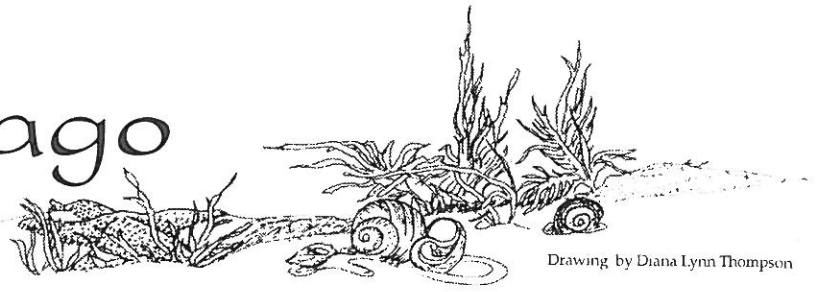
Archipelago

VOLUME 4-2
Autumn 2000



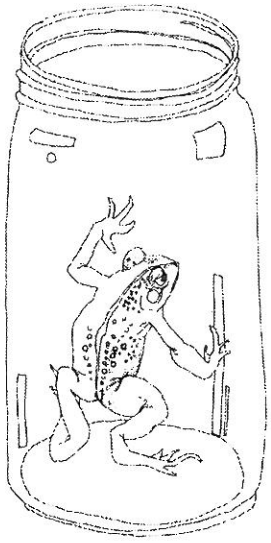
Drawing by Diana Lynn Thompson

news, views, reviews and interviews on island community and conservation

the MEANING OF VALUE IN BIODIVERSITY

Loren Wilkinson

Much of the land-use planning that has been so controversial on Galiano over the past few years is based on the assumption that "biodiversity"—specifically the biodiversity of this rare dry coastal Douglas fir zone -- is important. This article is an attempt to look at some of the various reasons why biodiversity is considered to be valuable. It is a condensation of a lecture delivered by Loren Wilkinson in October, 1999, to a joint meeting of the Linnaen Society (the world's oldest biological professional society) and the British Ecological Society. The meeting was the first of two, called to encourage bureaucrats to make better use of scientific knowledge, and scientists to recognize the ethical dimensions of their research.



drawing by Diana Lynn Thompson

Loren began with a poem by Denise Levertov:

A man sits by the bed
of a woman he has beaten,
dresses her wounds, gingerly dabs at
bruises.
Her blood pools about her,
darkens.

Astonished, he finds he's begun
to cherish her. He is terrified.
Why has he never
seen, before, what she was?
What if she stops breathing?

Earth, can we not love you
unless we believe the end is near?
Believe in your life
unless we think you dying?

What does the phrase "the value of biodiversity" mean? "Biodiversity" is a new word, used for the first time barely a decade ago. "Value", on the other hand, is a very old word – recently made to carry a whole new weight of meaning. There probably is more talk of values today than at any other time in the word's long history. At the same time, there is growing concern that "values" are being eroded in our culture. "Values clarification" is an important activity in post-modern culture, at least in North America, and people are encouraged to identify their own values, and live by them. This might at first seem encouraging to a person concerned about the loss of values, we realize that (for example) Hitler too was, presumably, living by his values. The result of all this values-talk has been a kind of value-diversity, which matches a widespread affirmation for "pluralism" in every area.

ARCHIPELAGO is published quarterly by the Galiano Conservancy Association in the interests of pooling knowledge, encouraging respect andinspiring affection for our natural heritage and for each other

Editor: Jillian Ridington
Editorial Committee:
Carolyn Canfield, Nick Francis, Ken Millard, Gary Moore and Loren Wilkinson
Art Director & Layout: Larry Foden

Submissions, reactions, illustrations and poetry are welcome for publication at the editor's discretion. Reprinting of articles is encouraged, but please notify us, and credit both the author and Archipelago. Opinions expressed are not necessarily those of the publisher.

Galiano Conservancy Association
RR1, Porlier Pass Road, Galiano Island
British Columbia, Canada V0N 1P0
Phone/FAX (250) 539-2424

EDITORIAL

HOW DEAR IS OUR ISLAND?

Jillian Ridington

The idea of "value" is a common element in many of the articles in this issue of Archipelago. Loren Wilkinson discusses the "Meaning of Value in Biodiversity"; Keith Erickson writes on "The True Value of Forestry." The value of salmon, the value of nature and of art, and the value of home underlie the premises of three of the review articles here as well. However, none of the authors of these articles have defined the term. I presume that is because we all think everyone knows what value means. Yet "value" has several meanings, and some of them have come to be used in contradictory ways. Funk and Wagnalls Standard College Dictionary includes these meanings: 1. The desirability or worth of a thing; intrinsic worth; utility. 2. The rate at which a commodity is potentially exchangeable for others; a fair return in service, goods, etc.; worth in money; market price . . . 3. Esteem or regard. 4. Exact meaning; signification; import. But how do we judge the intrinsic worth of the land we love and live on, and how do we evaluate the worth of a strong community? What do we do when the 'real estate value' of our home island makes it impossible for a diverse and healthy community to be sustained here?

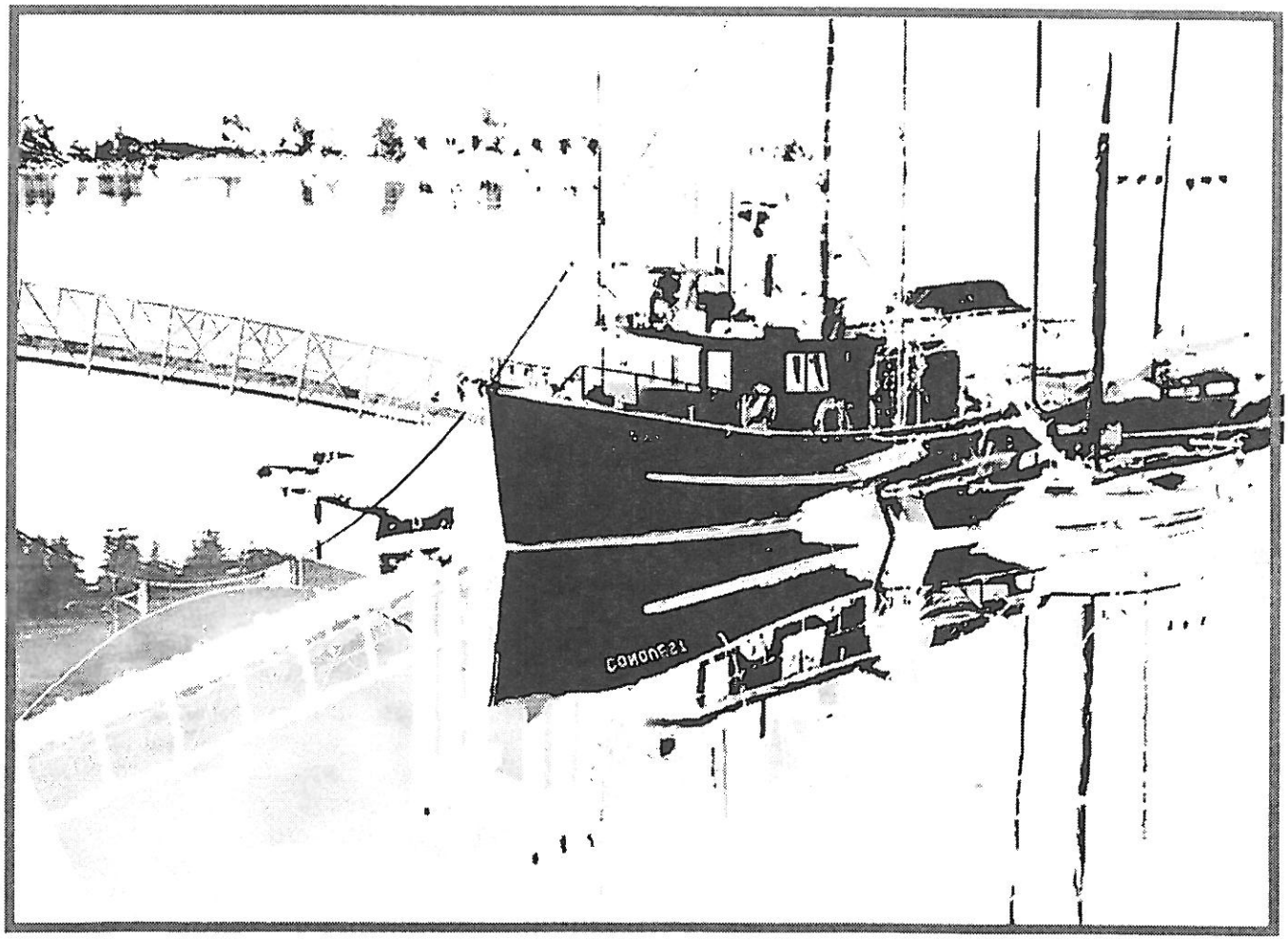
All this reminds me of my childhood, when my very English Mum would call me "dear" and then tell me I couldn't have something because it was "far too dear". To my child's mind, this didn't make sense. If I became too dear, would Mum not be able to afford to keep me? More immediately, it reminds me of the appraiser's evaluation of the section of Retreat Island which we recently covenanted and donated to the Galiano Conservancy Association. Once covenanted, the appraiser stated, the four-acre parcel had no real estate value. I sputtered, "But there's an eagle's nest, and a Garry Oak meadow!" "No matter," replied the appraiser. "If you can't build on it, no one will buy it." Ergo, to a realtor's mind, it has no value.

As I write, we are in the midst of elections on both sides of the Canada-U.S. border. Some candidates in both countries are using "family values" as code words for homophobia and denial of choice. As the matriarch of an extended and blended family, I value family as much as anyone. But I also value choice, and respect the rights of anyone to love whom

continued from page 2

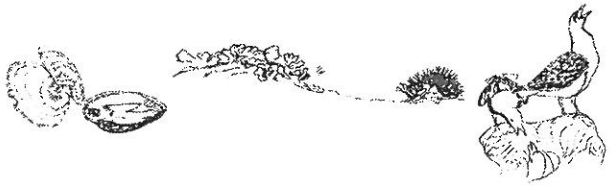
they chose, and to determine their own decisions about their bodies. This community has been enriched by the involvement and generosity of gay and lesbian people for decades, but I have recently heard homophobic rumblings along the island telegraph. If these rumblings are true, we are all demeaned by them. Our community is devalued.

