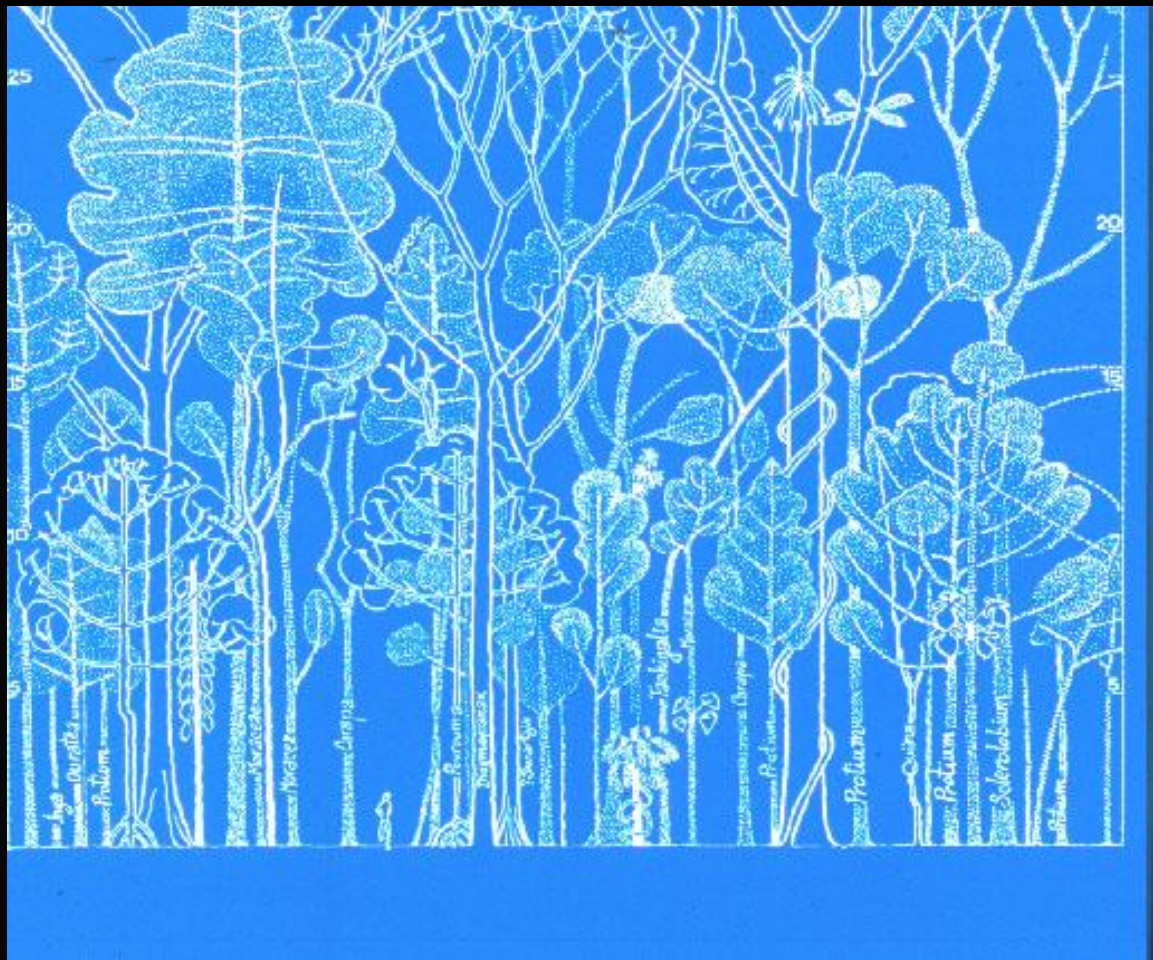
SCIENTIST
SCIO

COMMUNICATOR
COMMUNIS

- Canopy studies
- Communication
- Outreach and academics

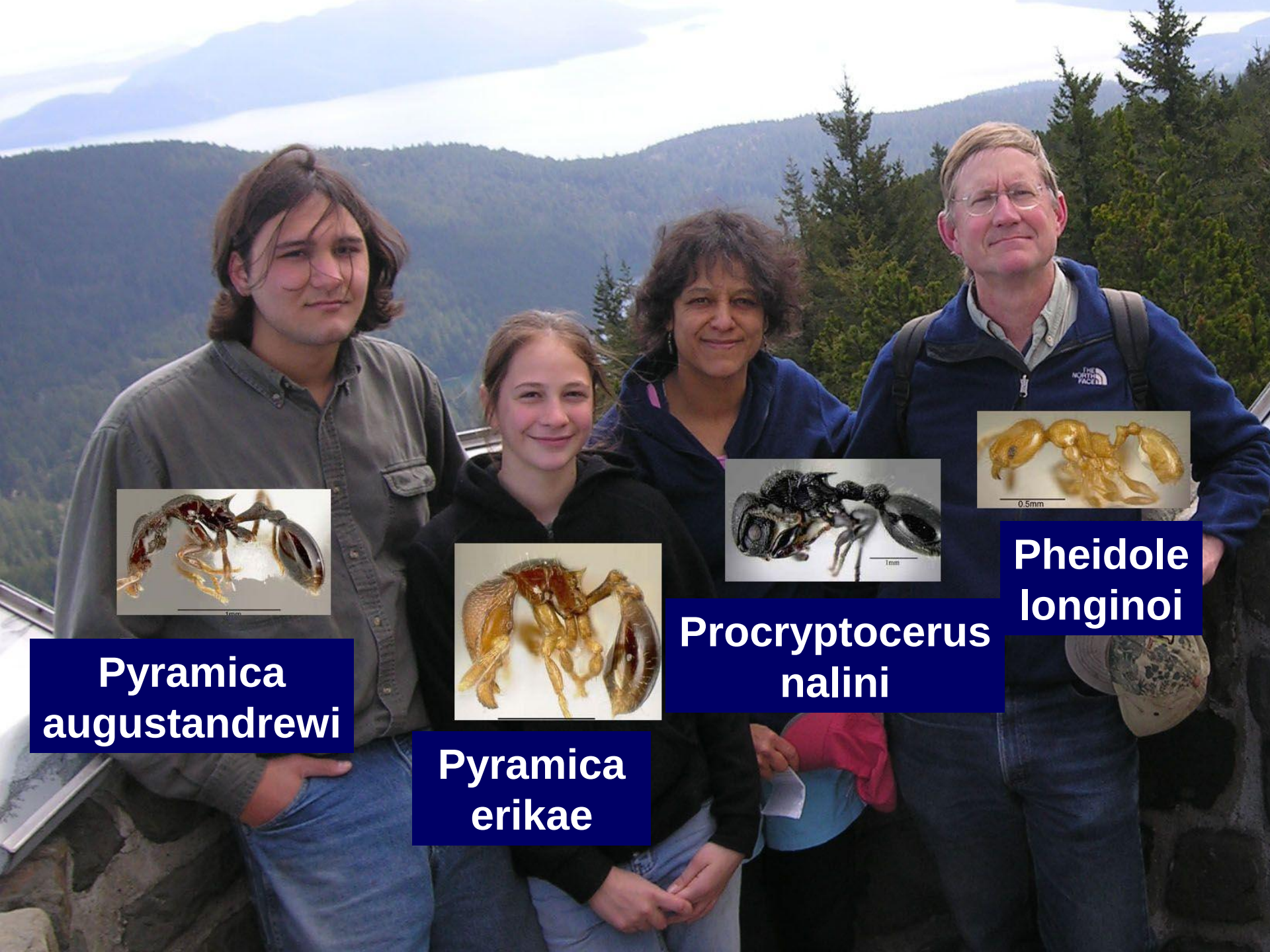
canopy

Forest floor



BIODIVERSITY

Procryptoceros nalini


Pyramica augustandrewi
Pyramica erikae
Procryptocerus nalini
Pheidole longinoi
0.5mm
1mm

