Conservation literacy as interwoven literacies: a sharing and learning session

Martha Groom
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NACCB 2022; July 20, 2022

Looking back, what do you wish you had learned about conservation?
We should update the definition and scope of “Conservation Literacy” (Trombulak et al. 2004)

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<tr>
<th>Themes</th>
<th>Primary principles</th>
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<td>Goals: the goals of conservation biology</td>
<td>Conservation biologists seek to maintain three important aspects of life on Earth: biological diversity, ecological integrity, and ecological health.</td>
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<td>Values: why biological diversity, ecological integrity, and ecological health are important</td>
<td>The conservation of nature is important for nature’s intrinsic values, its instrumental values, and its psychological values.</td>
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<td>Concepts: concepts for understanding biological diversity, ecological integrity, and ecological health</td>
<td>An understanding of conservation is based on key concepts in taxonomy, ecology, genetics, geography, and evolution.</td>
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<td>Threats: threats to biological diversity, ecological integrity, and ecological health</td>
<td>Nature has faced and continues to face numerous threats from humans, including direct harvesting, habitat destruction, and introduction of non-native species.</td>
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<td>Actions: protection and restoration of biological diversity, ecological integrity, and ecological health</td>
<td>Conservation requires a combination of many different strategies.</td>
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We should update the definition and scope of “Conservation Literacy” → Conservation Literacies

Prominent discussions in many locations, including SCBNA Education Committee, urge broader interpretation of conservation literacy than last synthesis

Biological Conservation 205 (2017) 93–108

Review

Conservation social science: Understanding and integrating human dimensions to improve conservation

Nathan J. Bennett a,b,c,*, Robin Roth d, Sarah C. Klain a, Kai Chan a, Patrick Christie e, Douglas A. Clark f, Georgina Cullman g, Deborah Curran h, Trevor J. Durbin i, Graham Epstein j, Alison Greenberg k, Michael P Nelson l, John Sandlos m, Richard Stedman n, Tara L Teel o, Rebecca Thomas p, Diogo Veríssimo q, Carina Wyborn r
We should update the definition and scope of “Conservation Literacy” → Conservation Literacies

- Reid et al. 2020, “Two-eyed” seeing and indigenous knowledges
- Schell et al. 2020a, b, & NACCB 2020 sessions on centering social justice
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<th>Time</th>
<th>Session</th>
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<td>1:35</td>
<td>Round 1:</td>
<td>Martha Groom</td>
<td>Rina Hauptfeld</td>
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<td>Pua’ala Pascua</td>
<td>Liliana Dávalos</td>
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<td>Cleo Wölfle Hazard</td>
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<td>Lee Ann Woolery</td>
<td>Jessica Pratt</td>
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<td>Discussion in breakout groups</td>
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<td>Break</td>
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<td>Round 2:</td>
<td>Rina Hauptfeld</td>
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<td>Full group sharing, next steps</td>
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Social Justice is integral to Conservation; Conservation is integral to Social Justice

- Conservation Practice is improved when SJ is Centered and Prioritized
  - Create multi-cultural communities of practice
  - Broader range of strategies
  - Greater connection
  - Stronger outcomes

- Threats to biodiversity also undermine human communities in fundamental ways; Addressing systemic nature of injustice to all living beings is critical to reducing threats and creating lasting change
ONE PEDAGOGICAL APPROACH:

DDCSP@UW Learning Objectives center SJ in Conservation:

- develop critical analytical tools necessary to understand structural features of oppression and our own socialization within oppressive systems
- examine issues of multi-species justice/injustice for individuals, communities, institutions, broader society
- connect analysis to action in conservation for equity in access and participation
- create counter narratives to replace dominant ones; re-imagine conservation practices for most just and effective outcomes for humans and other species

Approach developed and used by the Doris Duke Conservation Scholars Program @ University of Washington community of educators – Melissa Mark, Angela Burlile, Alicia Highland, Amy Sanchez, Megan Bang, Carrie Tzou, Sean Watts, Leah Quinn, Kirsten Rowell, Carolina Gomez, Brett Ramey, Melissa Watkinson Shutten, Lauren Urgenson, Caitlin Littlefield, Josh Lawler, Julia Parrish, and Martha Groom
ʻAʻole pau ka ʻike i ka hālau hoʻokahi

Wisdom is attained through multiple schools of knowledge

-  A Hawaiian language proverb, Pukui 1983

- **Consider** the diverse array of skills required “on-the-ground” in conservation professions - plain language communication, facilitation, conflict resolution, ethics, among others

- **Do** acknowledge AND foster opportunities for students to articulate multiple fluencies - lived, learned, generational?, genealogical?