Galiano is still what it has been for many years; an island with a wonderful and energetic community, a safe and healthy place to raise children, a place where people are accepted without regard to their appearance, their religion, their personal choices, or their bank balance. It is still a place where we can live surrounded and inspired by beauty. If market value is the only value that prevails, and new and less stringent land-use by-laws are adopted in the future, Galiano could become a bedroom suburb, and lose both its unique characteristics and its diversity. A healthy community, a valuable community, is one that is home to people of varying ages and socio-economic backgrounds. Creating a heritage forest and secondary industries may create home-grown, long-term jobs that will allow young people to continue to live and raise their families here. By working together to preserve the true and integral value of our island, we can ensure that it remains a place where diversity is celebrated, and children are raised with love, and with respect for others and for the natural world that surrounds them. As Loren Wilkinson concludes elsewhere in this issue, we may have to almost lose what we love before we learn to value it. We are close to that point now. To save it, "Love is the only word that will do."



continued from page - 1

The inevitable result is a devaluing of the very idea of value, as in "You have your values; I have mine." But the question remains: can a world of diverse values allow us to speak of the value of biodiversity? If we are to speak of the value of biodiversity, we must do so within a larger framework in which value can have some meaning. I will outline five such frameworks – two pragmatic, and three religious – in which the value of biodiversity has been affirmed. I intend no extended critique of these frameworks, but neither do I intend to present them neutrally. I present them in what I regard as an ascending order of adequacy.



Pragmatic Value: Economic

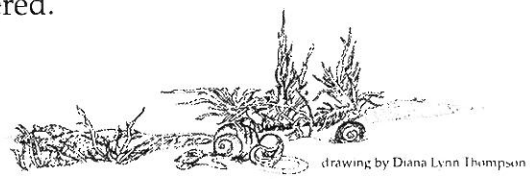
We begin with the strictly pragmatic, understood in economic terms; "Bidiversity – is it worth more than money?" The question assumes the central place of economic value in the market system. For some, to ask whether biodiversity is "worth more than money" is an oxymoron.for "What other kind of worth could there be?" Indeed, the triumph of a global market, transcending all other ideologies, seems to be the one overarching constant in which "values language" can proliferate. So long as we do not interfere with the freedom of others to pursue their private values in the global marketplace, we can, so it is said, applaud a plurality of values. For the one value we all agree to live by is market value.

The affirmation of biodiversity in market values goes something like this; the diversity of life provides goods or materials or even (in a sense) services that human beings are willing to pay for. These things can be bought and sold. In a market economy, if people aren't willing to pay for something, then the thing has no "value." A very great range of things and creatures that can be "valued" come under this kind of economic utilitarianism; plants and animals, obviously, because we eat them, or make useful things out of them. Today, we recognize that, because of the enormous potential usefulness of genetic material, there are strong economic reasons to keep the largest store of living things available, even if they have no economic value now.

The attempt to deal with environmental problems on the basis of economic value alone has been most rigorously developed by a school of economics that flourishes in the American West, but regards Margaret Thatcher, the apostle of privatization, as one of its patron saints. Economists who argue this way make the hard-to-answer case that it is common property resources that are most severely misused. "What's everybody's business, they say, is nobody's business." Consequently, when there is no private ownership, there is no one to insist (through the courts, if necessary) on the proper value of the land and its life.

So the economic argument says, in effect: If bio-diversity is worth more than money, such value is irrelevant, until that diversity is brought into the free market of economic transactions, which "counts" in today's world.

My intention is not to reject the market system; the centrally-planned economies of the Marxist world did no better before their collapse. I put this overwhelmingly pervasive form of valuing at the bottom of my list simply because it is inadequate. The willingness of someone to own or pay for a living thing is not enough. For example, in the face of more obvious economic benefits from a dam or a road or a residential development, the possibility of future genetic value does not go very far in ensuring the survival of species that have not yet been discovered.



drawing by Diana Lynn Thompson

Pragmatic Value: Survival

I move on to a second reason often given for "valuing" the diversity of life. It is not narrowly economic, but it too is pragmatic. It is based on the premise that the earth's biosphere is a vast network of inter-relationships with other living things and the non-human environment. The premise is stated most comprehensively in James Lovelock's Gaia hypothesis: that many features of the planet, especially its atmospheric composition, are actually tailored by life to provide the best environment for life. The next step is obvious: If this complicated network of biodiversity is our life-support system, then we degrade it at our peril. Such a premise lies behind the image of the planet as "spaceship earth."

continued on page 5

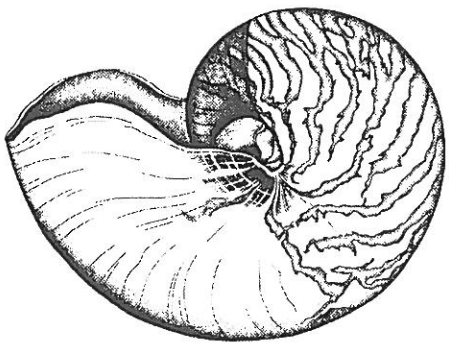
continued from page 4

It was Paul Ehrlich who first used the analogy comparing disappearing species to the rivets on an airplane wing. Losing one rivet was no worry, but what if a tenth of the rivets are lost? Or half? At some point the wing will fail, taking its human cargo down with it. So, in pragmatic self-interest, we need to keep a healthy biosphere.

But the emphasis is still on human self-interest. Biodiversity, in this framework, has value because it is necessary for our survival. If living things are of value to us only as rivets in an airplane wing, they can be replaced by their functional equivalent. Who cares what the rivets are made of, as long as the plane keeps flying? If a rare species is valuable for its ability to provide a particular chemical compound, then its value disappears when that chemical is synthesized. It can be argued that the rainforests need to be preserved because they are "the lungs of the planet." But if an equivalent way of sustaining a breathable atmosphere could be provided, that value of biologically diverse forests would disappear.

This second means of valuing biodiversity does not depend, like the first, on reducing all living things to their cash value. But as in economic valuing, the worth is centred not in the living thing, but in what it can contribute tour well-being. The intrinsic value of biodiversity is always under the cloud of the possibility that human ingenuity can discover a functional substitute for the living thing.

drawing by Diana Lynn Thompson



Varieties of Religious Values

There are three other ways of valuing the diversity of life. These focus on the living thing itself, not on what it can provide us. I have called these "religious": let me explain what I mean by that word.

By "religious", I mean that which pertains to our ultimate framework of meaning: that which we live for. That definition encompasses the traditional religions, but it includes much more – even, I suppose, the determined atheist who is religious about his atheism. I use the word is in the common way we use it when saying that someone does something "religiously." Most people are "religious" about some things: that attitude usually enables them to give value to things apart from immediate self-interest.

Pantheistic Values

Pantheistic value says that we ought to value – and hence preserve – biodiversity because life itself (perhaps everything) is divine, and worthy of reverence and even worship. This position is consistent with the elaborate animism of aboriginal peoples, with Hinduism, and with philosophies like Stoicism (with its elevation of nature) and the more recent thought of Spinoza. In North America, many Native peoples had a tradition of apologizing to the spirit of an animal before it was killed for food. Similar respectful attitudes are recorded for forest peoples dependent on trees. Jainism, like Buddhism an ancient reform movement within Hinduism, is more consistent in that it regards all taking of life, plant or animal, as a sin. The righteous Jain eats little; the Jain saint dies of starvation. Not surprisingly, Jainism has never been wildly popular. But it has survived for 25 centuries, perhaps because of the rigorous consistency of its position: if all life is divine, then harming any life is a sin.

continued from page 5

The implications of this kind of pantheism for valuing biodiversity are obvious; if all living things are divine we should do no harm to them. In the last couple of decades, the environ-mental or "deep ecology" movement has become overtly spiritual, turning away from technical fixes and towards spiritual change. It is, in many respects, an ethic looking for a religion, and the religion is pantheism. Many people try to practice some kind of "earth spirituality", often accompanied by vegetarianism. They do this, not for health or economic reasons, but because they, like Jains, believe that it is a sin to take life.

Neo-paganism is a rapidly growing religious movement in both Europe and North America. This attempt to revive or re-invent Celtic, Norse or other old religions is rooted in a conviction that all things are divine, and has drawn many people to the practice of Wicca – often combined with an ecofeminist honouring of "the goddess" of the earth, Gaia. Consider these words from a contemporary Wicca priestess:

I am Pagan. I am a part of the whole of Nature . . .. I honor the Divine that is with the oak trees in the forest, in the herbs in the garden, in the wild birds singing in the trees, in the rock outcroppings on the hillside, in myself.

Singling out "man" as the only creature made in God's images, say modern pantheists, lies behind the human mistake of "specieism". An alternative is the position of "biocentric equality", based on the divinity of all things.

Pantheist religions do indeed provide alternatives to the self-centred and pragmatic context for valuing that we considered earlier. Pantheism, in whatever form, values the diversity of life for its own sake. The problem with pantheism is illustrated by the Jain idea that the most righteous person starves to death. It leaves us no room to be human. Nor does it speak to the profound ambiguities of human nature, which lead to our ability to destroy species wilfully, as we have been doing since prehistoric times, and at the same time to honour and value them – as we have been doing for just as long.

Theistic Values

A fourth reason for protecting the diversity of life is theistic. It is rooted ultimately in the passionate Hebrew proclamation that the Creator is not to be confused with Creation. "The earth is the Lord's", says one of the psalms. It is not to be worshipped as divine, nor degraded as worthless. We ought to care for the earth's diversity of creatures because they *are* creatures, creations of a loving and personal being who, through whatever process, sustains them as a gift of love.

Arguments for the protection of biodiversity that make use of the concept of "stewardship" are usually rooted in some kind of theism which attributes value to all creatures because God made them, and that recognizes that human creatures have unique powers over – and responsibilities for – other creatures. The concept of stewardship implies responsibility *for* (in this case, for all other creatures) *to* some other person. Biblical theism portrays humanity in a web of relationships to other creatures; this portrayal resonates with current ecological understanding. At the same time, it pictures humanity as being in vertical relationship, representing creation to the Creator. It is certainly true that many in Christendom have treated creation as an object for "plunder or pleasure", but such behaviour is a perversion of Biblical theism. Theists who value biodiversity recognize that the references to human "dominion" over other creatures must be understood in a way that is consistent with the Biblical teaching that humanity is to "watch over" and "tend" the other creatures. What this means for valuing bio-diversity is seen in the respectful "naming" of Genesis 2, or the gathering of two of every kind of creature, by Noah in the story of the ark.

Christians point to New Testament texts which link Christ to all of creation, to passages in which all things are reconciled to the Creator in Christ. The cross is not a symbol of divine Salvation for humans out of a fallen creation; rather, it pictures the Creator's self-giving will not to let creation be lost.

continued from page 6

Although most concern for valuing biodiversity is rooted,however distantly, in a theistic understanding of stewardship, a deistic strand in Christian thought has kept this link from being obvious. Deism emerged, in the late seventeenth century, as a belief in a watchmaker-like God, who created the flawless mechanism of the cosmos, then left it to run on its own. This idea was useful for the emerging tradition of science.

It justified belief in an orderly creation, to be investigated by reason and "natural philosophy", but with no accompanying demands of dogma or authority. Gradually, scientific confidence in understanding the mechanisms of creation became so great that the idea of an initiating craftsman whose creatures these were dropped out of the picture entirely.

