

A NEW GUIDE TO HELP YOU ASSESS CONNECTION TO NATURE

NAAEE Webinar
September 22nd, 2020

Martha Monroe, Gabby Salazar, and Louise Chawla



Thank you and welcome!

Happy to share our project with you

- Martha Monroe – University of Florida
- Cathy Jordan – Children & Nature Network
- Nicole Ardoin – Stanford University
- Judy Braus – NAAEE
- Jason Morris – Pisces Foundation



Image by Gabby Salazar



Many folks helped

- Martha Monroe
- Cathy Jordan
- Nicole Ardoin
- Judy Braus
- Jason Morris
- Thomas Beery
- Louise Chawla
- Judith Cheng
- Susan Clayton
- Enid Elliot
- Julie Ernst
- Joe Heimlich
- Sadie Hundemer
- Kristen Kunkle
- Anna Lee
- Peter Levin
- Chris Parsons
- Lauren Watkins
- Julie Whitburn



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- Joe Heimlich
- Sadie Hundemer
- Anna Lee
- Peter Levin
- Chris Parsons
- Lauren Watkins
- Julie Whitburn
- Charlotte Clark
- Rachelle Gould
- F. Stephan Mayer
- Jeffrey Perrin
- Gabby Salazar
- Yu-Chi Tseng
- Kristen Kunkle
- Mele Wheaton
- Vicki Carr
- Kayla Cranston
- Matteo Giusti
- Fredy Monge Rodriguez
- Ulrich Muller
- Sofya Nartova-Bochaver
- Laura Seger
- Jeffrey Skibins
- Julie Torquati
- Archana Kannan
- Nik Sawe



Our plan for this session

- Introductions
- What we learned about assessing connection to nature
- Early childhood assessments
- New guidebook
- Scenarios to introduce some tools
- Questions and discussion

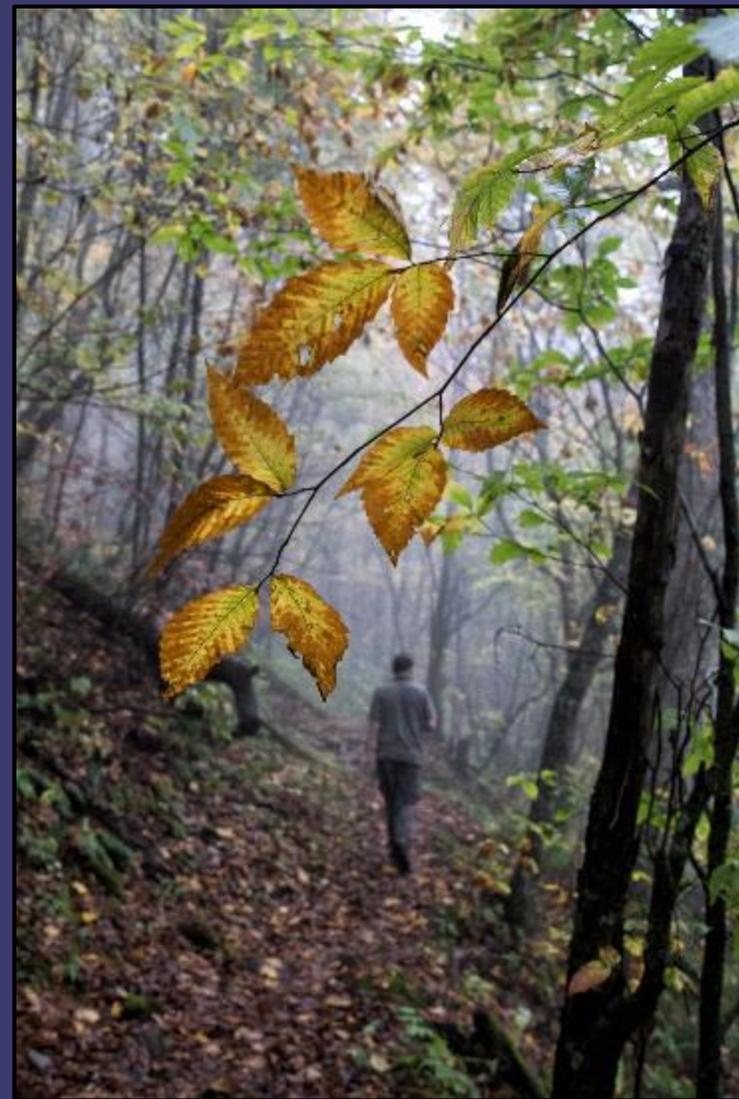


Image by Gabby Salazar



Connection to Nature

“The study of connectedness to nature is primarily concerned with understanding how people identify themselves with the natural environment and the relationships they form with nature.”

- *Restall and Conrad, 2015*



What are we really looking at?