For further reflection:
What diverse “schools of knowledge” have shaped you personally? How might we collectively amplify the representation of those knowledge sources in policy and practice?

Puaʻala Pascua
Hawai’i Conservation Alliance Foundation / AMNH Center for Biodiversity and Conservation
Remarks at the 2022 North American Congress for Conservation Biology
As a queer, trans settler working with Native nations and frontline communities within the US, I invite conservation educators to consider ecocultural revitalization as a framework that can support students interested in conservation.

What does it mean to be a well educated conservation professional/practitioner?

Conservation practitioners work on Native land, and knowledge of the ongoing Native relations to the land where they work is crucial. Native nations and individuals should always be leaders or partners in conservation. Understanding place-based relations that immigrants and settlers form is also crucial. Following Muñoz’s framing of the Brown Commons, conservation practitioners should pay attention to marginalized individuals within these groups, and solidarities across divisions of race, class, nation, sexuality, gender identity, etc.

What areas of knowledge, approaches, and/or principles should be fostered in conservation education?

Reflexivity, including artistic and feminist practices, listening, reciprocity, and long-term engagement. Thinking about how multiple knowledges may be integrated, or may remain in tension. Attention to history, especially non-dominant accounts.
Lee Ann Woolery, Ph.D., Citizen Artist - Founder and Research Director

To be a well-educated conservation professional/practitioner, consider this question:
What does a field-based research study look like from a relational paradigm with a more-than-human (MtH) multi-species community as co-collaborators, as active participants in the research process? I propose, to achieve a more just and equitable science practice, it is important to first acknowledge ‘the field’ is someone’s home, home to a multi-species community, a living landscape that is always changing, and that we as humans share that field.

Why this is important. As conservation professionals, the ethics that inform our practices, and the resulting science that informs policy and management decisions would benefit from a shift in perception - to a recognition of this shared ‘field’ reality, prioritizing the intrinsic value of nature and a reverence and respect for all MtH inhabitants.

● At Citizen Artist, our alternative Art-Based Perceptual Ecology research methodologies grounded in multimodal knowledge systems (creative and speculative practices) may offer a promising future for conservation biologist in reaching a just and equitable science practice that goes beyond our bounded limits.

For further reflection . . . How do we change the perceptions and practices of conservation practitioners to reflect a relational, kin-centric world view that prioritizes nature’s intrinsic value and affords MtH multi-species communities equal footing with humans; a view that is grounded in mutual respect, equity and inclusivity?

Remarks for the 2022 Society for Conservation Biology North American Congress
NOTES from Martha’s group

Where can find Underflows? Will share citation of book in notes sent out after session.

Important to address changes in Historical outlooks (e.g., predators are evil) and understand how they have led to difficult situations (how things have become so screwed up).

Learning about context in which conservation is placed is so critical; Learn more about institutional constraints in conservation (Conversely, how institutions are doing more to support conservation)

Focus on communication to a variety of audiences and via different media to share learnings

SJ, equity not addressed in their PhD program - Reading Braiding Sweetgrass only time that they were introduced to department.

Cleo: Bringing some climate modelers to community, yet the modelers unprepared to be even civil - not knowing how to talk with a broader group or very culturally different group; consider what social norms are and be attentive and respectful of these

Pua’ala: To do work in human communities must go through IRB - these review boards exist due to extreme impacts of prior work/anthropological or medical; so how can we proactively teach people how to learn skills; learning history of origins and actions of institutions could help develop proactive means - best practices? Code of conduct? Ways to improve how we engage

Peer-Peer network - implementing a procedure, must have had a 6 month of relationship before start. Are there novel ideas we can take up to hold to these standards.

Please share: what intrigued you and why?
NOTES from Ana’s group

Apparently folks in the room could not hear well during the presentations and the slides were fuzzy.