For those who maintained some Christian faith, the concern to find evidence for god's activity led to a search for gaps in our knowledge, where the intervening hand of the Creator could be seen. For many, as these gaps have narrowed, so the gap between Christianity and science has widened. The theory of evolution, published in 1859, is widely regarded as beginning a widening of that chasm. There are now many Christians whose belief in creation has nothing to do with the valuing of creatures, and everything to do with proving divine interventions in the process of their creation. On the other hand, many scientists, naturalists, and environmentalists are motivated by wonder and awe at the creatures. However, they feel that to speak of that value in terms of "creation" is to commit themselves to a kind of intellectual suicide, which will impede understanding of the process by which life's diversity has been shaped – and hence of the value of that biodiversity.

Still, this chasm was not inevitable. As David Livingstone has persuasively shown in this work ***Darwin's Forgotten Defenders,*** many Christians applauded Darwin's hypothesis. They understood that it led to a deepening of the Christian doctrine of the immanence of the Creator God. As Charles Coulson put it, "Either God is in the whole of nature, with no gaps, of He's not there at all." Such a belief is not pantheistic – it is orthodox, Trinitarian Christianity, though it has been obscured in the West, and appears most clearly in Eastern Orthodox Christianity.

drawing by Diana Lynn Thompson

continued from page 7

Religious Values: Scientific

This brief foray into Christian thought is a prelude to discussion of my fifth context for valuing: the scientific. For I am calling science too a *religious* framework for the valuing of biodiversity. Genuine science is rooted in awe, wonder, a sense of mystery – and of the value of the thing being studied: in short, in attitudes that could well be described as "religious".

Two factors obscure this religious view of science: One is the language of science itself, which goes to great lengths to obscure the personal passions of the scientists who create it. Science sometimes is described as a value free activity. It must remain silent on issues such as biodiversity. Consider the form of the scientific paper: it is in the third person and the passive voice. "If these materials are combined under these circumstances, this reaction is observed to take place."We infer the existence of persons only from the author of the paper. The investigation of the world continues under the charade that no one is doing it; that facts are emerging passionlessly from the undifferentiated chaos of nature. In ***Personal Knowledge***, Michael Polanyi sets this myth to rest, by showing that science is an intensely personal dialogue with an unknown reality that is nevertheless believed to be knowable. Polanyi is fond of applying Anselm's dictum, "I believe in order to understand" to both scientific and religious knowledge.

The second factor that obscures the value-rich – and essentially religious – nature of science is that the wonder-driven search for knowledge of an ever-deepening mystery is often short-circuited by the human drive for power. The gap between new knowledge and our application of that knowledge to further human mastery of the world is always narrowing. A fisheries biologist from the University of BC recently lamented that, in North America, whole biology departments are effectively purchased by grant money from corporations hungry for more marketable knowledge. It is, of course, not wrong to use knowledge. But that which drives science, that which makes it in its purest form a religious activity, is not the use to which knowledge is put. Rather, it is the sense of penetrating deeper and deeper into an awe-inspiring mystery. Science is not about the impersonal accumulation of facts; it is about the personal uncovering of the objective *value* of creation, and the deepening knowledge motivated by that personal belief in the value of creatures.

Increasingly, thoughtful scientists are rejecting the relativism of the whole post-modern, deconstructionalist pretense that science – and nature itself – are simply private, personal constructions. It is a real world that is being investigated – but a world external to us; it can only be known through personal commitments, loves, and valuations. Love for the world is nowhere more evident than in the growing recognition of the need for humans to exercise stewardship of the diversity of life, which in its totality many scientists are increasingly likely to call "Creation".

I was privileged to attend the Rio Earth summit in 1992. That event made that new term "biodiversity" something of a household word. Whatever we might conclude about the political effectiveness of that huge conference, one fact is so obvious it is hardly ever noted. Although we were there to discuss the diversity of life on earth, it was only humans who were present. The rest of the millions of species whose fate was discussed did not attend – or perhaps, they attended only in so far as human beings, in love, wonder and appreciation, spoke for them.

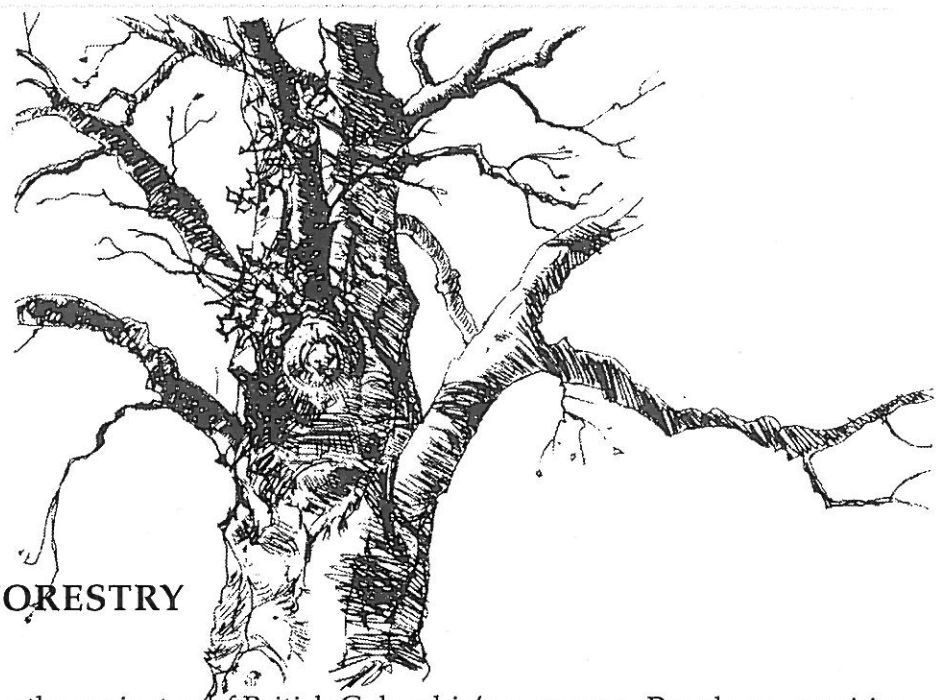
The valuing of biodiversity cannot take place without persons who value. It depends on our passionate conviction that the mysterious beauty of creation is worthy of our study – and our love. Frameworks for valuing, such as the self-interested ones of market economics, or the spaceship earth mentality that says, "We need biodiversity to ensure our own survival", are obviously inadequate if they do not recognize value in living things themselves.

continued on page 9

continued from page 8

On the other hand, frameworks for valuing which eliminate the human centre are inadequate as well. All monisms share this inadequacy, whether it is the paralysing pantheist belief in the divinity of all things, or the reductive scientism that say we are nothing more than a complex molecule's protective equipment.

Value is not a mere preference – as in the post-modern, virtual reality world of "choosing your own reality." But neither can value be demonstrated by some impersonal calculus. It may be that we will have almost destroyed what we love before we realize that we love it – and are losing it. Nevertheless, love is the only word that will do. Love implies responsible human persons, in relationship with the vast virtues of a world of diverse living things. No framework for valuing, which reduces either that human centre, or the diversity of the rest of life, is adequate.



THE TRUE VALUE OF FORESTRY

Keith Erickson

Industrial forestry has long been the mainstay of British Columbia's economy. Rural communities and metropolitan areas have thrived under the commercial liquidation of our province's forests. Now, that is changing. Access to merchantable timber has become more difficult and more costly for the big forest companies. This has resulted in economic pressures that induce corporate down-sizing and relocation. These have, in turn caused a tremendous amount of damage to rural communities which have been built on the prosperity of the forest industry. We have also begun to realize that our rate and methods of timber harvest have been based on a model that does not promote the long-term ecological integrity of our province's forests, making a boom and bust industry inevitable.

During the boom years, British Columbia's forest industry was competing in a market that encouraged a high degree of environ-mental degradation, and gave a low dollar per cubic meter return on our wood. This resulted in massive clearcuts, and the export of raw logs to foreign markets. Now we must recognize the true value of our forests, not as renewable agricultural crops to be cut down and sold as raw timber, but as healthy, functioning ecosystems that can provide us with the material for high-quality, finished wood products. There is a growing demand in the global market for products made from wood that is extracted without threatening the intricate ecological web responsible for its creation. Tapping into this market through eco-forestry and eco-certification is one of the solutions for British Columbia's forest-based communities, and the environment that supports them. The Silva Forest Foundation (SFF), a non-profit organization dedicated to the principles of eco-forestry, is in the forefront of the evolution of forestry in BC.

continued on page 10

continued from page 9

The SFF develops and teaches the principles of ecosystem-based planning and ecologically responsible forest use, including alternatives to conventional timber management. SFF's approach:

- looks first at whole forest landscapes and whole human communities.
- protects large ecosystems and provides for strong local economies.
- emphasizes what to leave in the forest to maintain the ecosystem, not what to take to maintain economic growth.
- recognizes that the forest sustains us, we do not sustain the forest.
- works to protect, maintain and restore forests.

In the words of Herb Hammond, one of the founders of the SSF:

Ecologically responsible forest use attempts to avoid loss of forest functioning by maintaining forest composition and structures, from the smallest soil bacteria to the landscape patterns of a large forested watershed..."

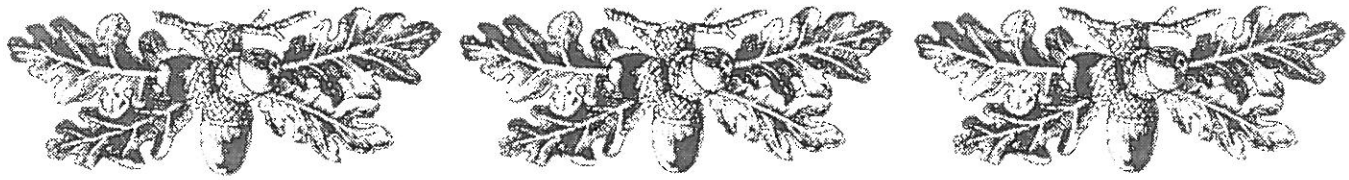
This type of thinking follows in the foot-steps of ideas proposed long before the impacts of industrial forestry were as visible as they are today. In the 1950s Forester and conservationist Aldo Leopold recognized the intricate connections between all living things in ***A Sand County Almanac:***

The 'key-log', which must be moved to release the evolutionary process for an ethic is simply this: quit thinking about decent land-use as solely an economic problem. Examine each question in terms of what is ethically and aesthetically right, as well as what is economically expedient. A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it does otherwise.

The Silva Forest Foundation's directors have been practicing and promoting ecologically responsible forest use - or ecoforestry -- for over 25 years. As part of this work, SFF has developed an ecosystem-based certification program. The program recognises and rewards ecoforesters, promotes a value-added wood products industry, and offers consumers a responsible choice. SFF is a founding member of, and has been approved for accreditation with, the Forest Stewardship Council (FSC). The Forest Stewardship Council (FSC) is the certification scheme supported globally by environmental groups such as Greenpeace, demanded by buyers in Europe and the USA, and sought after by many timber companies in BC. The concept of "timber certification" emerged in the late 1980s after environmental groups --- Friends of the Earth, World Wildlife Fund, and Greenpeace -- lobbied the International Tropical Timber Organization (ITTO) to implement an international labeling scheme for tropical timber.