Love

Affinity

Desire

Awe

Emotion

Identity

Enjoyment

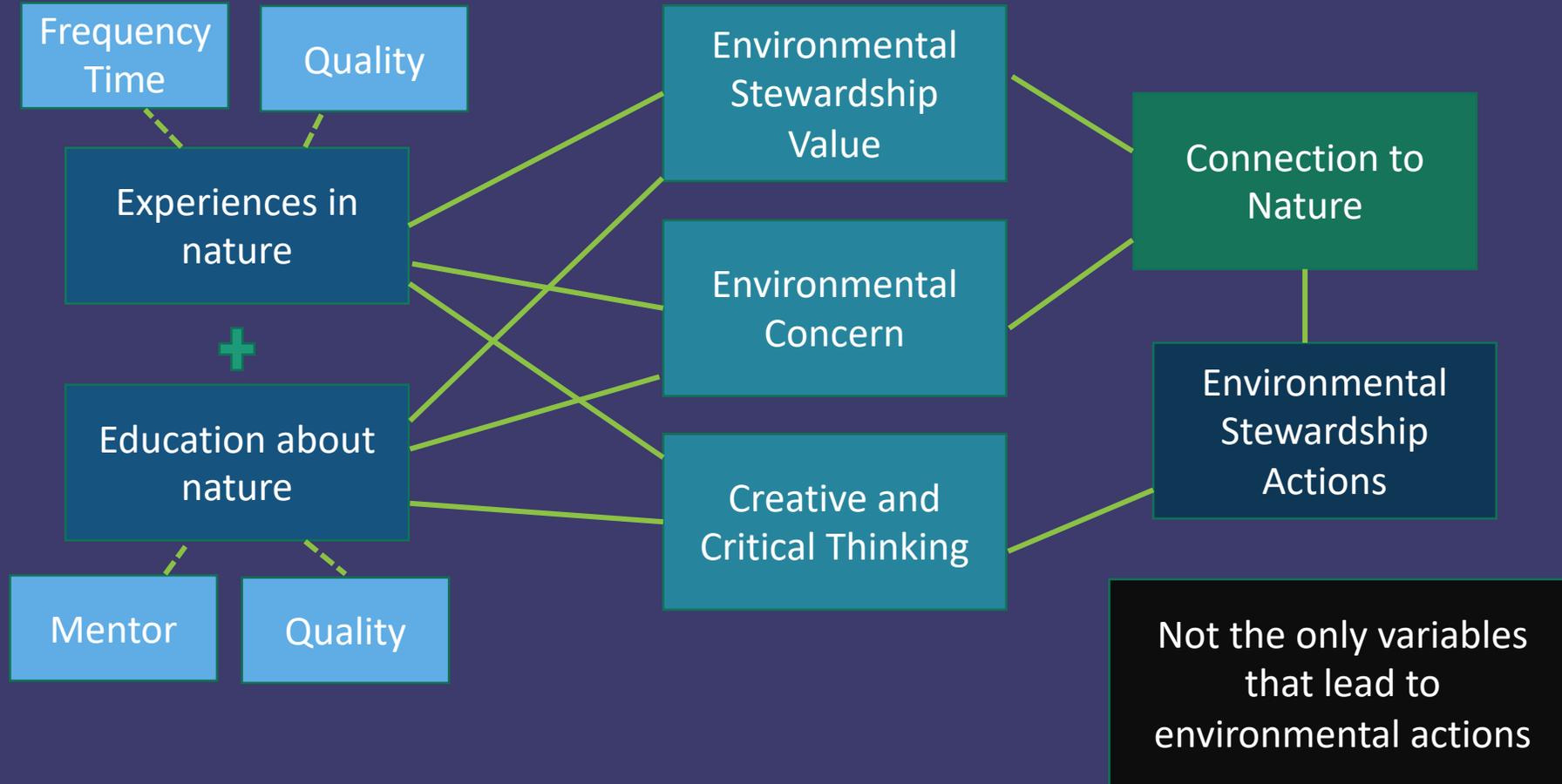
Oneness

Concern

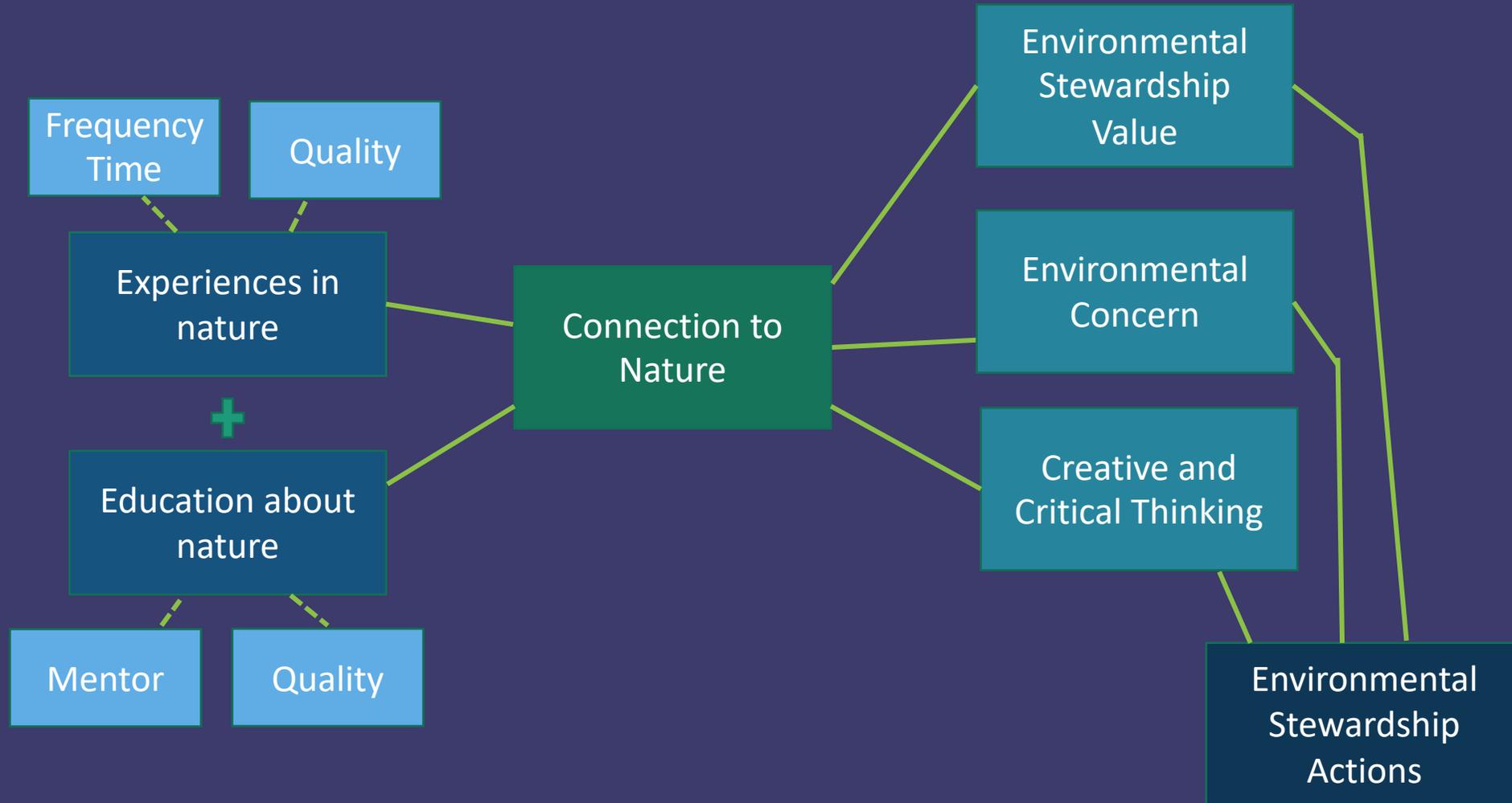


Image by Martha Monroe

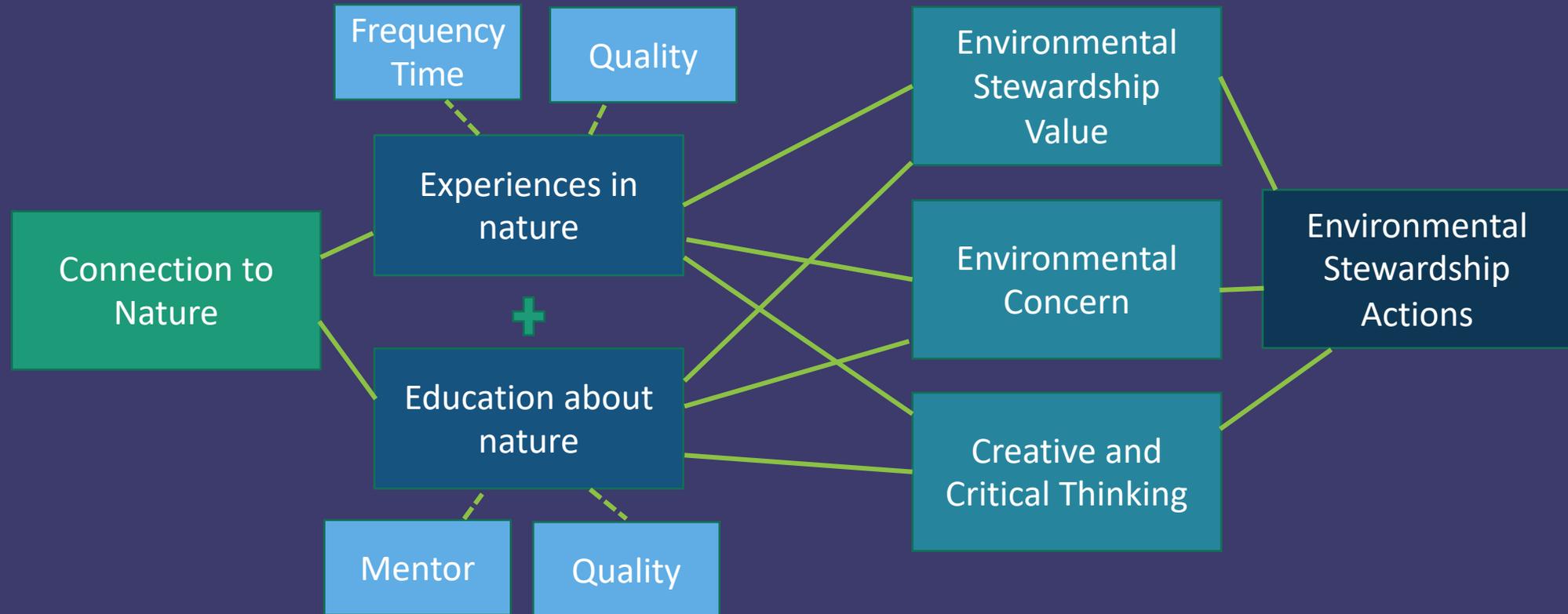
Research suggests . . . ?