EPIPHYTES

“arboreal soil”

ECOSYSTEM STUDIES

NUTRIENT CYCLING

CANOPY INTERCEPTION

± 60 % of Nitrogen

Clark et al 1998; Nadkarni & Matelson 1997

M. Hobson

“KEYSTONE”
COMPONENT

Nadkarni 2008

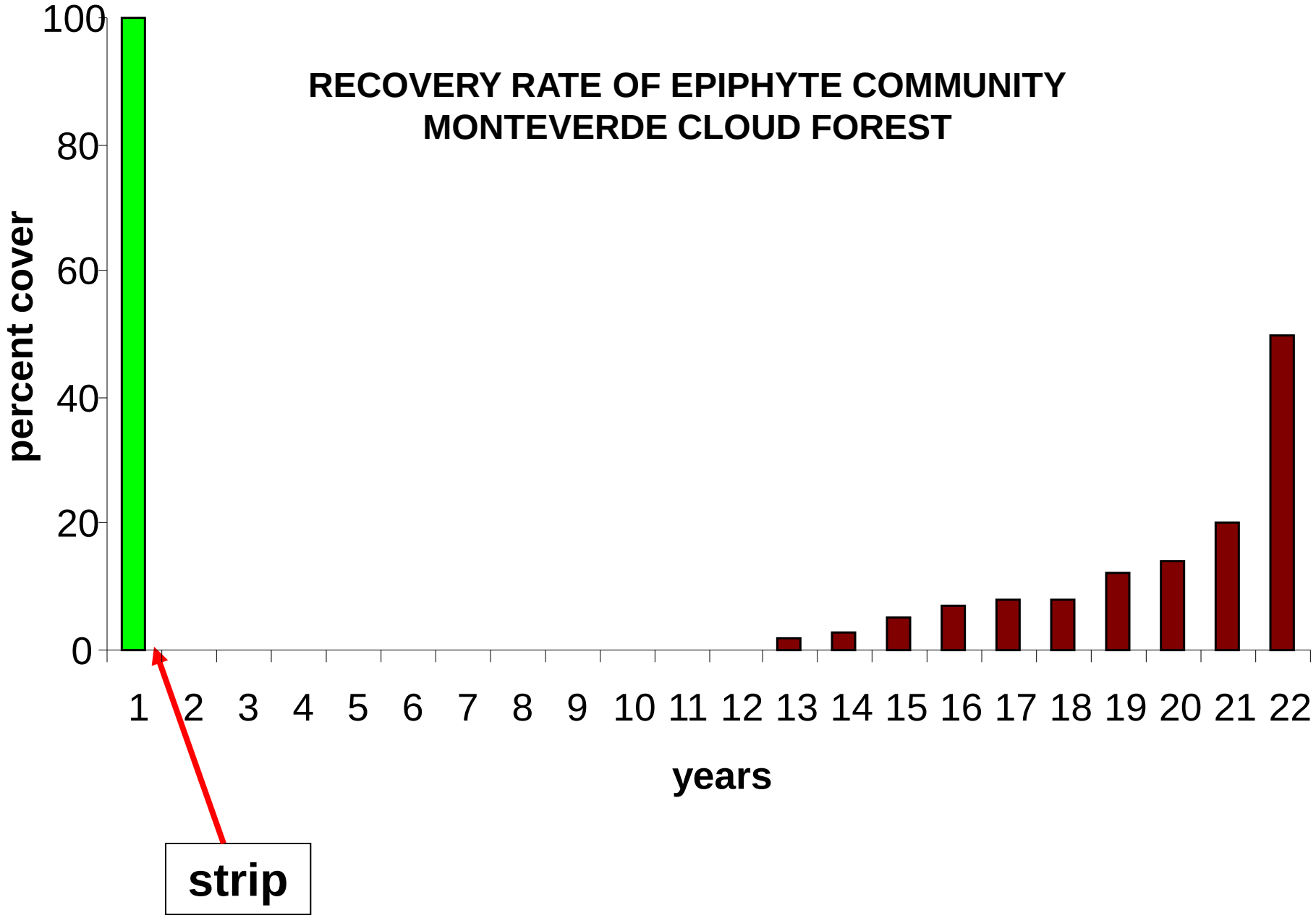
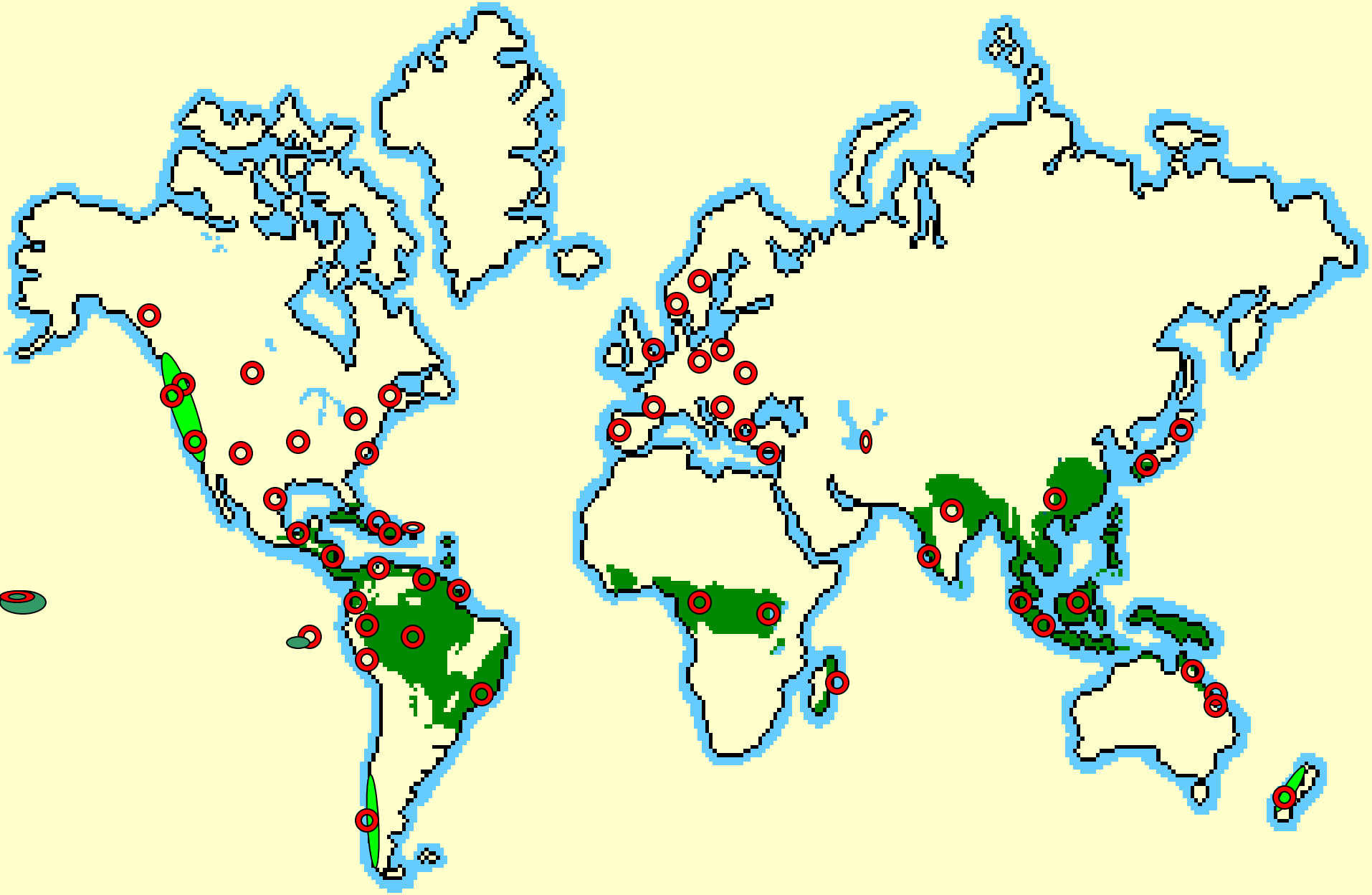