ITTO conducted some studies on the topic, and continues to do so, but did not go beyond developing guidelines, criteria and indicators for sustainable forest management. As a result, WWF, other environmental groups, and a few corporations such as the British home improvement chain B&Q, began work on the creation of the Forest Stewardship Council (FSC).

continued on page 11



continued from page 10

Since 1993, the FSC has been the agency that sets the minimum standards for eco-certification. Its certification verifies compliance with their standards from the forest through to the final product. This is known as "chain of custody" monitoring. An independent organization, approved by the FSC, evaluates a forest company's practices, monitors the wood's chain of custody, and awards certification. Only six organizations in the world have the authorization of the FSC to certify forestry operations and wood products.

The Silva Forest Foundation is the only Canadian group with this authority. On its web page, ***www.silvafor.org***, the SFF states that:

The demand for certified forest products is exploding. Globally, the demand is clearly in excess of supply, and will likely remain so for the foreseeable future. Since 1997, the demand for certified wood has risen from about 1% to almost 10% of the global demand for wood, and is growing at over 100% per year. This demand is primarily for visible, high-value items (e.g.: furniture, flooring, moldings, etc) which translates well into support for a diversified, value-added industry in BC predicated on the use of certified wood.

Merv Wilkenson's logging operation at Wildwood, near Ladysmith on Vancouver Island, serves as a testament to the positive economical impact of eco-forestry practices. Merv has been logging Wildwood for over 50 years and has maintained a diverse, intact forest ecosystem. In Herb Hammond's book ***Seeing The Forest Among The Trees***, Merv's operation is used to illustrate the impacts eco-forestry could have at a provincial level:

Merv estimates that less than 250 hectares of his type of coastal forest would keep two people fully occupied and financially solvent in perpetuity. Based on this formula, the 40.9 million hectares of available forest land in BC could furnish about 320,000 jobs – about four times the current level of timber industry employment. Considering that industry employment figures include milling, and that Merv does no milling, Wildwood –style forestry could probably easily provide five to six times the number of jobs currently furnished by timber companies.

Galiano Island is a microcosm of the rest of the province. We have been clear cutting our forest land for the past 30 years, often with little attention paid to the ecological impacts, and even less to the welfare of our community. Clear cutting may maximize the short term profits of the landowner, but it does little for the economic security of the members of our community. Still, we are luckier than many other communities in our region. We have not developed all of our forest land. We have protected over 12 percent of Galiano's land base in reserves and parks, and we have a diverse population owning many of the skills needed for both primary and secondary use of the forest. We are now faced with an opportunity to provide a solid economic base for our human community, while maintaining a healthy environment for all members of our ecological community. This opportunity consists of adopting the practices of eco-foresty for remaining forested lands, and keeping the harvested wood on the island for secondary processing.

Residents of Denman Island have been working towards such a vision for some time. Denman provides an example of a community effort to provide stewardship for the land while still generating economic benefits. As stated on their website ***www.denmanis.bc.ca:***

continued on page 12

continued from page 11

The extraction of timber in a way which maintains the ecological integrity of the system followed by value added use of the wood will generate two main categories of benefits:

1. *Higher returns to the forest owners by enhancing the value of the product sold. This could result in a reduction of the annual volume of timber required to be harvested to pay for the land.*
2. *Higher returns to Denman Islanders by creating additional income/jobs on Denman.*

While it is realized that value-added will mean greater control of the forest and job opportunities for the community, it is important to note that in the competitive market place any manufactured products will be competing against low-labour market competitors.

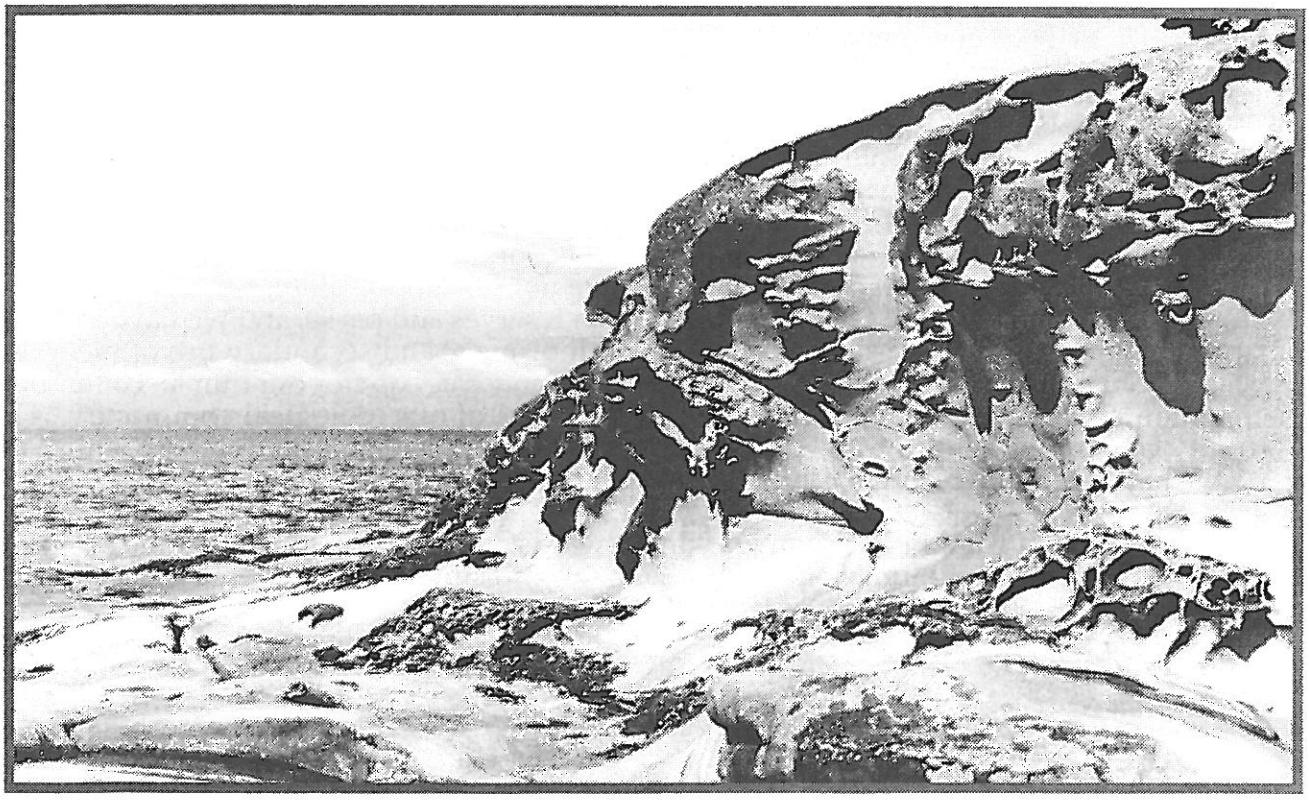
Mechanisms such as the SSF's eco-forestry certification program serve to ensure an adequate share of the market for the certified value added product. If demand for such products continues to rise as expected, certified wood and wood products will also fetch a higher price from consumers.

Herb Hammond concludes:

Our FSC-certified logs are milled, kiln dried and made into high-value products "By logging in an ecologically responsible manner, by maintaining benefits locally, and by truly valuing the wood in BC, our certified operations not only protect the forests, they are also building the foundation for long-term, high-value employment - a future we can all look forward to.

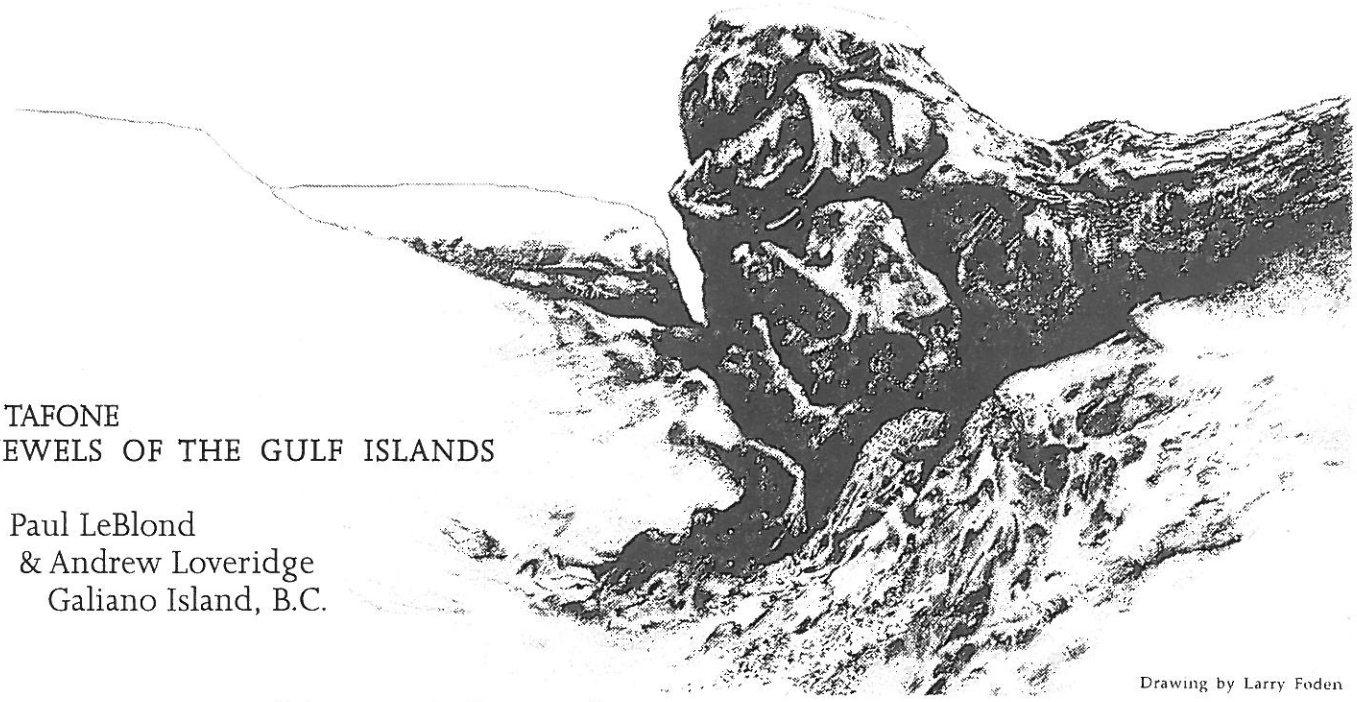
Resource

Hammond, Herb: ***Seeing the Forest Among the Trees***. Vancouver: Polestar Press Ltd. 1991 (available at the Galiano Conservancy Association Library)



TAFONE
JEWELS OF THE GULF ISLANDS

Paul LeBlond
& Andrew Loveridge
Galiano Island, B.C.



Drawing by Larry Foden

Ssh xixnaten, "place with footprint", on Galiano, was named by the Coast Salish people because of a footprint formed in the Gulf Islands sandstone of south Galiano. Somewhere on the isthmus between Sturdies Bay and Whaler Bay, Xaals put his left foot down; his stride was so large that his right footprint is at Chuckanut Bay, south of Bellingham. The left footprint seems to have been lost, although the right is still visible. But the story tells us that Gulf Island people have been looking at formations in sandstone for a long time.