Or, does it suggest . . . ?



Variation in people, experiences, nature, and programs makes it hard to know!





Many of us work to
connect people to nature

Measuring C2N could be useful for
program development, funding,
marketing, and research



Image by Gabby Salazar



Two broad uses

- Exploring how a program changes participants' connection to nature
 - Pre and Post measure
 - A tool that can detect differences
- Assessing a group
 - Baseline measure
 - Detecting differences and program needs
 - Rationale for providing resources, facilities, programs

Evaluation

Planning



Image by Martha Monroe

Psychologists have lots of tools



Connectedness to Nature

2 Major Environmental Values Scale

Ecological Awareness Interview

Inclusion of Nature in Self

Nature Connection Index

Connectivity with Nature Scale

Nature Connectedness Inventory

Emotional Affinity Toward Nature

Practitioners need tools



- ❑ Work with many audiences
- ❑ Detect change
- ❑ Easy to use
- ❑ Easy to analyze
- ❑ Valid in many contexts



Image by Martha Monroe



Workshop

- 20+ participants
 - Tool developers and users
- 2 days in Spokane, 2018
- Identified tools the best assessed C2N
- Identified needs and gaps
- Developed and tested Guide



Image by Gabby Salazar



Most tools consider “wild” nature



... with scaled items on a paper-pencil survey



What about managed or familiar nature?



Image by Gabby Salazar

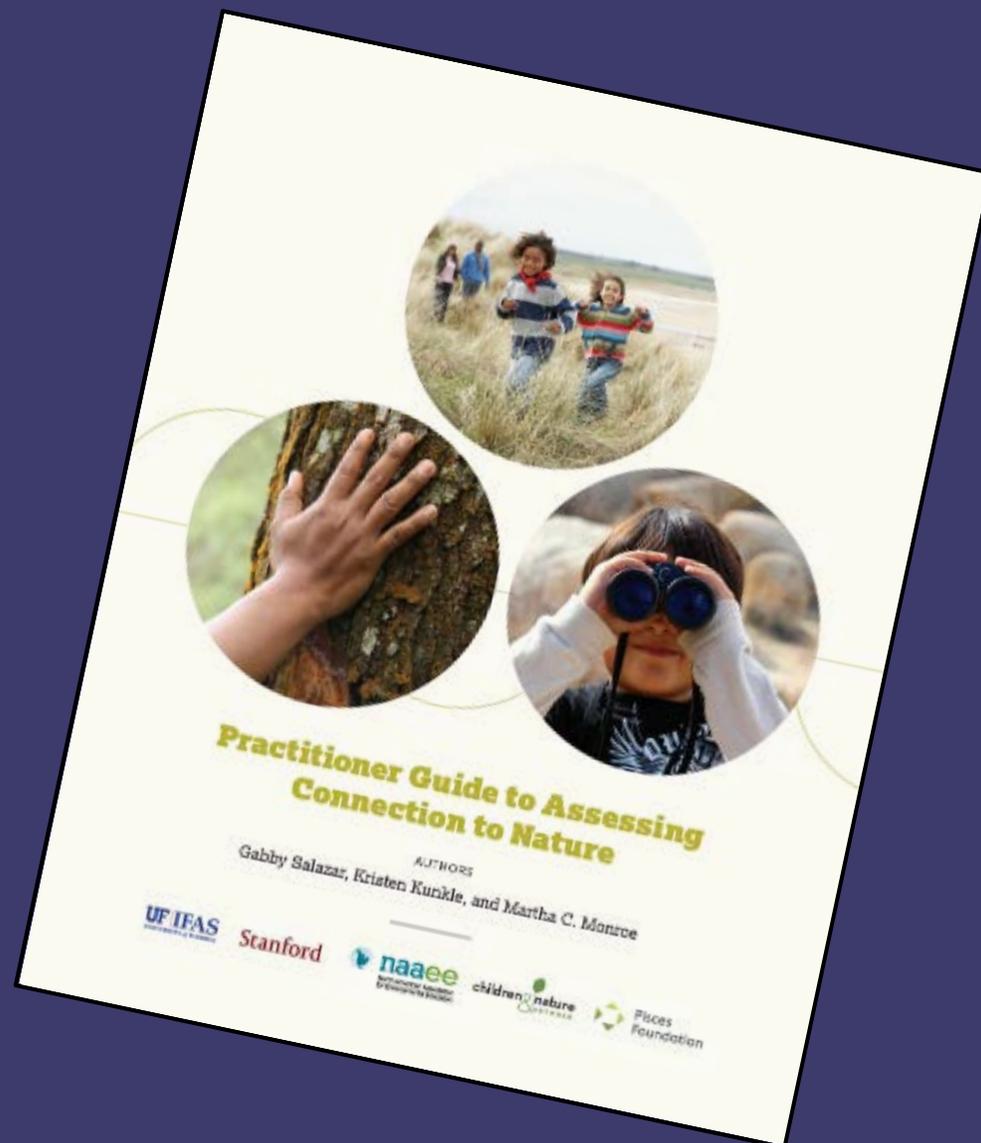


Image by Martha Monroe



Introducing this guide

- Offers 11 tools
- How to select one
- How to use it
- How to analyze the data





Sample of Items

Connectedness to Nature – Mayer and Frantz

(Do you disagree or agree with the following statements?)

- I often feel a sense of oneness with the natural world around me.
- Like a tree can be part of a forest, I feel embedded within the broader natural world.

Connection to Nature – Cheng, Monroe, Whitburn

(How much do you like to see or do the following things?)