RECOVERY RATE OF EPIPHYTE COMMUNITY
MONTEVERDE CLOUD FOREST
percent cover
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
years
strip

Photo: M. Fogden

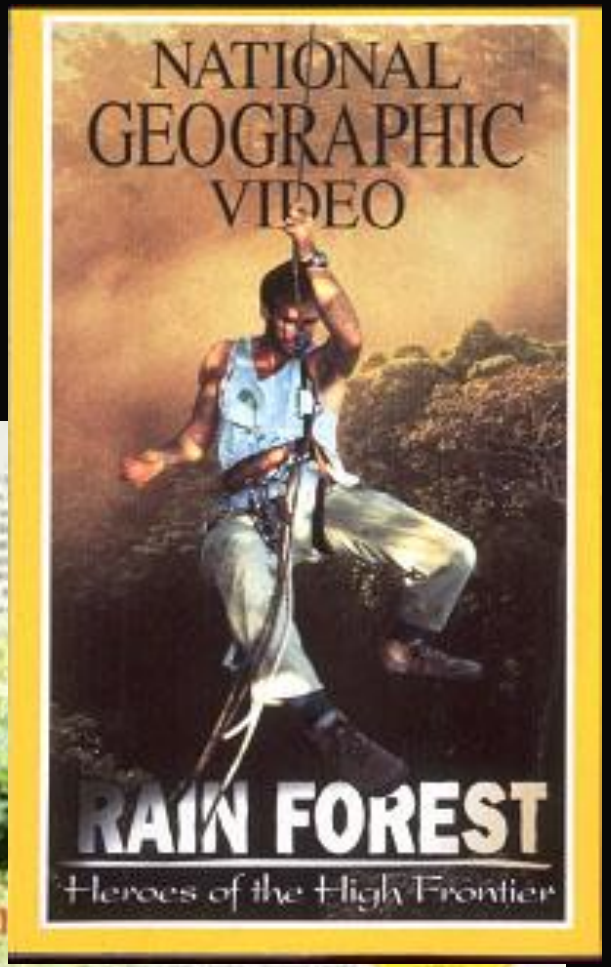


= STUDY SITE OF CANOPIES

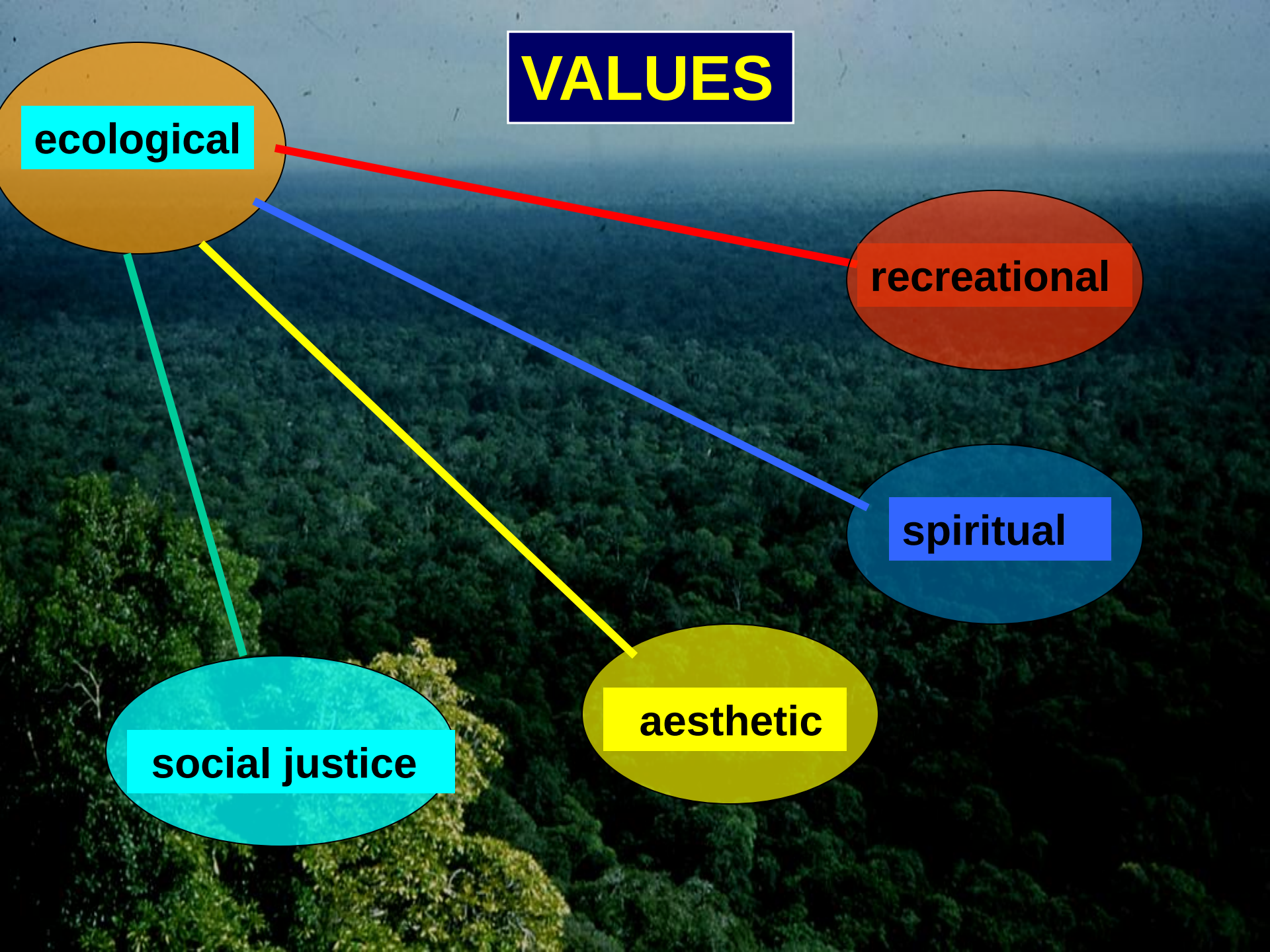
INTERNATIONAL CANOPY NETWORK

ICAN

RESEARCH • EDUCATION • CONSERVATION

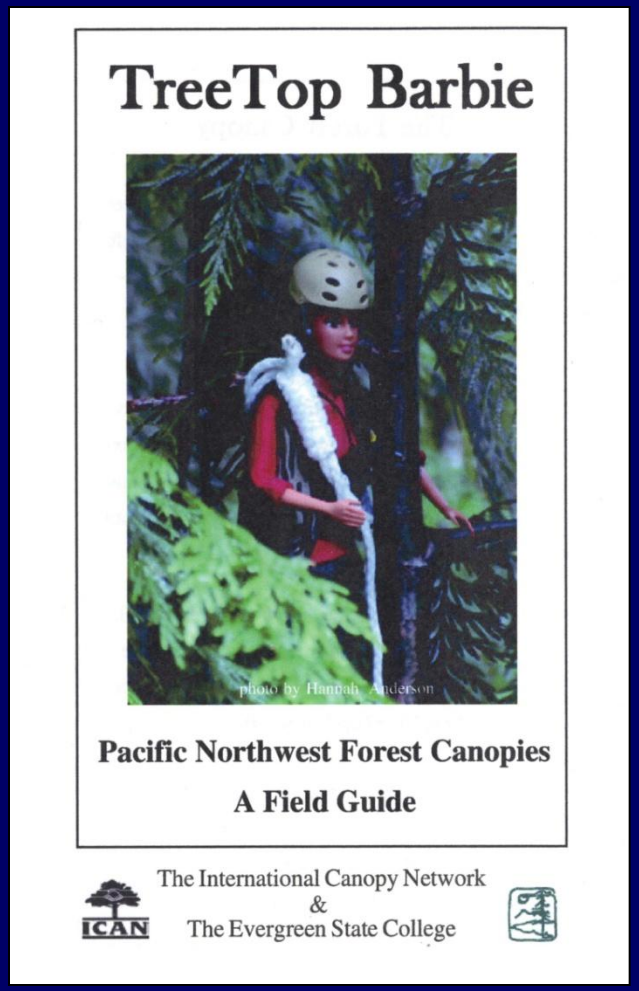


新宿区役所
Shinjuku City Office
マキシム
BILLARD