The early explorers certainly took note of these formations. Part way through their 1792 exploration of the shores of what they called the Gran Canal de Nuestra Señora del Rosario, which we now know as the Strait of Georgia, Dionisio Galiano and Cayetano Valdés anchored for a few days in a small bay at the north end of Gabriola Island. In this protected cove, which they called Cala de Descanso (Rest Haven), they rested for a few days, replenishing their fresh water supply and trading with the native people. Galiano's "Relacion" of the voyage contrasts the habits and language of the local aboriginal people with those of people met earlier, and describes their ingenious fishing techniques and the dog-wool coats they wore. The most interesting memento of Descanso Bay, as it is still known, is perhaps the sketch that the expedition's artist, Joseph Cardero, left us of the covered passage, which runs, along the rocky shore.

The Malaspina Gallery, as the erosional feature is called, is still there to see, on the shore of Descanso Bay, not far from the B.C. Ferry terminal. It is one of Gabriola Island's main tourists sights. The Southern Gulf Islands ferry schedule exhorts the traveler to "explore the amazing Malaspina Galleries world-famous, cave-like sandstone formations." Before receiving orders to explore the inner waters of Juan de Fuca Strait, Galiano and Valdés were members of the Spanish round-the-world scientific expedition led by Alejandro Malaspina. They honoured their former commander by naming some of the features they encountered after him.

The gallery, carved in the island's sandstone, is three meters across and over thirty meters long. It is a magnificent example of tafone (ta-foh'-nay, rhymes with pony), a word used by geologists to describe the result of an erosion process, which eats away at rocks, leaving behind holes and cavernous indentations. Gulf Islanders are already familiar with tafone. They see it every day in the soft sandstone of their beaches. It takes a variety of forms, ranging from prosaic pock-marks and shallow honeycombs to womb-like alcoves, intricate lacy veils and mushroom-like features. The smooth, sensual forms of tafone are a powerful source of inspiration for island artists and photographers.

continued on page 14

continued from page 13

If one takes a close look at a tafone features in sandstone, one notices that, on the inside, the matrix holding the grains of sand together is disintegrating: sand readily rubs off the rock, which gradually falls apart. In contrast, the outer surface is often darkened and weathered into a more rigid crust. The action of water, wind, and chemical processes gradually destroys the more vulnerable parts of the rock and leaves behind a complex eroded structure. Mottershead and Pye (1994), examined the microscopic details of tafone features on the Devon coast; they found that marine salts contributed significantly to the chemical weathering process of tafone erosion. Gulf Island tafone sculptures owe their existence to the same kind of slow erosion.

How fast does tafone deepen? Studies have shown that the rate of erosion strongly depends on local conditions. The French geologist Grisez (1960) found a rate of deepening of about 1mm/year over sixty years in a sea-wall on the Atlantic coast of France. Japanese geologists studied tafone features on sandstone platforms abruptly raised above sea level by well-dated earthquakes, going back to 1400 AD. They discovered that the rate of erosion was fastest, similar to that measured by Grisez, at the beginning of exposure, gradually slowing down with time (Matsukara and Matsuoka, 1991).

Although the environment has changed considerably over the past two hundred years - cottages and paved roads surround the Malaspina Gallery park; downtown Nanaimo is visible in the distance - the Gallery is clearly recognizable from Cardero's sketch. A closer look shows that it is slightly worse for wear. A large slab, about two square meters in area, has fallen off the roof at the northern end. Some of the damage is in the form of graffiti, which have in general increased erosion. In some cases, perhaps where some paint was used, the inscriptions are raised above the background, as if the paint had enhanced the cohesiveness of the stone that it covered. Unfortunately, these graffiti are undated and are useless in attempting to determine a local rate of erosion.

Embedded within sandstone, one often finds harder rocks, usually rounded, which gradually emerge from the matrix as the softer material crumbles around them. These are called siderites, presumably because of their high iron content. Their rate of emergence is an indicator of the rate of erosion of the sandstone that holds them. Cardero's sketch shows a carved face on a rock peeking out of the gallery's wall. Today, we can still see a rounded rock at mid-height in the gallery, bearing the familiar modern "happy-face" icon. This is probably the same sculpted rock seen in Cardero's sketch, perhaps recently altered. In any case, it is not possible to estimate the rate at which it may be emerging from the sandstone.

Overall, it appears that tafone erosion starts rather quickly (at about 1mm/year) but soon slows down to a much slower rate. Many of the spectacular tafone sculptures scattered along Gulf Island shores are certainly hundreds, and perhaps thousands, of years old. There are traces on Gabriola shores, particularly in the cove where the ferry dock is located, of former galleries, now collapsed. Tafone does not last forever. Its life cycle is on a time scale comparable to that of an old growth forest. Left alone, today's delicate tafone jewels may last for many years. Kayakers, beachcombers and other visitors to Gulf Island shores who appreciate the natural beauty of tafone structures should also respect their fragility.

References:

Fairbridge, R.W., Editor, 1968.
The Encyclopedia of Geomorphology.
Reinhold Book Co., New York.

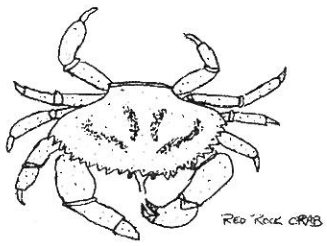
Galiano, D.A., 1802.
Relacion del viage hecho por las goletas Sutil y Mexicana en el año de1792. Imprenta Real, Madrid.

Grisez, L. ,1960.
Alvéolisation littorale de schistes métamorphiques. Revue de Géomorphologie Dynamique, 11, 164-167.

Hayes, D. 1999.
Historical Atlas of British Columbia and the Pacific Northwest.
Cavendish Books, Vancouver.

Matsukura, Y. and N. Matsuoka, 1991.
Rates of tafoni weathering on uplifted shore platforms in Nojima-zaki,
Boso Peninsula, Japan. Earth Surface Processes and Landforms, 16, 51-56.

Mottershead, D.N. and K. Pye, 1994.
Tafoni on coastal slopes, South Devon, UK. Earth Surface Processes and Landforms, 19, 543-563



The Ethics of Environmental Education

Kate Emmings

What are the ethics of environmental education? As in any branch of education, I think the big challenge for environmental educators is not to teach what is right and wrong, but rather, to give youth the skills to determine, for themselves, what they deem correct. It's the age-old difference between teaching kids what to think and teaching them how to think. But -- how do we do this? How do we control ourselves when we think we know, beyond a shadow of a doubt, that what we think is right and that what others may think is wrong?

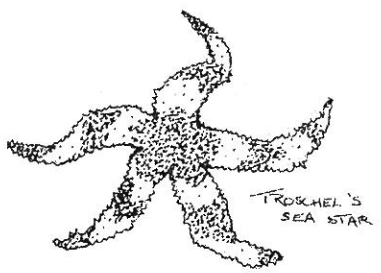
In late September and early October, the Galiano Conservancy Association, in conjunction with divers and educators from SeaChange Marine Conservation Society, took the children of the Galiano Community School on three field trips to Retreat Cove (one for each class). On Loren and Mary Ruth Wilkinson's beach, we set up aquariums to house creatures that divers brought up from the sub-tidal and inter-tidal areas around the cove. The kids were allowed to view, and in some cases to touch sea stars, crabs, nudibranchs, fish, barnacles, shrimp and sea cucumbers. It was a very non-controversial field trip, in which the children learned about various animals and their habitats. It was science based and the emphasis was on fact, not opinion.

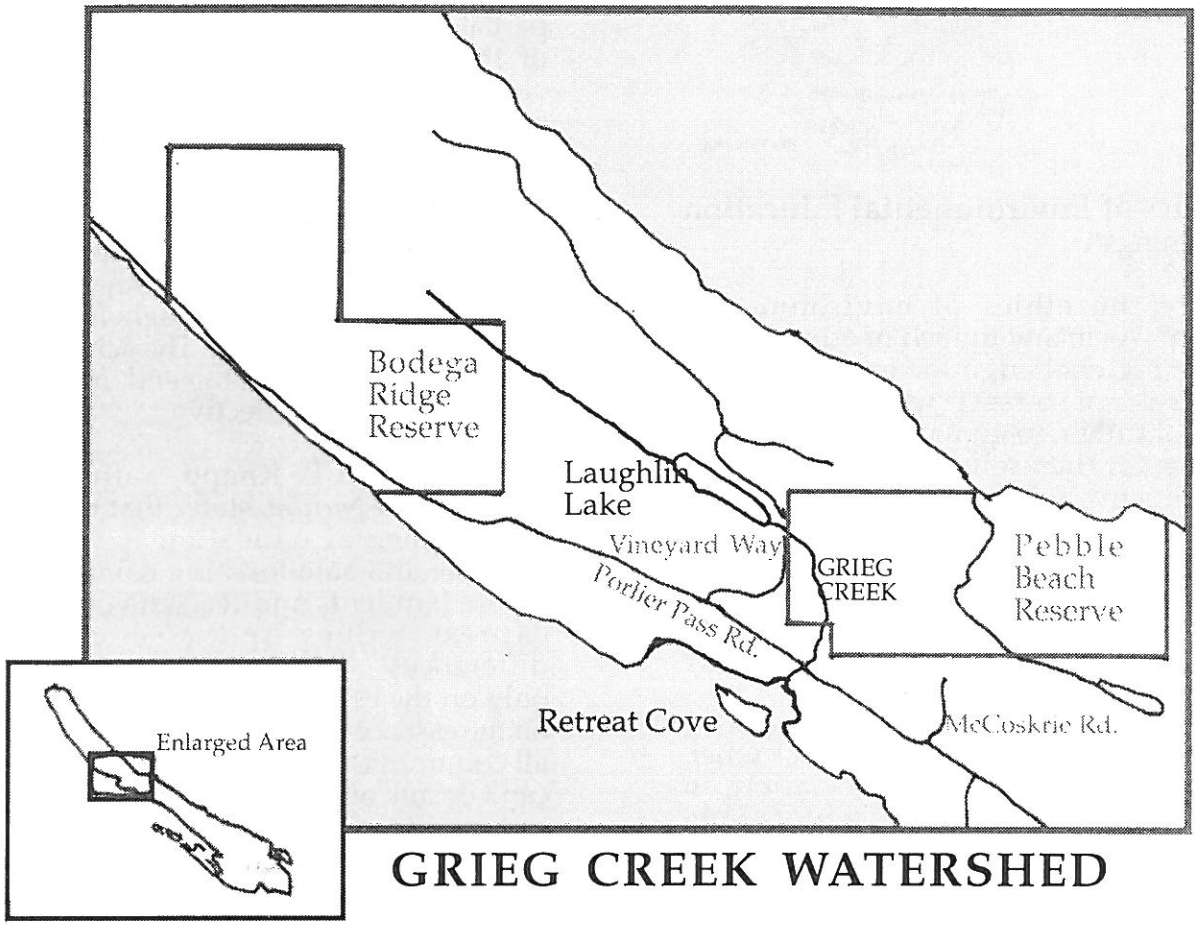
So, does making field trips non-controversial and fact-based mean that they are impartial? And, even more pertinent to the concept of education, does it make them effective? I tend to think that impartiality is very hard to achieve, even when dealing with topics that are non-controversial. Each individual brings their own views and opinions to the activities in which they are involved. .