- See plants and flowers in nature
- Take care of animals and plants

Relationship with nature



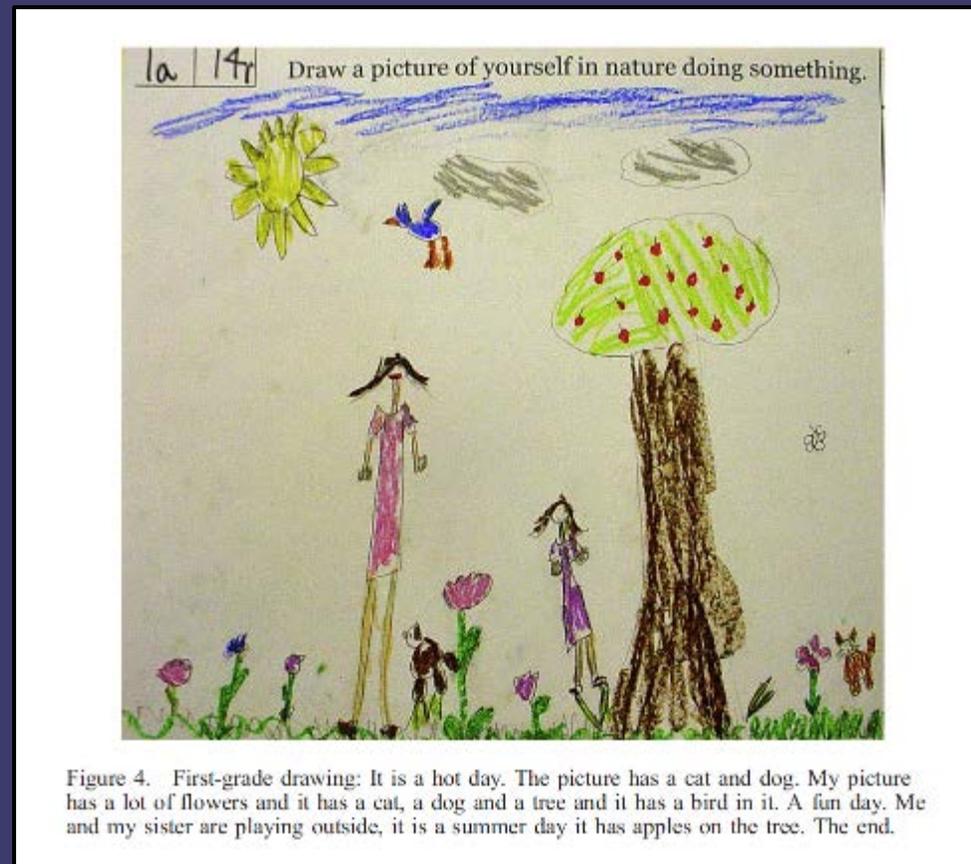
Enjoyment of experiences with nature

Image by Gabby Salazar



What about other ways of assessment?

Interviews, writing,
drawing, photographs,
and observations



From Kalvaitis and Monhardt, 2012



What does C2N mean to very young children?

What is the most effective way to assess it, when children are not old enough to answer written surveys?



*Image by Chiara D'Amore
© Community Ecology Institute*

Coordinating Team

Thomas Beery

Kristianstad University

Louise Chawla

University of Colorado Boulder

Peter Levin

University of Minnesota

(Beery, Chawla & Levin, 2020)

Expert Advisory Panel

9 early childhood experts with collective experience

- designing measures of C2N or empathy with children
- working in a nature preschool or lab preschool with nature settings
- working with racially, ethnically, and economically diverse children.



How are young children's relationships to nature special?

- Everything in the world can be alive
- They engage with nature through interest and curiosity, emotions, agency, full bodied free movement, multisensory immersion
- C2N is closely related to empathy for other living things



Quantitative assessments with young children involve interviews with games, puppets, and picture choices.



Image by Tom Beery



Why is it important to evaluate C2N in early childhood?

Nature preschools and kindergartens are spreading rapidly, and they have the mission of connecting children to nature.



*Dodge Nature Center Preschool West
St. Paul, MN*



It is a formative period of socialization, of learning to feel comfortable in nature, value, and care for nature.



Image by Tori Derr

Practitioner Guide to Assessing Connection to Nature

[https://naaee.org/eepro/
publication/practitioner-
guide-assessing-connection](https://naaee.org/eepro/publication/practitioner-guide-assessing-connection)