ENS
54
東


VALUES
ecological
recreational
spiritual
aesthetic
social justice

TREETOP BARBIE

NATIONAL
NETWORK


TreeTop Barbie
photo by Hannah Anderson
Pacific Northwest Forest Canopies
A Field Guide
ICAN
The International Canopy Network
&
The Evergreen State College

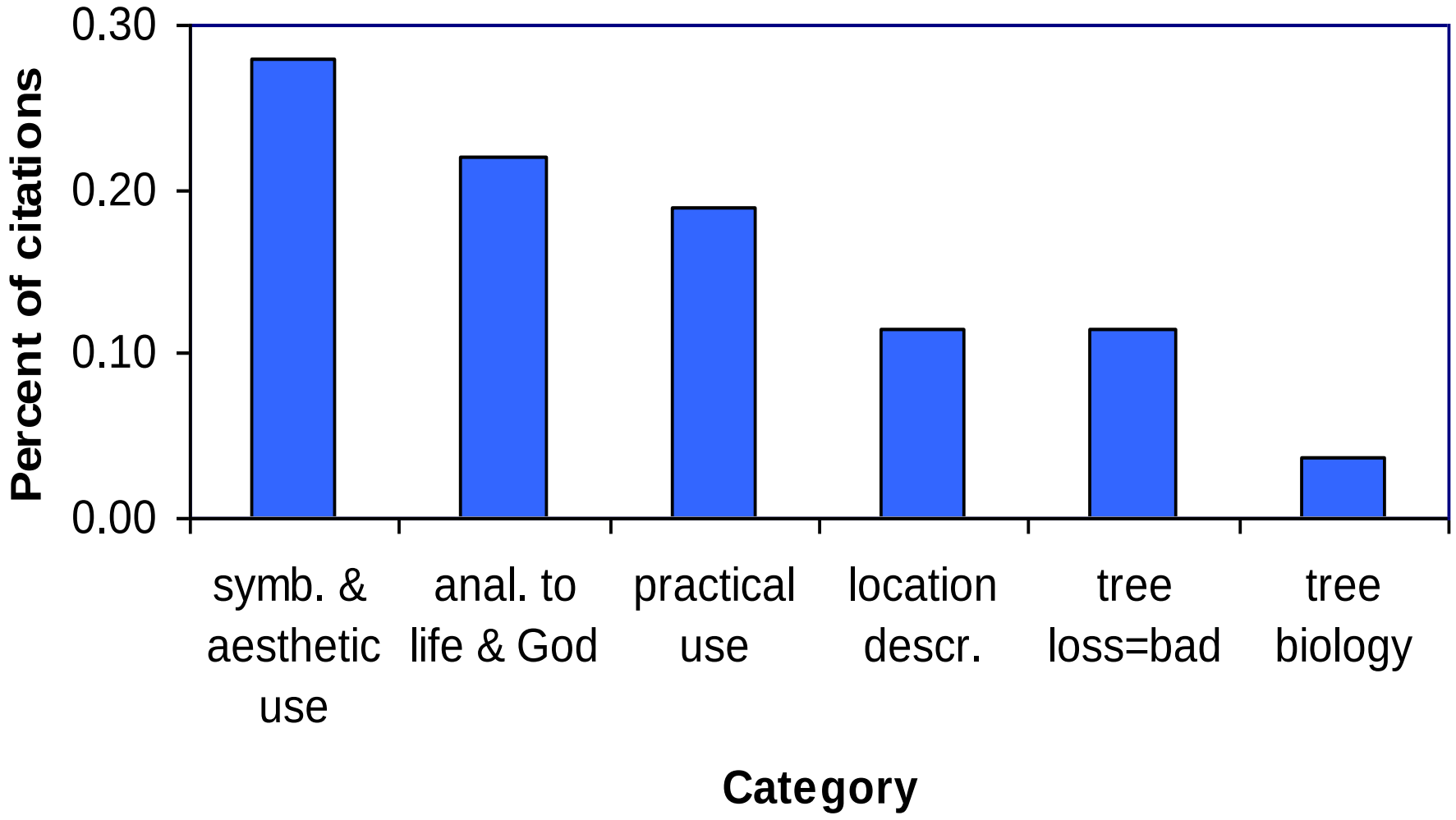
GROUND-SUPPORT KEN

SPIRITUAL

"Nothing is holier, nothing is more exemplary
than a beautiful, strong tree…"