Children can't be removed from this partiality. However, the real moral dilemma of the educator is not how to protect children from the biases of those surrounding them; it is how do we make children comfortable enough to express their own opinions, even when they are in the presence of biases? The goal is not to erase all of their thoughts and replace them with our own thoughts, but rather to allow them to define their own beliefs in ways that make sense to them. The achievement of this goal is what, in the end, makes any form of education effective.

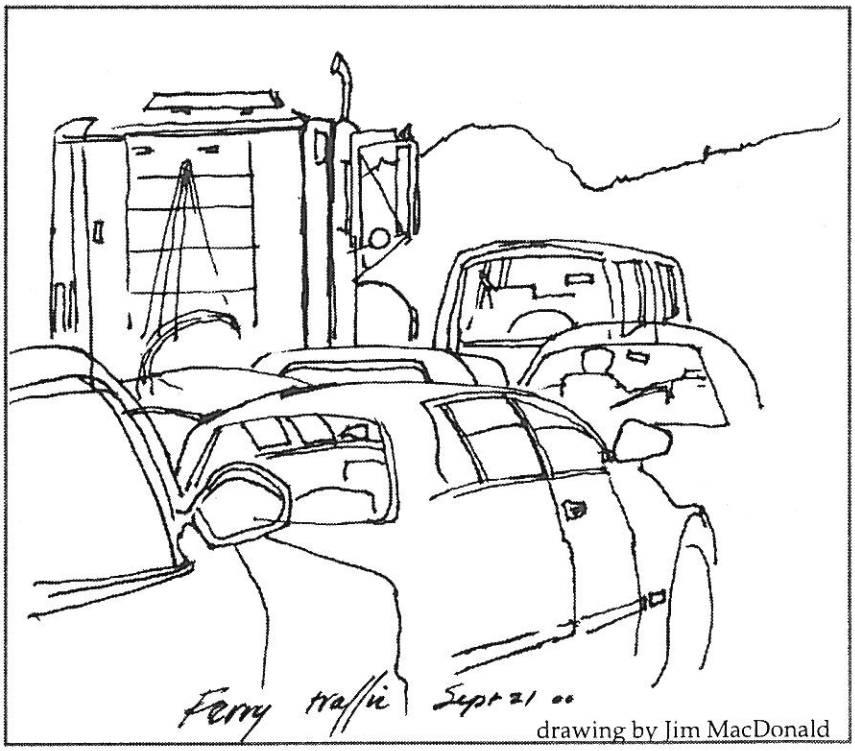
Clifford E. Knapp, author of ***In Accord with Nature,*** states that the key to environmental education is "creating humane and safe learning communities, where [students and teachers can] freely express values and also celebrate differences." Here, Knapp touches not only on the essence of education, but also on the essence of the environment in which all communication should take place. We can't escape our opinions, but we can learn to express them in non-threatening ways. We can offer children, and everyone else, the freedom to think as they please in the face of opposition. In the end, true freedom of thought and expression is the only reasonable goal of education.

The Environmental Education program at the Galiano Community School will continue throughout the school year. The curriculum will emphasize the interconnectedness of various parts of the **Grieg Creek watershed** (Grieg Creek exits Laughlin Lake and runs down into Retreat Cove). However, the ultimate goal will not be to teach youth about watershed ecology. Rather, the intent will be to encourage them to do their own research and to form their own ecological opinions in a tolerant and appreciative setting. .

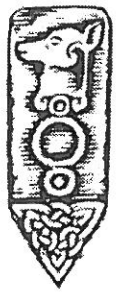




GRIEG CREEK WATERSHED



drawing by Jim MacDonald



The Power of the Public Voice

James McCarthy

James McCarthy, B.Sc. (Forestry) is a former Deputy Director for Scotland of the United Kingdom's Nature Conservancy Council. He visited Galiano in 1988, and has retained contact with Galiano residents since that time. Previous articles by James McCarthy appeared in the Spring 1998 and the Spring 1997 issues of Archipelago.

Twenty years ago, it appeared that the distinctive Scottish landscapes were destined to be swamped under a sea of uniform industrial tree-farming, blanketing the hills with exotic species grown for low quality pulp production, and with scant regard for amenity and wildlife. Government policy provided highly advantageous tax incentives for forestry. Wealthy investors with little interest in the land -- or indeed forestry, other than its short term fiscal advantages -- aided and abetted by forestry servicing companies, helped to convert some of the country's most important wetlands and moorlands into planted deserts, with impoverished wildlife and greatly reduced diversity.

Yet it was the sheer scale of the change in the countryside, strengthened by what appeared to be an inequitable taxation system, impoverishing the public purse, that aroused opposition. The public perception changed from one of relative apathy to an active groundswell of opposition. In this, the voluntary conservation bodies were to the fore.

As the independent environmental consultant appointed by the new Scottish Parliament to sit on the working group drafting the first comprehensive Scottish Forestry Strategy over the last 6 months, I have been astonished by what has happened in recent years. Yes, we still have great slabs of regimented squares of exotic conifers marching over our hillsides; yes, we still have recalcitrant owners seeking their pound of flesh at every turn; yes, we still have some in the timber world who think the pendulum has swung too far to the side of the so-called environmentalists; yes, we face a very real problem of how to cope with greatly increased timber transport on our inadequate rural roads.

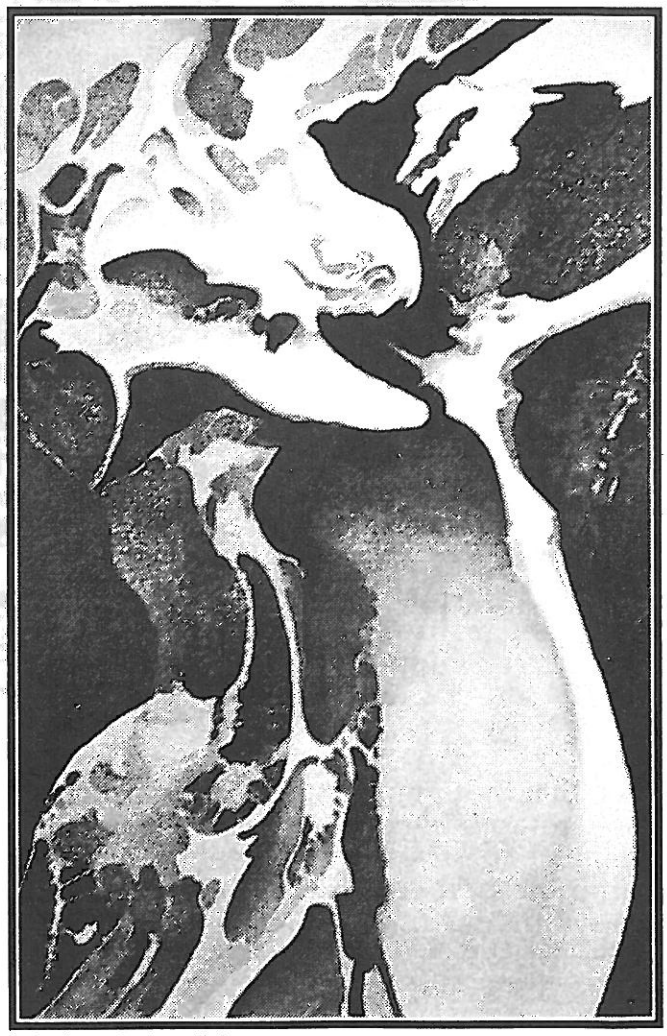
The fact of the matter, however, is that we now have a State forestry service which has responded significantly to the new public mood. It is increasingly refusing to provide grants for private forestry which are not in the public interest. Within the state forests themselves, there is substantial re-structuring to recreate biodiversity (at no little cost in, for example, felling well before economic rotation) There is a new commitment to protecting important wildlife sites, and an effort to involve the local community. These are not cosmetic changes, and their impact is reflected in a draft national forestry strategy, which has already undergone a wide-ranging process of public consultation. There is now an acceptance of the overarching principle of sustainability, and support for the integration of forestry with other rural activities, with emphasis on creating positive value for the people of Scotland. As a result, the forestry industry here must be one of the most closely regulated of any in the world.

Why should I relate this to a community several thousand miles away, with a very different forestry system? As one trained in forestry and deeply involved in natural heritage conservation on behalf of government until 1991, I almost despaired at that time of real change either on the part of the public forestry service or the private sector to make other than cosmetic concessions to environmental and other interests. The cards simply seemed to be stacked the wrong way. (It has to be said that public attitudes were influenced in the late 80s by a few well-publicised and very controversial cases whereby well-heeled landowners were paid massive public compensation to forego large plantation schemes.) A crucial factor has undoubtedly been the translation of international protocols, such as the Earth Summit at Rio de Janeiro in 1992, and subsequent European legislation, into domestic policy and practice.

continued on page 18

continued from page 17

There is therefore no one factor that has brought about this sea change in forestry policy in Scotland (as elsewhere in the UK). But there can be little doubt that without public campaigning allied to an increasing concern on the part of Government about the cost of grant aid and tax concessions, there would have been the same "business as usual" approach. Not before time, this virtual reversal of forest policy represents a very signal success for the power of the public voice. That public voice had to represent more than single interest groups; it must include bird watchers, scientists, local communities, hill walkers, and not least farmers, who in this country have been disenfranchised from forestry by tenure systems. The lesson is the same one that our freedom fighter Robert the Bruce learned --- when at one of this lowest ebbs – watching in his cave a spider struggling successfully after many vain attempt to regain his web – never give up!

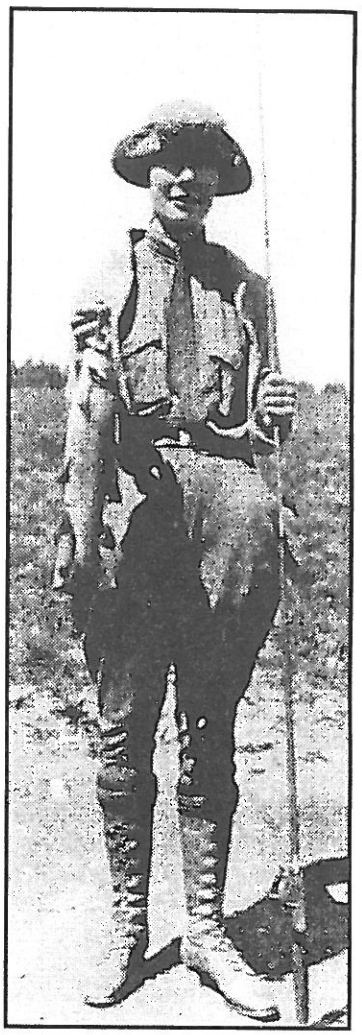


Rocks Forms by Larry Foden

REVIEWS

Gilean Douglas: Writing Nature, Finding Home

Andrea Lebowitz & Gillian Milton
Victoria, B.C. Sono Niss Press, 1999 227 pp.