Three tools collect qualitative data

Tool #11

Nature Relatedness Observations

Developed by Enid Elliot

Tool #8

Journaling

Summarized by Anna Lee and Nicole Ardoin

Tool #7

Interpretation of Drawings

Summarized by Joe Heimlich, Chris Parsons, and Gabby Salazar

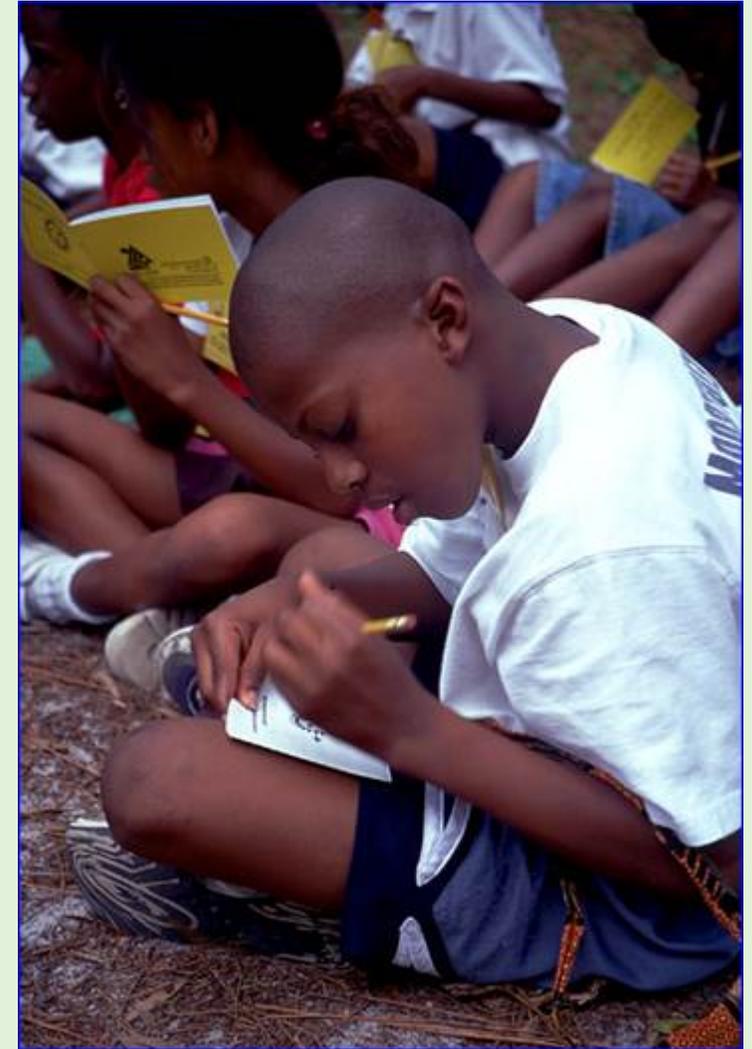
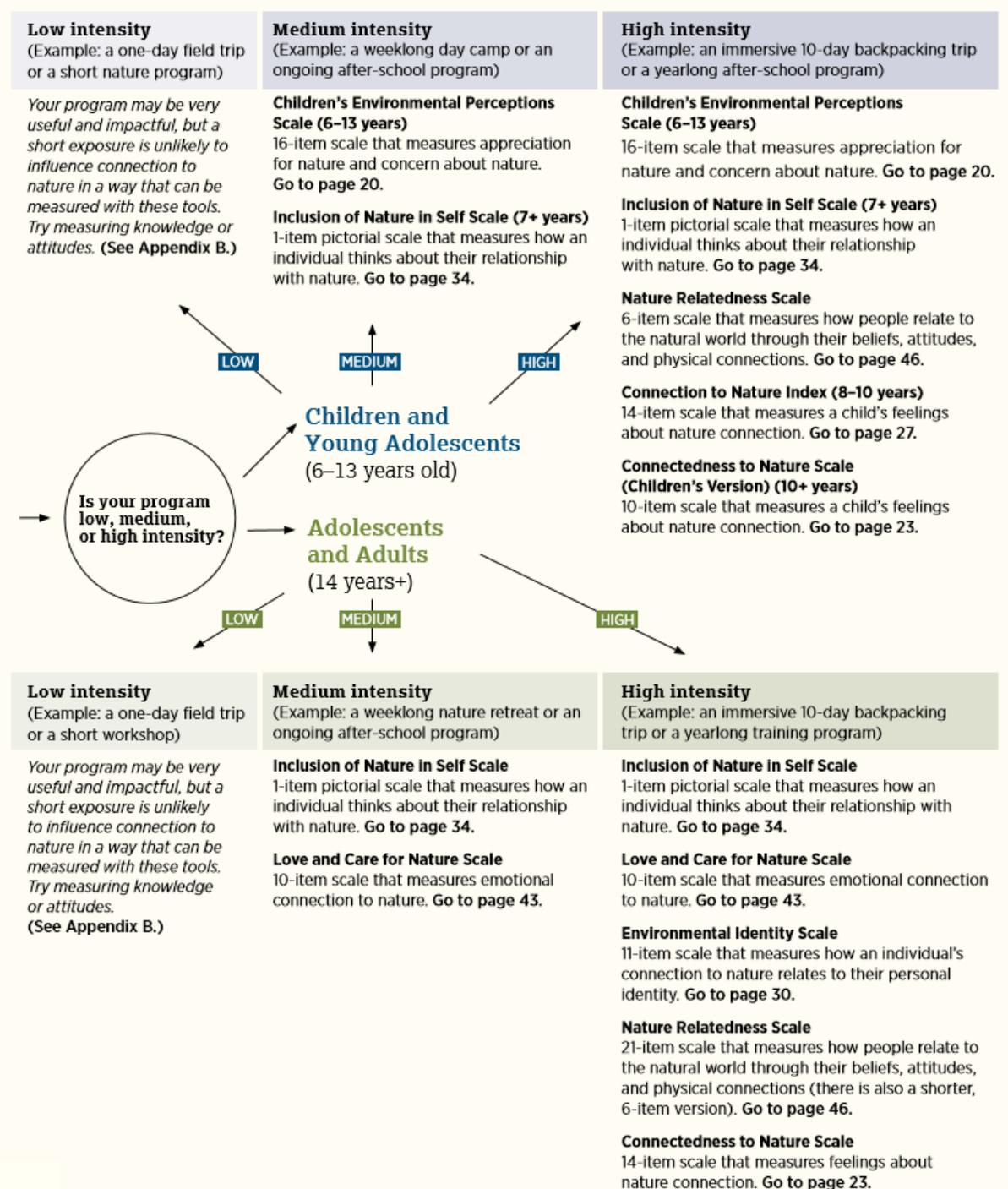
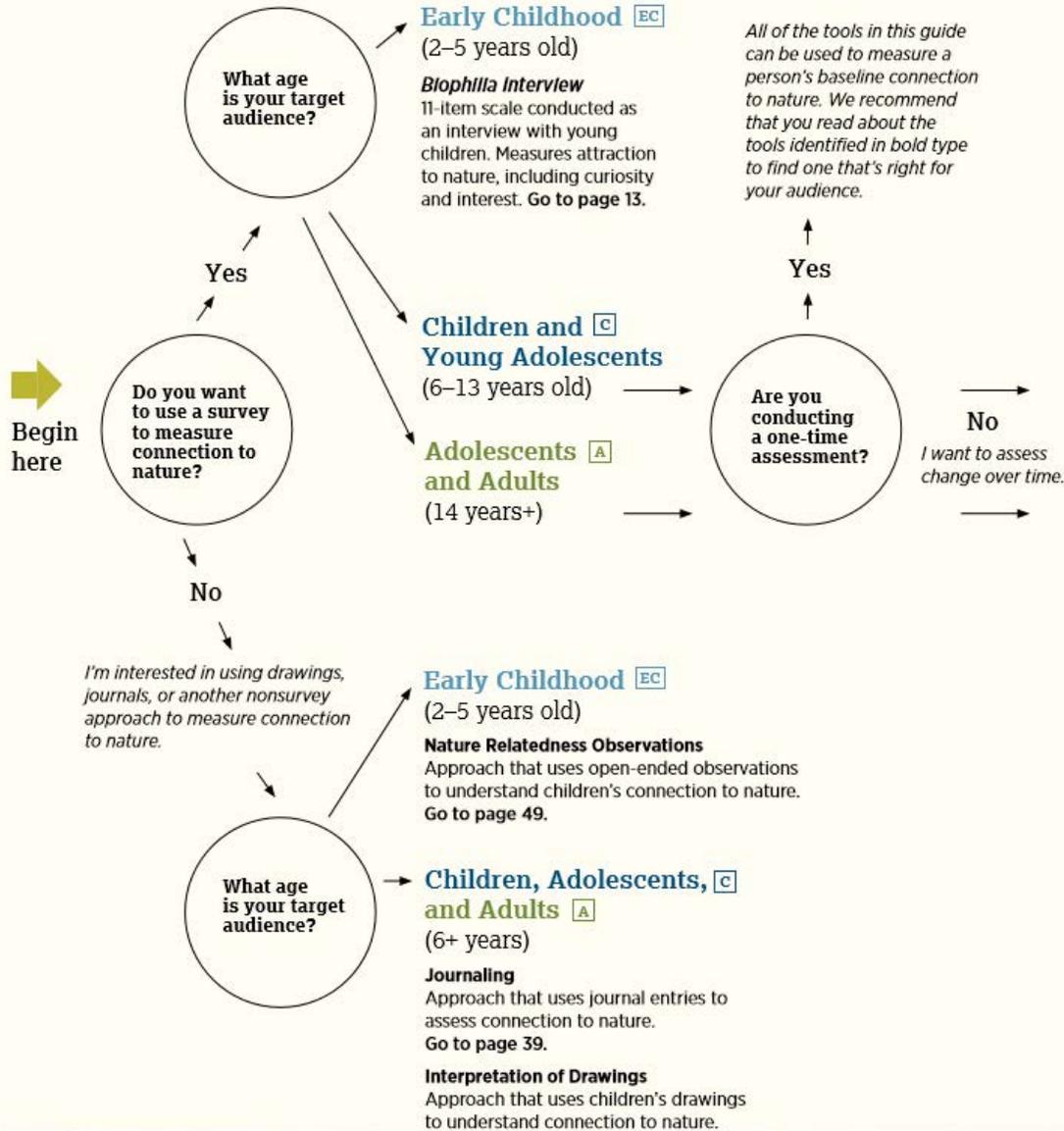


Image by Martha Monroe

Decision Tree: Finding the right tool

Quick Tip:

You may want to use a survey if there are a lot of individuals in your program, if you need to report numerical data, or if you have limited time to administer or analyze responses. Other approaches, like journals and photos, can provide rich detail and insights, but will likely involve fewer respondents.



QUESTION 1: Do you want to use a survey?



