very direct challenges to both our economic system and our culture's obsession with consumption and convenience. Speaking from the perspective of a Kentucky farmer, his essays help us look inward as well as outward, to see the small, everyday parts of solutions while understanding the bigger picture.

**Wendell Berry. The Unsettling of America: Culture & Agriculture**. Northpoint Press, 1977. An earlier work of Berry's, this book analyzes the problems of the modern industrial society from the perspective of personal character and human culture. Always a farmer, Berry takes us back to the fundamental questions of what sustains life and what threatens it. This is an excellent overview, pointedly critical of our economic system and many of its unseen problems. Berry again argues for accountability in all that we do.

**E.F. Schumacher. Small Is Beautiful**. Harper & Row, NY, NY, 1973. Written nearly 20 years ago, this book asks the basic question: is bigger naturally better? The answer it gives is that smaller scale technologies, and social systems are not only possible but essential for a just and sustainable economic system. Schumacher explains the philosophy and provides rich examples and insights into how this can work.

### **Practical Resources**

**Jeffrey Hollender. How To Make the World a Better Place**. Quill-William Morrow, New York, NY, 1973. This is a book for those who sometimes feel overwhelmed or powerless in the face of monumental problems like global warming, world hunger, or rain forest depletion. Hollender not only has 120 actions an interested person can take, but he provides valuable background information, including up-to-date statistics. The author concludes with "Twelve Essential Resources" to help in staying informed, inspired and ready for action in Continuing to make the world a better place.

**Economics Pastoral Implementation Committee. Where is Your Treasure?** Office of Justice & Peace, Catholic Diocese of Richmond, 7800 Carousel Lane, Richmond, VA 23294.1990

**Joseph Cornell. Sharing the Joy of Nature**. Dawn Publications, Nevada City, California, 1989. This practical handbook contains nature activities for all ages. The author's teaching philosophy of "Flowing Learning" describes a way to use nature-awareness activities

that begin where children and adults are, then excite them to participation, while guiding them in step-by-step experiences of awareness and understanding.

**Virginia S. Rich. Crafts For Fun, Using Recycled and Everyday Items.** Judson Press, Valley Forge, PA, 1986. Designed for those who do not think of themselves as creative, this book describes 24 unique crafts using recyclable or readily available, inexpensive materials. includes illustrations and simple instructions.

**The Green House Crisis Foundation. 101 Ways To Help Save the Earth.** Eco-justice Working Group for National Council of Churches of Christ, 1130 NW, Washington, DC 20036, 1990. This three-part booklet explores a new understanding of stewardship and looks at the concrete connections between ecological problems and everyday household and business activities. The second section offer practical steps which all of us can undertake. The last section provides suggestions for family and congregational activities for every week of the year.

**Concern, Inc. Household Waste: Issues and Opportunities.** 1794 Columbus Road, NW, Washington, DC 20009, 1989. A clear , concise guide to household waste: how to reuse it, recycle it, and generate much less of it. Also examines incineration, toxic wastes and several successful community-based programs. 30 pp. Includes resource list.