Reviewed by Jillian Ridington

If you have read Gilean Douglas's books and poetry, ***Writing Nature, Finding Home*** will enhance your understanding and enjoyment of the author and her work, and send you back to your bookshelf to reread her. If you haven't yet read Douglas, this biography will provide a wonderful introduction and serve as an appetizer for a feast of her works.

Gilean Douglas was an environmentalist before the word was coined, and a feminist when inde-pendent women were a rare and eccentric breed. She was born in the Victorian, very "Anglo" Toronto of 1900, the daughter of a wealthy lawyer and an American socialite. ***Writing Nature, Finding Home*** is set out chronologically, so we follow Douglas's progression from an indulged only child, through her loss of both parents, and her long quest for a return to the secure home of her early childhood. After four failed marriages and extensive travel, her quest for the lost "protected place" ended, not in another human relationship, but in finding her place in nature.

Even in nature, she was not safe from abandonment. Her first "paradise" at the junction of the Sowaqua and Coquihalla Rivers was lost when fire destroyed her cabin. She moved to Cortes Island when she, and the 20th century, where both fifty, and spent the rest of her long life as part of that island community. She supported herself by writing, mostly for news-papers and magazines – a difficult task at best, and almost impossible for a woman writing about nature when "the women's page" was limited to fashion tips and household hints. Her first book of nature writing, ***River for My Sidewalk***, was published in 1953 under a male pseudonym. The publisher insisted that no one would believe that a woman had lived alone in a mountain cabin, and lived to write about it.

Douglas published her first poem when she was seven years old, and her last book of poetry when she was 92. She wrote ***Nature Rambles***, (a regular column for the Times Colonist), innumerable magazine articles, eight books of poetry, and three books of nature writing. These latter, ***River for My Sidewalk, Silence Is My Home-land"***, and ***The Protected Place***, are her most popular works. ***The Protected Place***, which tells the story of her life on Cortes from 1950 to 1979 (her book on her later years there has yet to be published) is probably her best known work, and of the most interest to those of us who also chose to live on islands.

CONTINUED ON PAGE 20

Douglas's environmental work was not limited to writing. She served as Director of Cortes Island's Electoral District and its representative on the Regional Board for many years; she was active in land use planning before the Islands Trust was created. The views she expressed in her year-end report for 1975 could serve today's Island Trustees well:

The great thing is to have imagination; to project on the screen of our minds not only today but tomorrow. Short-term dreams can turn into long-term nightmares. . . .So let us examine each suggested step of progress with microscopic eyes. What will this mean 5,10, 20 years from now? Do I want this island to be like so many other crowded, noisy places or do I want it to be a place where residents and visitors can find beauty, quiet, a sense of stability and that feeling of difference in life style that can be so stimulating and enjoyable. I haven't noticed all that much happiness in the places where gadgets grow. (quoted on p.186 of ***Writing Nature, Finding Home.)***

In ***Silence Is My Homeland***, published in 1978 but conceived and written many years earlier, Douglas recognized the concept of stewardship in a very modern way:

It is true that a little of this land is in my name, {but] ... I have never felt that I "owned" anything here. It is mine only in the sense that it is part of me as I am of it. How foolish it would be to say I possessed something that can never be possessed, that has been here centuries before I came and will be here centuries after I am gone. I am only a transient tenant who wished to find, for a pinprick of eternity, succour and serenity; who wished to praise beauty and to share great living. (Quoted on p. 92)

Gilean Douglas was a creature of her convictions, and a true "eccentric" in John Stuart Mill's sense of the term, which she quoted, and her biographers quote in turn:

Eccentricity has always abounded when and where strength of character has abounded, and the amount of eccentricity in a society has generally been proportional to the amount of genius, mental vigour, and moral courage which it contained. (quoted on p. 206)

Gillian Milton is Douglas's literary executor, and was one of Douglas's many younger friends on Cortes. How lucky she is, to have shared part of Douglas's amazing life! Still, the book that Milton and Andrea Lebowitz have crafted makes me feel that I now know Gilean Douglas, and she is a fine acquaintance indeed.

Gilean Douglas: Writing Nature, Finding Home is available at the Galiano Conservancy Association Library or from Galiano Island Books.

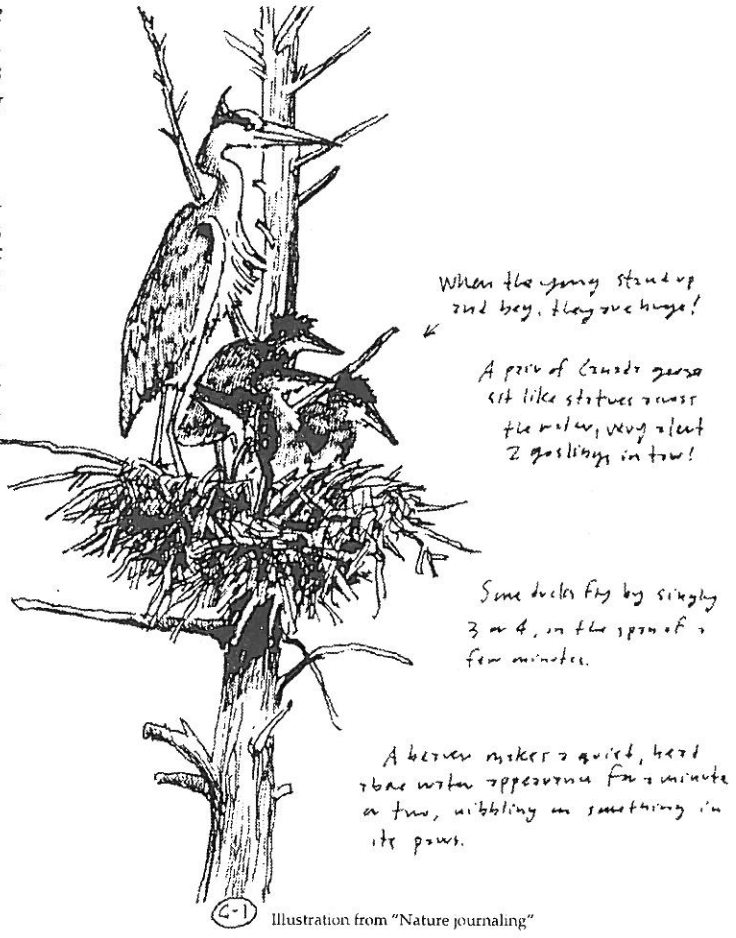


Illustration from "Nature journaling"

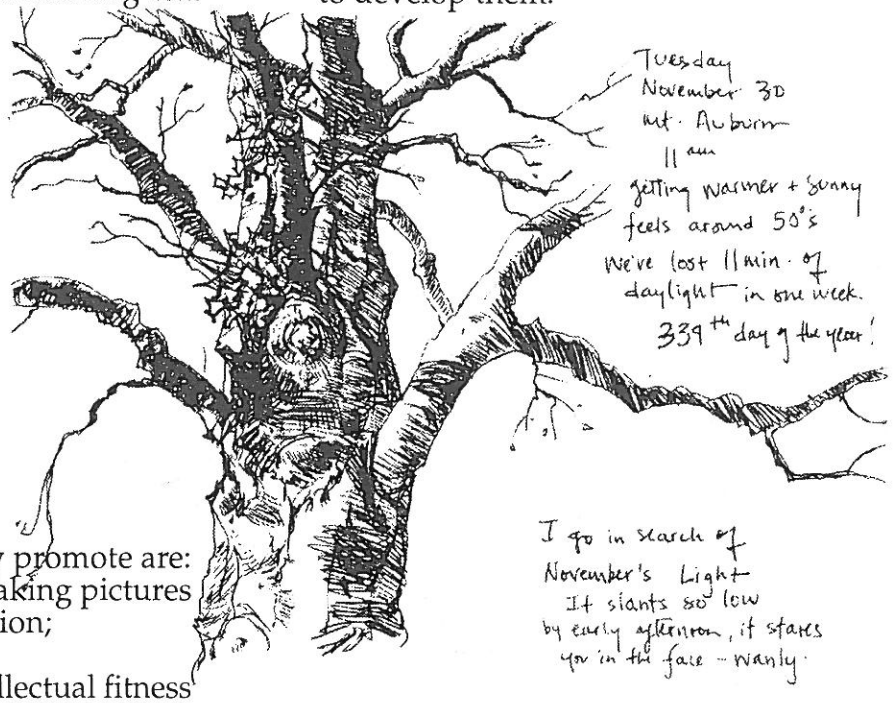
Nature Journaling

Clare Walker Leslie & Charles R. Roth
Storey Books 181 pp $37.95

Reviewed by Jim MacDonald

Nature Journaling guides and supports those people who cherish "real reality," as opposed to those who prefer virtual reality. Perhaps the authors' definition of nature journaling as "the regular recording of observations, perceptions, and feelings about the nature world around you" could also be applied to prehistoric cave drawings – the first known art made by humans. In another sense, nature journaling is certainly what children's art is all about. Contrast drawing from nature with crayoning in "colouring books". One fulfills a child's need to relate to his or her environment; the other blocks that urge.

The authors offer many guidelines for journaling, all useful to adults as well as the young. From many years of personal and teaching activities, they have distilled the ideas that seem most important. Some of their suggestions are focused on attitudes and aims, while others are descriptions of drawing and colouring skills.



The important attitudes they promote are:

- journaling is not a way of making pictures but a mode of paying attention;
- don't judge – record;
- think of journaling as an intellectual fitness program
- make regular times for journaling;
- record sights and sounds and scents.

Basically, they urge one to keep a verbal and visual notebook. Record on site, or collect items to record later at home. It can be helpful to concentrate on a single place or property, a very small area. Recording the seasonal changes of one view can be useful, too. Above all, attend to your surroundings, where ever you are.

Good illustrations demonstrate the techniques and skills needed to record, and describe the tools – for example, the pens and pencils – that are most useful for recording. Illustrations are also helpful in learning basic drawing techniques, from gesture drawing to finished drawing. The authors explain basic shapes and simple perspective drawing, and give useful tips on subjects from drawing flowers to recording wide landscapes. They also make useful suggestions on colour work, with both felt tip pens and colour pencils.

For those seeking further information on nature journaling, or on the attitudes and skills required, a helpful reading list is included.

I recommend this book: it is an important, interesting, and the skills it will help the reader develop will be rewarding to all who choose to develop them.

Nature Journaling is available at the Galiano Conservancy Association Library.

First Fish, First People: Salmon Tales of the North Pacific Rim

Edited by Judith Roche and Meg McHutchison, 1998. UBC Press.