Image by Gabby Salazar



Begin
here

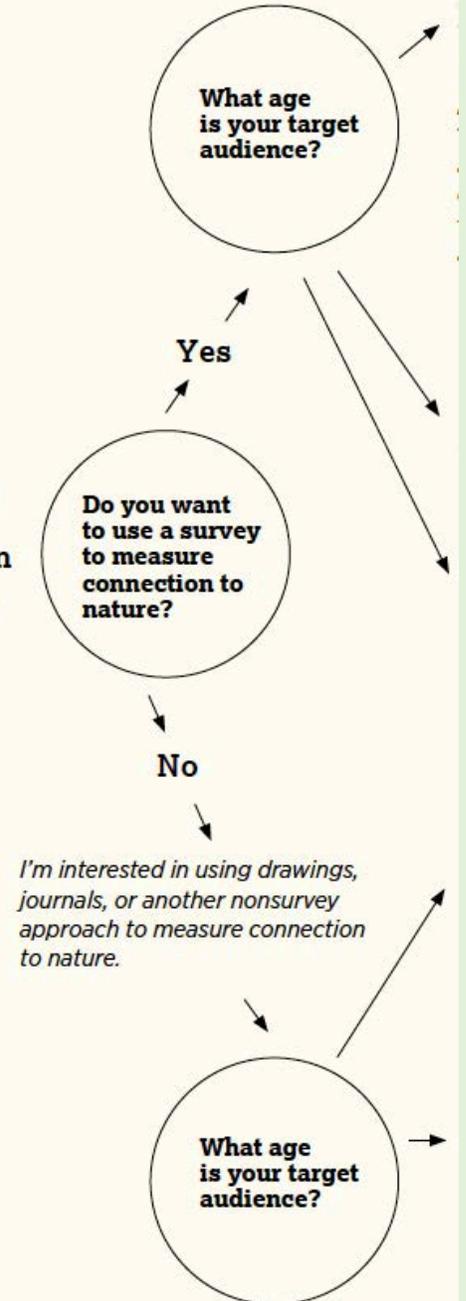
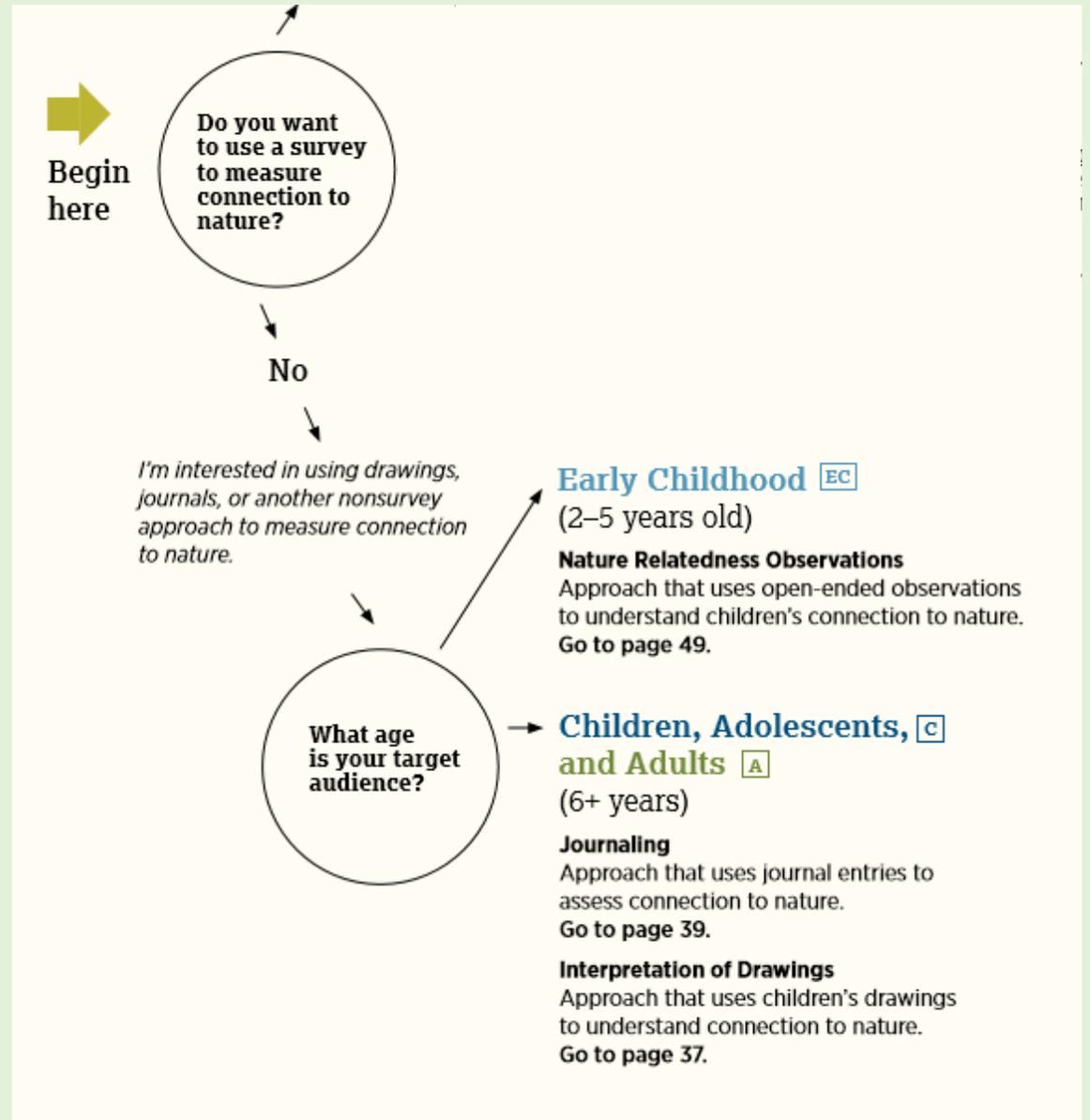
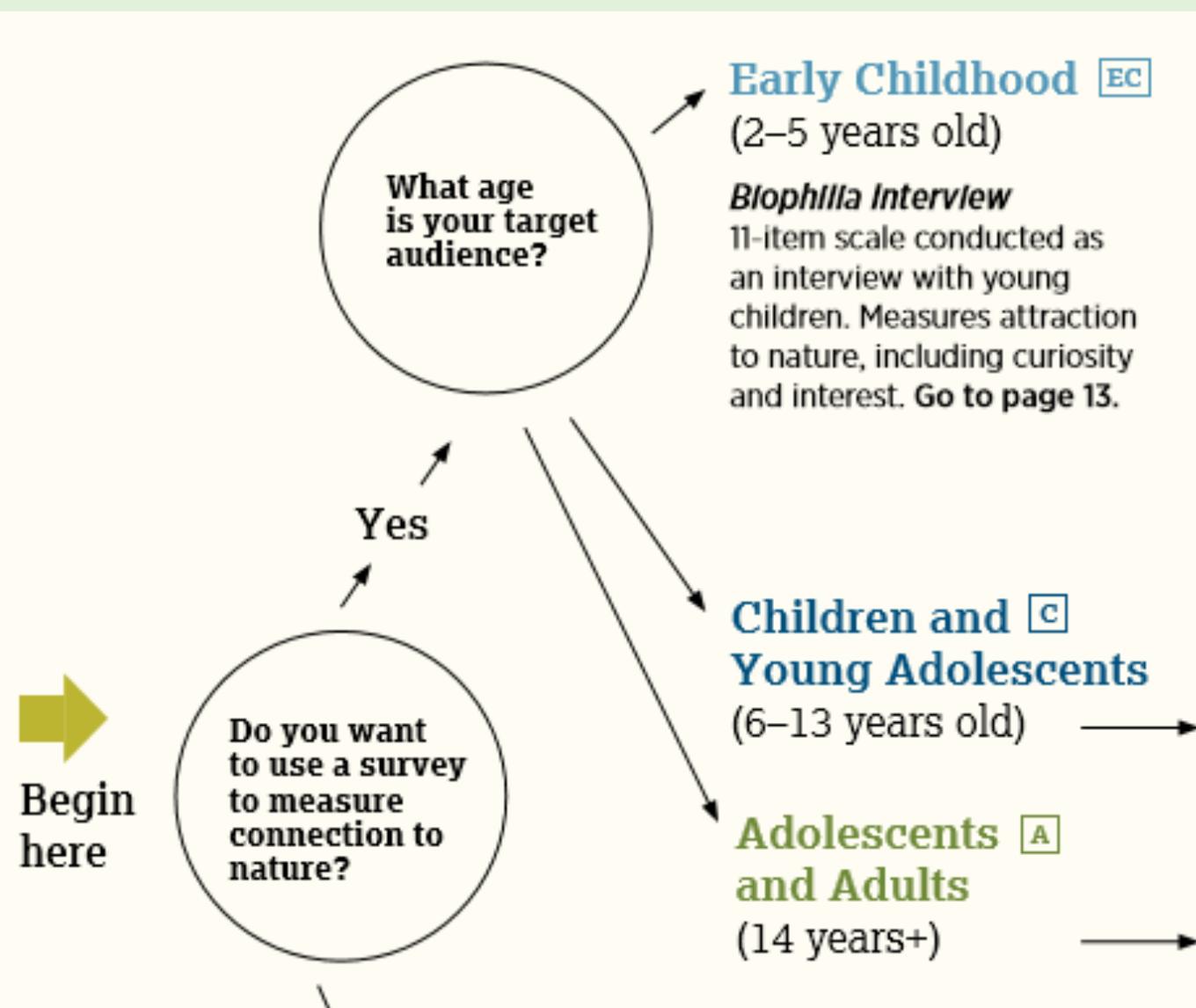