-- Hermann Hesse

BIBLE REFERENCES TO TREES & FORESTS



ועשית כפרת זהב טהור
תורה

AESTHETIC VALUES

CANOPY CONFLUENCES

Bruce Chao

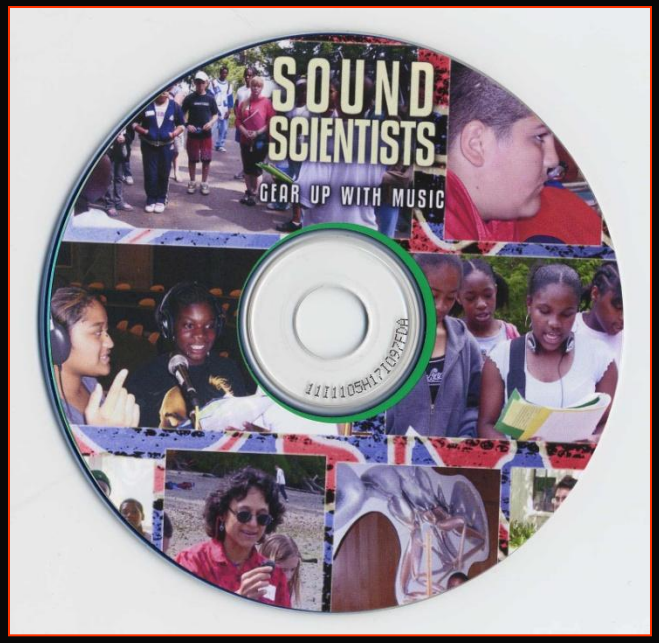
BRANCHING OUT

The Evergreen State College

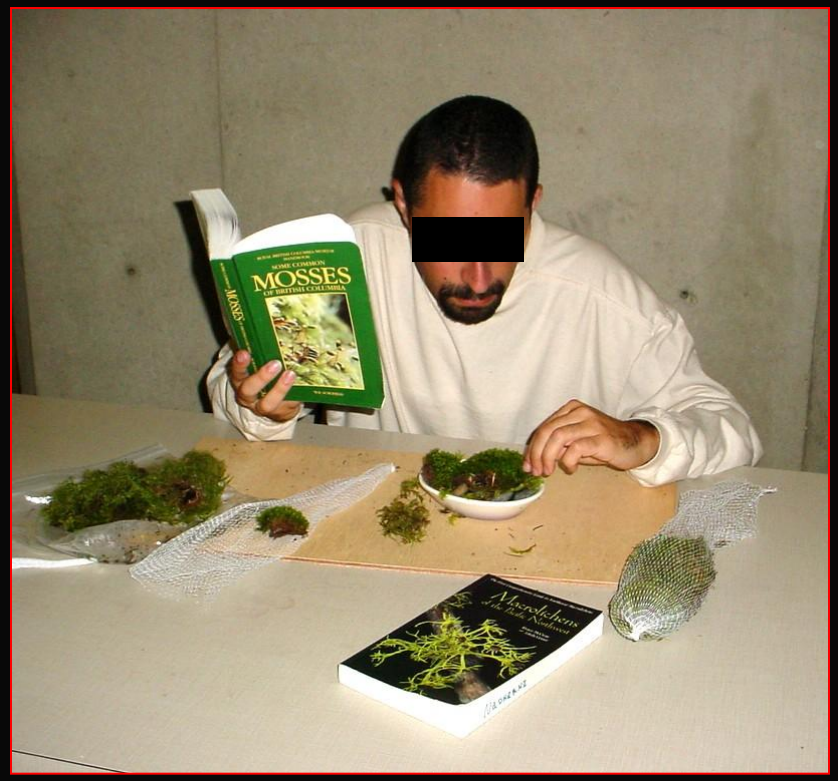
Capacitor, Inc.

“biome”

SOUND SCIENCE


SOUND
SCIENTISTS
GEAR UP WITH MUSIC

SOCIAL JUSTICE VALUES


MOSSES
OF BRITISH COLUMBIA

Ulrich & Nadkarni 2008

Environ Dev Sustain
DOI 10.1007/s10668-008-9145-4

Sustainability research and practices in enforced residential institutions: collaborations of ecologists and prisoners

Craig Ulrich · Nalini M. Nadkarni

Received: 4 September 2007 / Accepted: 19 March 2008
© Springer Science+Business Media B.V. 2008

Abstract Enforced institutional settings su
raise awareness, carry out research, and im
living. Institutions where residence is enforce
reasons (e.g., assisted living centers, summe
who may lack scientific training but have tim
be filled by supervised research. These ins