Reviewed by Robin Ridington

Most of the sunlight that falls upon this planet illuminates and energizes water, not land. Think of the North Pacific as a vast photosynthethic field; a gathering place of energy, and the creator of great wealth. Long before humans colonized its shores, salmon and their ancestors established an anadromous life cycle, spawning in freshwater but living their adult lives in the open ocean. The term anadromous comes from the Greek roots ana (toward or up) and dromos, (road or entryway). The great ceremonial entry road that leads to the tholos tomb of a king in ancient Mycene is called dromos, and there has always been something grand and ceremonial about the way Pacific salmon return to their home waters to spawn and die.

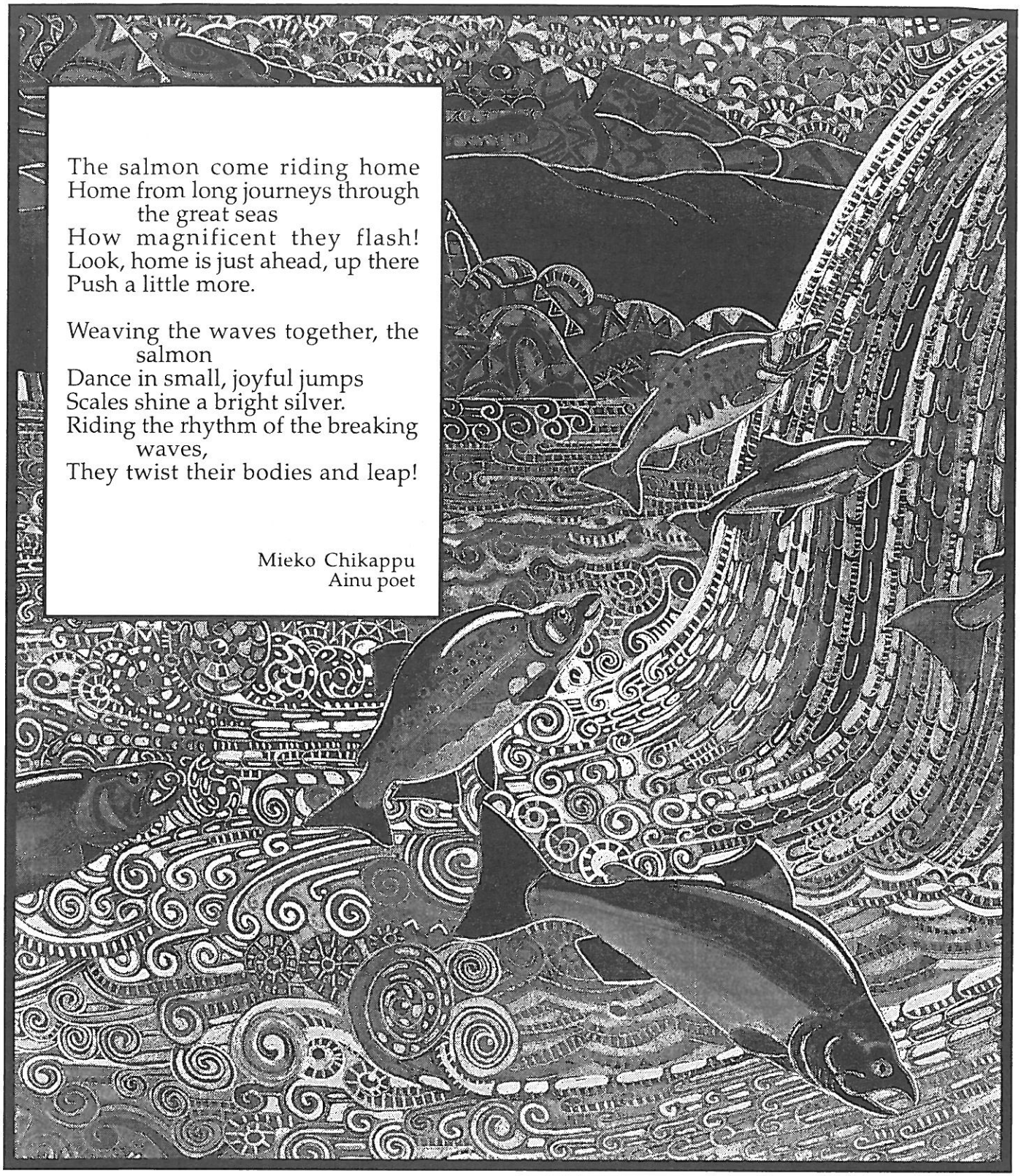
To the humans who have long made their homes along the North Pacific shores and inland waterways, salmon are both a gift of wealth and a source of food. In many of their languages, the word for salmon is synonymous with food. The Ainu of Hokkaido call salmon shipe, "the real thing we eat" (23). According to Ainu elder Shigeru Kayano, his people traditionally took salmon for drying only after the fish had completed their spawning. This practice makes ecological sense, in that the salmon streams of Hokkaido, like those of Vancouver Island, drain a mountainous island rather than a continental mainland

Thousands of miles away, the Columbia River's Wyanpum people stood on scaffolds with dip nets to harvest salmon as the fish struggled to negotiate Wayam, "Echo of Falling Water," or Celilo Falls, on their way in vast numbers to spawning grounds far inland. Wyanpum writer Elizabeth Woody says that "the enormous quantity of spawning fish running to the various tributaries, some as far north as Canada, could feed a whole family through the winter" (80). "When the fish ran," she writes, "people were wealthy" (79). On March 10, 1957, all this came to an end with completion of the The Dalles dam on the Columbia. The echo of falling water was silenced and the wealth of spawning fish was no more. The salmon that once passed upstream from the former site of Wayam were a gift to the Okanagan people of British Columbia.

The stories of Okanagan writer Jeannette Armstrong and Elizabeth Woody are among the many narratives about people and Pacific Salmon that Judith Roche and Meg McHutchison bring together in ***First Fish, First People: Salmon Tales of the North Pacific Rim***. They document a circle of salmon stories extending in an arc from the Siberian Ulchi and Nyvhk people and their neighbors, the Ainu of Hokkaido, through Alaska's Tlingits to the Makah of the Olympic Peninsula and the peoples of the Columbia River. The most conspicuous gaps in the circle of stories is an absence of material from the central coast of British Columbia; the Haida, Tsimshian, Kwa'kwa'kawakw, Gitksan and Witsuwit'en peoples.

Despite this gap, the stories included in the collection present a cross section of First Nations literatures. Some, such as the Ulchi clan legends and stories of the Salmon Spirit, are translations of traditional narratives. Others are the work of contemporary First Nations writers, including Sherman Alexie, Gloria Bird, Jeannette Armstrong, Lee Maracle and Elizabeth Woody. Some, like the work of Nora Marks Dauenhauer, combine translation with original drama and poetry.

The book is beautifully produced and illustrated with portraits of the writers as well as scenes of traditional fishing activities. Poetic images flash and shimmer like the beautiful Salmon that are sacred to First Peoples of the North Pacific. Ainu poet Mieko Chikappu writes:



These beautful fish are more than an economic resource. They are living beings who travel, like shamans, from one realm to another. As these writers and storytellers remind us, when our industry interrrupts the salmon's journey, it also diminishes the stories of the First People.

Hundreds and Thousands: A Show of Leaves and Wonder

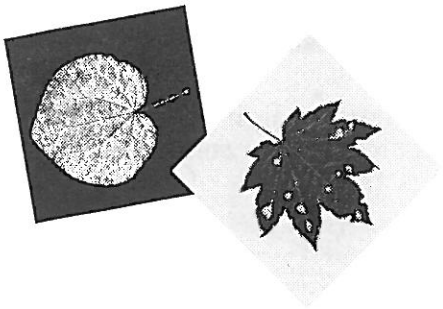
by Diana Lynn Thompson
at the Surrey Art Gallery until February, 2001

A leaf. Another leaf. Leaves on stems. Stems on branches. Branches on trees, and trees that make a forest. Even the smallest shrub has leaves by the hundreds and thousands.

Saltspring Island artist Diana Thompson knows leaves. She knows them as medieval monks knew the texts they copied onto vellum. She has numbered some twenty-six thousand of the leaves on five trees in Surrey's Bear Creek Park. She has also written hundreds of poetic lines on leaves throughout the park, placing them in places where she hopes people will discover them.

In the talk she gave to open her Surrey Art Gallery show, which includes five thousand numbered and inscribed leaves, Thompson explained that , in the thirteenth century, Leonardo Fibonacci calculated that "leaves spiraling up a stalk, or florets in a sunflower, exhibit a geometric series with each number forming the sum of the preceding two." He had discovered that "each plant part is placed in a way that gives it optimum exposure to the sun without shading the one beneath or beside it." The scientific value of this observation, she said, now allows architects to use the "Fibonacci numbers" to design the best placement of seats in an auditorium, "allowing the best viewing for the highest number of people."

But Thompson's show is not a testimonial to scientific optimization theory. It is about awe and wonder. Thompson is trained in both art and science. She knows taxonomy and phylogeny and adaptive strategy as well as any other cruncher of numbers, but she is also an artist and a poet. She knows leaves by cherishing their individuality, while maintaining a sense of awe at their multiplicity and functionality. Scientists count numbers. Diana has taken their obsession to an extreme. "I am not asking scientists to stop investigating the world," she said, "but I am asking them to allow the idea of mystery and the possibility of rapture into their work."



Rapture abounds in Thompson's show, "Hundreds and Thousands." The name is a reference to Emily Carr's journals, in which Emily wrote, "the mystery comes so close you can almost touch it." Diana took Emily at her word. In the project that led to her show, Diana did touch the mystery, over and over again. Her dizzy numeration of leaves paid tribute to themethods of science, but her purpose was released from scientific constraints. "Numbering every leaf in a tree isn't just about calculation," she says. "It's about absolute wonder."

The show itself is astonishingly beautiful. Diana has carefully harvested, frozen, dried, and pressed thousands of the leaves she numbered. She has pinned them in swirls and whorls onto the gallery's walls. Each leaf becomes three dimensional in relation to the shadow it casts against the wall. Airs that blow through the room animate both leaves and shadows. The walls are alive with wonder.

Diana describes her role as "a manager, a housekeeper, a mother, a cook." For her, the artist is not master, but helper. Her show is interactive. She invites visitors to discover and touch tiuy objects she has collected and placed in bowls: diaphonous insect wings, tiny bird bones, seeds of all sorts, meticulously unscattered by the artist's hand. She has prepared the ingredients, Guests take her offerings, and reassemble them in small white bowls. It is like being served an exquisite Japanese meal, a feast for the eye and the soul.

As I left the gallery and looked at leaves remaining on trees or fallen onto blacktop, I imagined, for a moment, that it would be possible to know and cherish each one of them. Ordinary folks can entertain such images because Diana LynnThompson has realized them.

At the end of the show, Diana will return hundreds and thousands of leaves to the earth. The product of her art is wonder, not objects for sale. The value of her work, she knows, transcends commercial numbering. By giving numbers to the leaves of trees in Bear Creek Park, she has created value beyond enumeration. Images from the show can be see seen

Hundreds and Thousands is on display until February 11,2001, at the Surrey Art Gallery (13750 88th Avenue - corner of 88th and King George Highway - phone 604 501-5566.Images from the show are available at *www.bookbill.com/dileaf.html.*