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Gabby Salazar

QUESTION 2: What is your target age group?



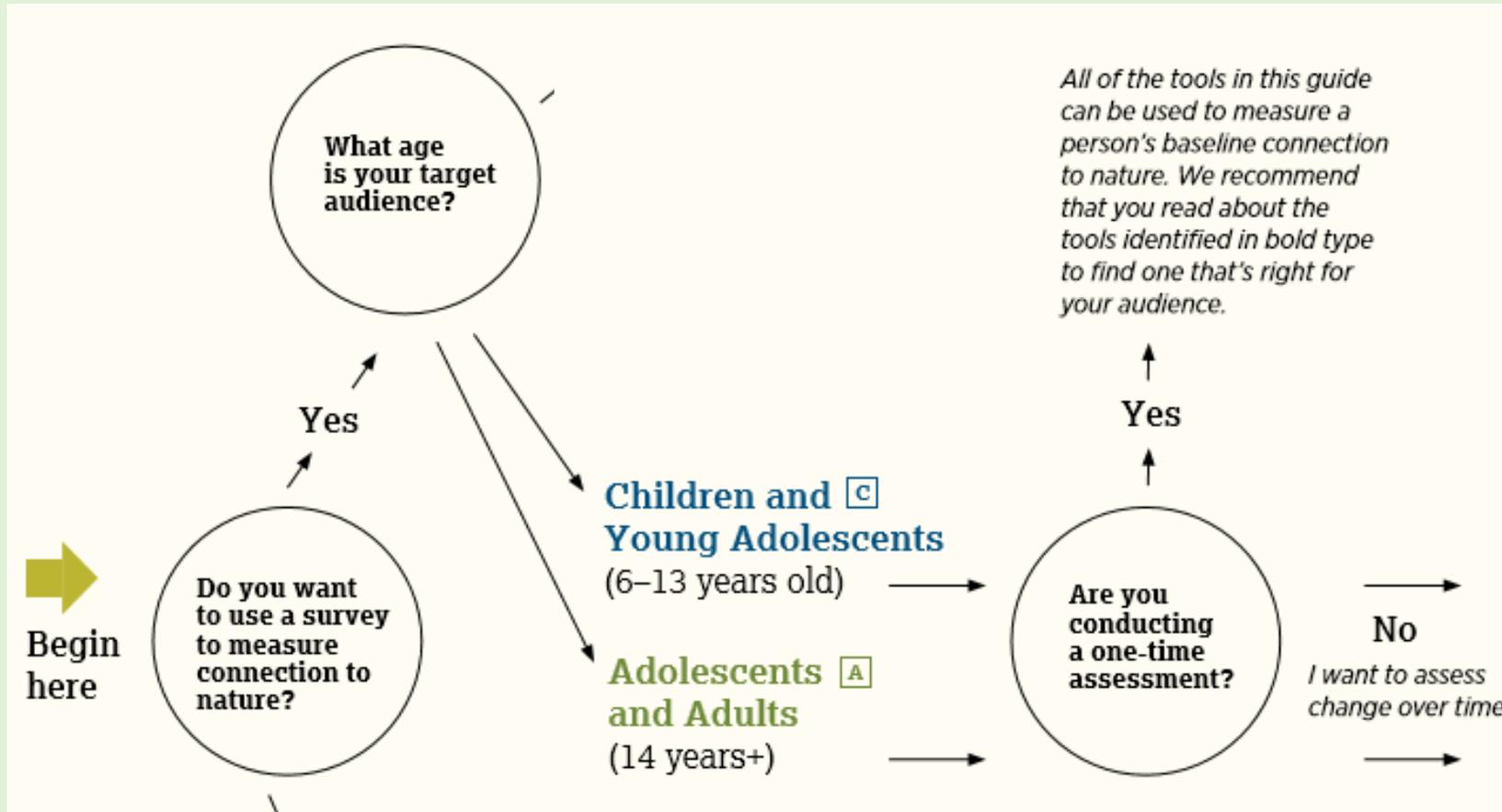


QUESTION 3:

Are you conducting a one-time assessment?



Image by Gabby Salazar



QUESTION 4: What is your program's intensity?

Intensity is a function of time (duration and frequency) and engagement. Engagement can vary with novelty and attention.

Low intensity
(Example: a one-day field trip or a short nature program)

Your program may be very useful and impactful, but a short exposure is unlikely to influence connection to nature in a way that can be measured with these tools. Try measuring knowledge or attitudes. (See Appendix B.)

Medium intensity
(Example: a weeklong day camp or an ongoing after-school program)

Children's Environmental Perceptions Scale (6–13 years)
16-item scale that measures appreciation for nature and concern about nature. Go to page 20.

Inclusion of Nature in Self Scale (7+ years)
1-item pictorial scale that measures how an individual thinks about their relationship with nature. Go to page 34.