50
41
42

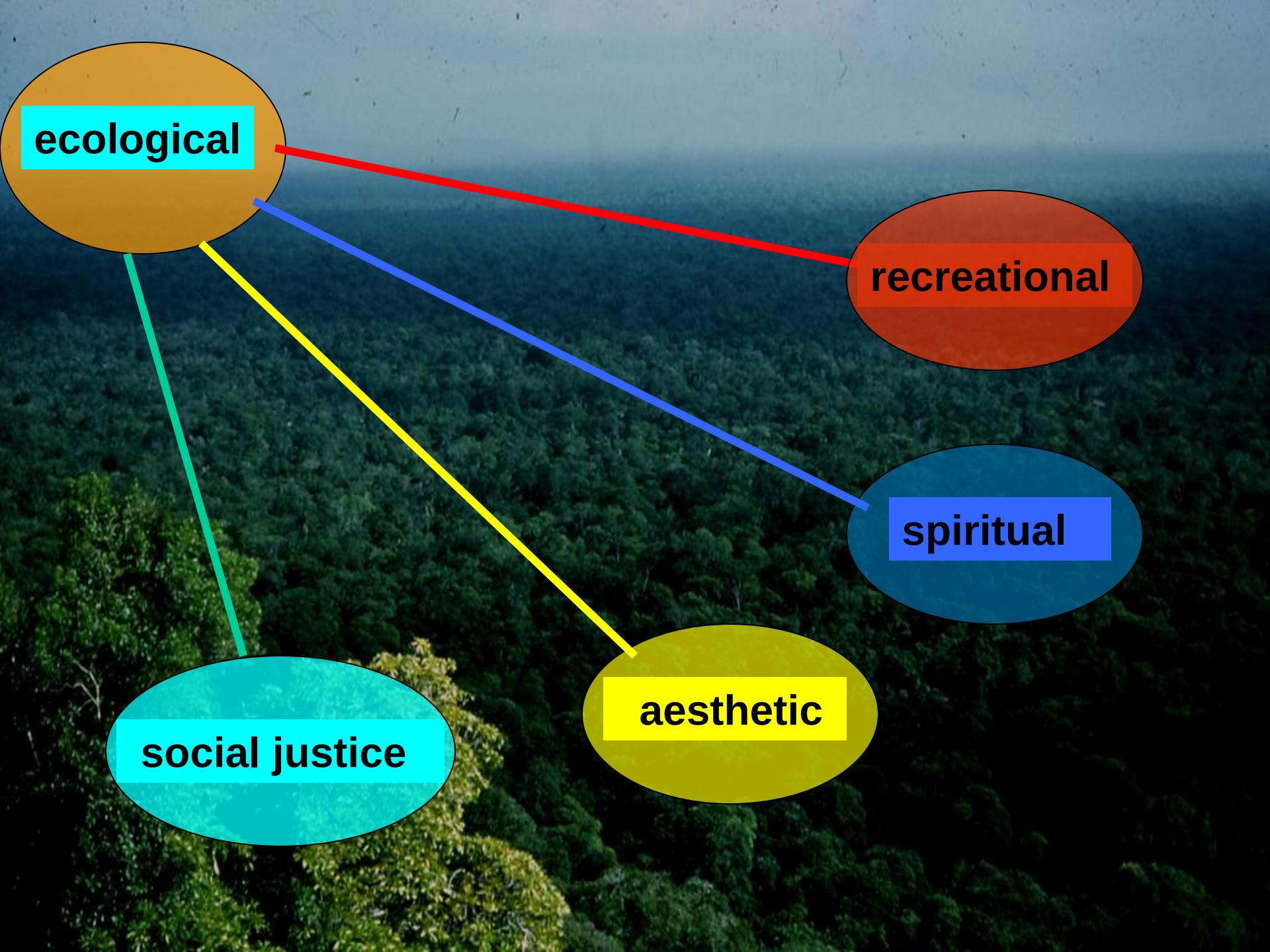
63

SUSTAINABLE PRISONS PROJECT

EVERGREEN
THE EVERGREEN STATE COLLEGE
OLYMPIA, WASHINGTON

Washington State
DEPARTMENT OF
CORRECTIONS
Working Together for Safe Communities

- Science
- CNN News - Anderson Cooper
- Frontiers in Ecology and Evolution
- Conservation in Practice
- Orion
- Discover Magazine
- New York Times
- The Olympian
- Russian Newsweek
- Mother Jones
- NPR Radio
- PBS television
- Playboy Magazine


ecological
recreational
spiritual
aesthetic
social justice

The Research Ambassador Program

EAGER – Ecosystems Program

Dr. Mark Mares
Vertebrate systematics

AMERICAN FANCY RAT & MOUSE ASSOCIATION

John Holdren, President's Advisor for Science

"…tithe 10 % of your professional time and effort to increase the benefits of science for the human condition…"

REWARDS

- New perspectives
- Two-way exchanges
- “Feels right”
- Positive feedback
  for science in society

CHALLENGES

Academic Priorities

- Research
- Teaching

↓

- Service

NSF'S MISSION

…Promote the progress of science…
…Expand the scientific literacy of all citizens…