High intensity
(Example: an immersive 10-day backpacking trip or a yearlong after-school program)

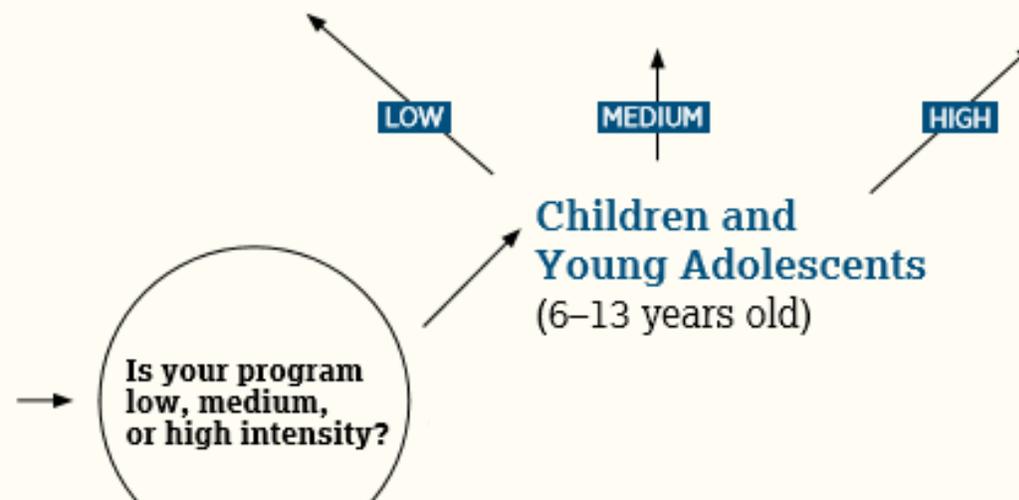
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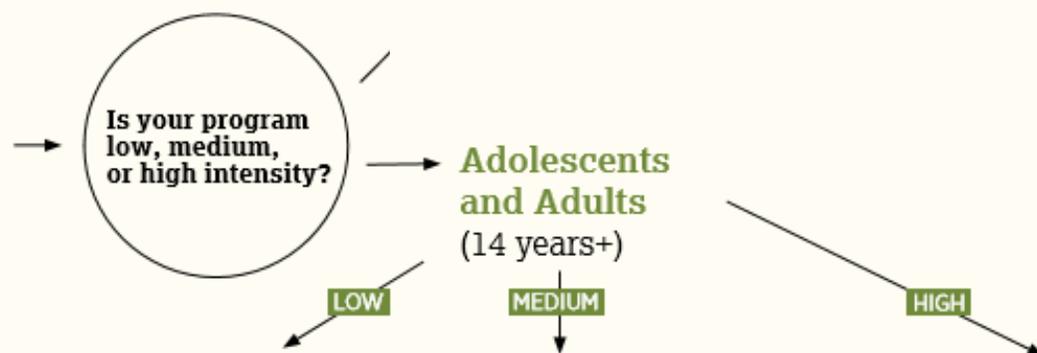
Inclusion of Nature in Self Scale (7+ years)
1-item pictorial scale that measures how an individual thinks about their relationship with nature. Go to page 34.

Nature Relatedness Scale
6-item scale that measures how people relate to the natural world through their beliefs, attitudes, and physical connections. Go to page 46.

Connection to Nature Index (8–10 years)
14-item scale that measures a child's feelings about nature connection. Go to page 27.

Connectedness to Nature Scale (Children's Version) (10+ years)
10-item scale that measures a child's feelings about nature connection. Go to page 23.





Low intensity

(Example: a one-day field trip or a short workshop)

Your program may be very useful and impactful, but a short exposure is unlikely to influence connection to nature in a way that can be measured with these tools. Try measuring knowledge or attitudes.

(See Appendix B.)

Medium intensity

(Example: a weeklong nature retreat or an ongoing after-school program)

Inclusion of Nature in Self Scale

1-item pictorial scale that measures how an individual thinks about their relationship with nature. **Go to page 34.**

Love and Care for Nature Scale

10-item scale that measures emotional connection to nature. **Go to page 43.**

High intensity

(Example: an immersive 10-day backpacking trip or a yearlong training program)

Inclusion of Nature in Self Scale

1-item pictorial scale that measures how an individual thinks about their relationship with nature. **Go to page 34.**

Love and Care for Nature Scale

10-item scale that measures emotional connection to nature. **Go to page 43.**

Environmental Identity Scale

11-item scale that measures how an individual's connection to nature relates to their personal identity. **Go to page 30.**

Nature Relatedness Scale

21-item scale that measures how people relate to the natural world through their beliefs, attitudes, and physical connections (there is also a shorter, 6-item version). **Go to page 46.**

Connectedness to Nature Scale

14-item scale that measures feelings about nature connection. **Go to page 23.**



Image by Gabby Salazar

1. An organization wants to learn how its members feel about their relationship with nature.

Strategy: One-time Assessment for Adults or Children

Love and Care for Nature Scale

15 item scale that measures emotional connection to nature.

Perkins, 2010

Environmental Identity Scale

11 item scale that measures how an individual's connection to nature relates to their personal identity.

Clayton, 2003

Inclusion of Nature in Self

1 item pictorial scale that measures how an individual thinks about their relationship with nature.

Schultz, 2002



2: An organization wants to know whether participating in a 10-day backpacking trip influences connection to nature for 2,000+ participants.

Strategy: Scale as a Pre-test/Post-test

Connectedness to Nature Scale

14-item scale that measures feelings about nature connection.

Mayer & Frantz, 2004

Environmental Identity Scale

11 item scale that measures how an individual's connection to nature relates to their personal identity.

Clayton, 2003

Nature Relatedness Scale

21-item scale that measures how people relate to the natural world through their beliefs, attitudes, and physical connections.

Nisbet, Zelenski, & Murphy,
2009

Image by Gabby Salazar



3: How does a 10-day backpacking trip influence connection to nature among the **ten** participants?

Strategy: Qualitative Data



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Journaling

Approach that uses journal entries to measure connection to nature.

Interpretation of Drawings

Approach that uses children's drawings to understand connection to nature.



Image by Tori Derr

4: An early childhood education center creates a 4-week curriculum of nature activities. It wants to know if these activities influence C2N in 40 children in a preschool.

Strategy: Pre-test/Post-test Interviews

Biophilia Interview

11-item interview that
measures young children's
affinity to nature
(Rice & Torquati, 2013)

Picture choice variation
(Yilmaz, Çiğ & Yilmaz-Bolat,
2020)





5: A nature preschool wants to know if its activities support change in young children's connection to nature and selects 4 children for case studies.

Photo by Chiara D'Amore

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Strategy: Qualitative Data

Observations

A classroom volunteer records 4 children's actions through field notes, photographs and video during a 15-week semester.

Informal Conversations

During observations, the volunteer has informal conversations with children about their nature experiences.



Image by Tori Derr



Gaps in the Toolbox

Settings:

- urban vs. rural; indoor nature; views of nature

Audiences:

- beyond English-speaking visitors to a natural area
- different relationships to nature: farmers, hunters, Native nations
- beyond the US

New approaches:

- particularly qualitative to serve a range of audiences and settings

Individual differences:

- variation from one place to another, from one way of knowing to another, and from one experience to another



Other Resources and Opportunities

- eePRO at NAAEE.org
- Collaborations between practitioners and researchers
- NAAEE Evaluation Portal (coming soon!)



Image by Martha Monroe



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Questions?
Comments?