- **Self-reflection**

- **Clarify Broader Impacts**
- **Follow up on implementation**

- **Junior and senior scientists**

▪Other Fields

▪Budget Sheet Apparency

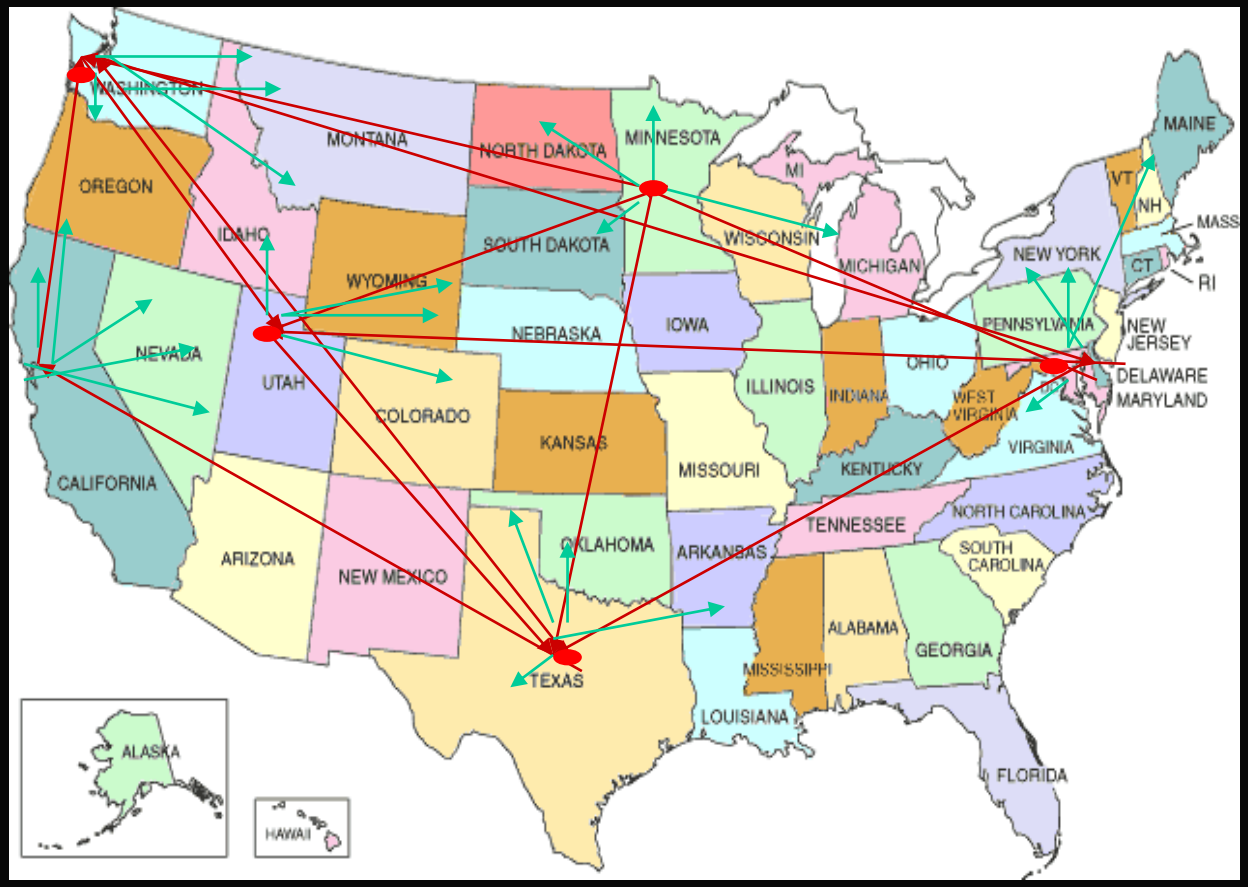
SUMMARY PROPOSAL BUDGET Cumulative

ORGANIZATION Evergreen State College				FOR NSF USE ONLY PROPOSAL NO.	DURATION (months) Proposed / Granted
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR Nalini M Nadkarni				AWARD NO.	
A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)	NSF Funded Person-months CAL	ACAD	SUMR	Funds Requested By proposer	Funds granted by NSF (if different)
1. Nalini M Nadkarni - PI	2.00	0.00	0.00	$ 15,507	$
2.					
3.					
4.					
5.					
6. ( ) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)	0.00	0.00	0.00	0	
7. (1) TOTAL SENIOR PERSONNEL (1 - 6)	2.00	0.00	0.00	15,507	
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)					
1. (0) POST DOCTORAL SCHOLARS	0.00	0.00	0.00	0	
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)	0.00	0.00	0.00	0	
3. (0) GRADUATE STUDENTS				0	
4. (2) UNDERGRADUATE STUDENTS				4,933	
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)				0	
6. (0) OTHER				0	
TOTAL SALARIES AND WAGES (A + B)				20,440	
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)				2,893	
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)				23,333	
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING $5,000.)					
TOTAL EQUIPMENT				0	
E. TRAVEL 1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)				9,600	
2. FOREIGN				0	
F. PARTICIPANT SUPPORT COSTS 1. STIPENDS $ 0 2. TRAVEL 0 3. SUBSISTENCE 0 4. OTHER 0					
TOTAL NUMBER OF PARTICIPANTS (0) TOTAL PARTICIPANT COSTS				0	
G. OTHER DIRECT COSTS					
1. MATERIALS AND SUPPLIES				400	
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION				1,400	
3. CONSULTANT SERVICES				104,000	
4. COMPUTER SERVICES				0	
5. SUBAWARDS				0	
6. OTHER				0	
TOTAL OTHER DIRECT COSTS				105,800	
H. TOTAL DIRECT COSTS (A THROUGH G)				138,733	
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)					
TOTAL INDIRECT COSTS (F&A)				11,242	
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)				149,975	
K. RESIDUAL FUNDS				0	
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)				$ 149,975	$
M. COST SHARING PROPOSED LEVEL $ 0	AGREED LEVEL IF DIFFERENT $				
PI/PD NAME Nalini M Nadkarni				FOR NSF USE ONLY INDIRECT COST RATE VERIFICATION	
ORG. REP. NAME*				Date Checked / Date Of Rate Sheet	Initials - ORG

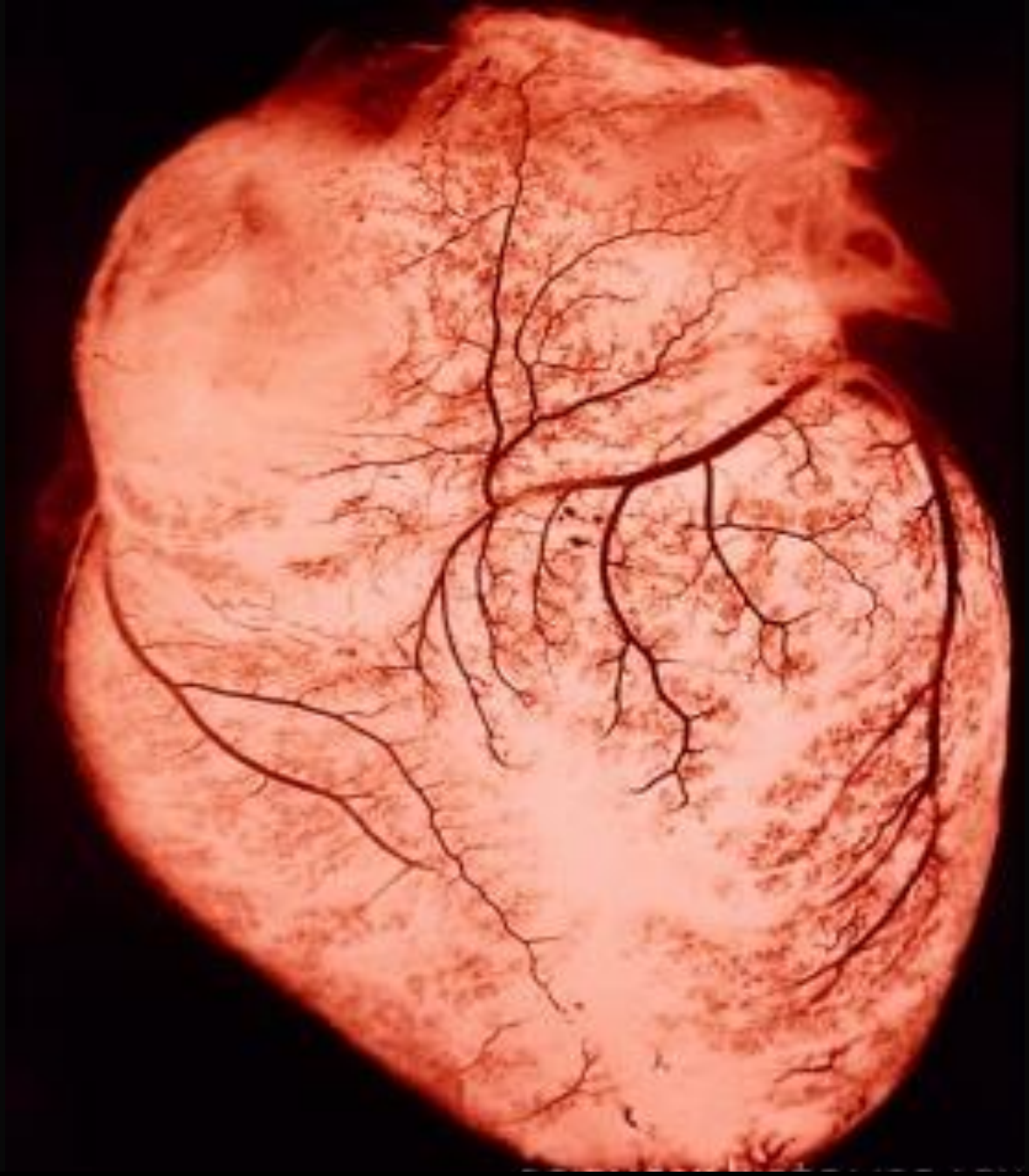
C *ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET

5. BROADER IMPACTS COSTS	**2,000**

NSF PUBLIC ENGAGEMENT CENTERS



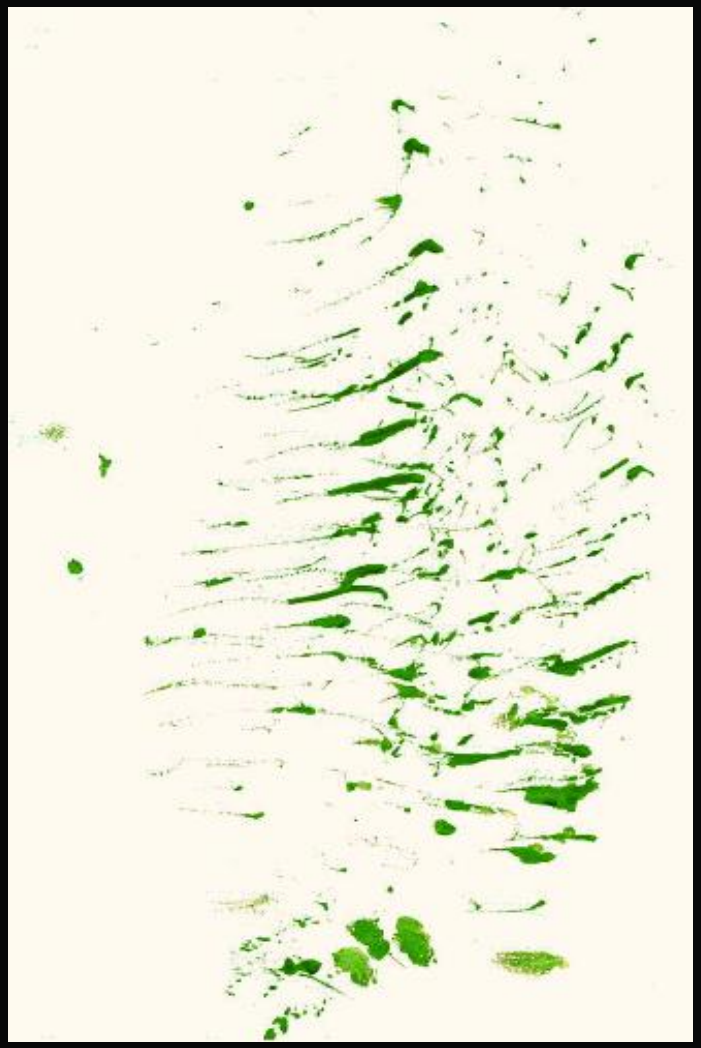
- MODELS
- CONTACTS
- TECHNOLOGY
- EVALUATION



“…Another world is not only possible, she is on her way.
On a quiet day, if you listen carefully,
you can hear her breathing…”

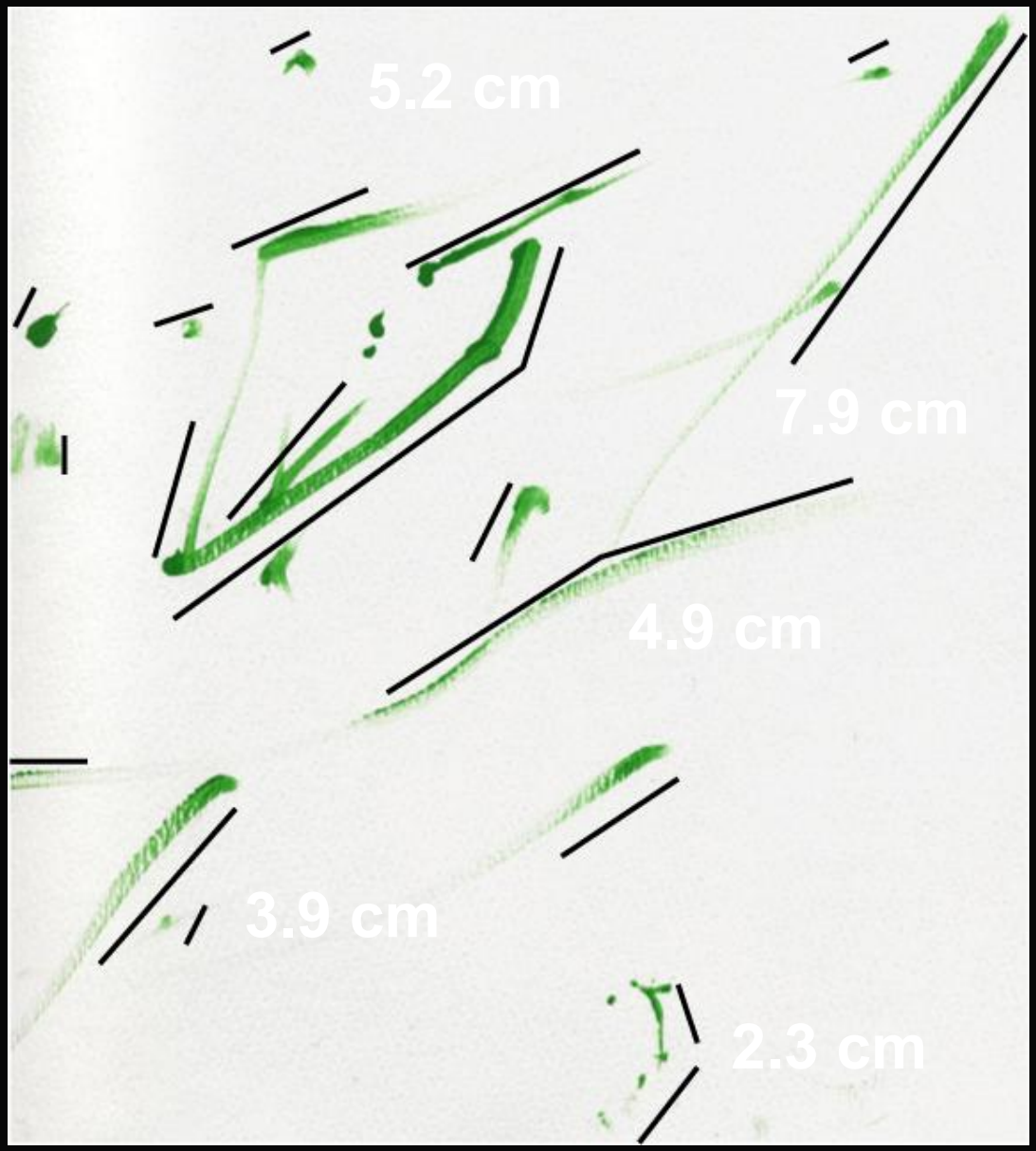
--Arundhati Roy

WESTERN RED CEDAR



DOUGLAS FIR

VINE MAPLE



$$\frac{\text{TWIG DISTANCE}}{\text{2 MINUTES}} \times \frac{\text{MINUTES}}{\text{HOUR}} \times \frac{\text{HOURS}}{\text{DAY}} \times \frac{\text{DAYS}}{\text{YEAR}} \times \frac{\text{TWIGS}}{\text{BRANCH}} \times \frac{\text{BRANCHES}}{\text{TREE}} = \text{DISTANCE PER YEAR}$$

Look up! Expand your perspective!
Don’t clearcut and don’t be so selective.
In just another minute and I will leave you alone
Try walking a mile in a different biome …