Kelly - first time I see this topic addressed… all very new to me.

Interesting mosaic of experiences.

Multispecies justice term was new. Pondering the idea of “equal footing”. Where is the line…. (examples: dimming lights during bird migration vs criminalizing wildmeat hunting)

Nahuatl people in Mexico use the idea of different hierarchies not equality, but respect to roles and cycles.

There is a link between elevating Indigenous knowledge and moving towards more multi-species approaches.

Please share: what intrigued you and why?
NOTES from Jessica’s group

What do you wish you had learned / knew about conservation?

- Conflict management
- Complex systems theory
- Qualitative methods basics
- Career options
- Different avenues to support/work in conservation (science or management or policy)
- How conservation research is done - by whom and where
- How serious the problems are and how it affects people/communities
- Failures and past mistakes, old outlooks we’ve grown beyond
- Where there is ambiguity in our understanding
- The importance of connections / networking / collaborations instead of just the science
- How to make and maintain relationships
- A defined sense of conservation literacy while embarking in the field
- Much more information about the field at a younger age, during undergrad or earlier
- Understanding how much key conservation actions can conflict with values (i.e. killing problematic species to save others)
- Current conservation issues in the context of our existing climate (both biological and political) rather than history of conservation and conservation biology
- That nothing is apolitical, everything is complex and there really are not “science based decisions” separate from the socio-political contexts in which decisions are made
- Capitalist ethics, existing moral/decision frameworks
- The complex and problematic history of the field of conservation and it’s biases from western worldviews
- Disillusionment about our ability to change things
- Course curriculum overuses lessons in hindsight instead of being future-focused
- Nature is cool - highlight the COOLNESS
- You don’t have to do everything! How can you pick parts of conservation to engage in that resonate and match your values?
- How to connect with and return to more traditional ways of life on a large scale
- Identifying what IS and IS NOT conservation - it can’t just get more and more broad; where does conservation and sustainability intersect

Please share: what intrigued you and why?
The value and contributions of the conservation social sciences:

1. Documenting and increasing understanding of the diversity of ways in which conservation occurs in different contexts (descriptive value)
2. Facilitating learning about and knowledge of conservation challenges, practices and processes as well as successes or failures (descriptive or diagnostic value)
3. Aiding in proactive consideration of and reactive rethinking about why and how conservation does or should occur (diagnostic, disruptive or reflexive value)
4. Interrogating the underlying assumptions, concepts and models of conservation (disruptive or reflexive value)
5. Allowing for imagination, innovation and creation of novel or desirable concepts, practices or models for conservation (generative or innovative value)
6. Improving conservation management practices and governance processes, including understanding how to better engage different stakeholders (instrumental value: to better processes)
7. Enabling planning and design of conservation initiatives that match different social, economic, cultural and governance contexts and that are socially acceptable (generative, innovative or instrumental value: to better conservation design and models)
8. Helping to justify and normalize conservation actions (instrumental value: to conservation action)
9. Increasing the likelihood of more ecologically effective conservation planning and management in different social, economic and political contexts (instrumental value: to ecological outcomes)
10. Facilitating more socially equitable and just conservation processes and outcomes (instrumental value: to social outcomes)
What does it mean to be a well educated conservation professional/practitioner?
- Because of the vastness of all that any one person cannot perceive/understand/feel, epistemic humility needs to be a core value for professionals/practitioners. Epistemic humility enables a highly skilled/experienced conservation professional/practitioner to honor the many ways of knowing needed to bring about conservation, and opens the door to constantly renewing fluencies from a position of equity.

What areas of knowledge, approaches, and/or principles should be fostered in conservation education to meet the broadening scope of conservation practice today?
- Our curricula are rich with technical approaches and, more recently, with the recognition of the dire need to build inclusivity into every aspect of conservation. But ethics, and in particular the diversity and political dimensions of ethics lags behind. How to account for the ethical dimensions of conservation

For further reflection:
- The experience of being an outsider, a newcomer to multiple locations and cultures (with all the disorientation and vulnerability that can bring) has personally shaped my outlook on conservation. Through inclusive approaches, we can amplify openness to such experiences.
As an anthropologist working with communities, especially youngsters, in biocultural and intercultural contexts, diversity and horizontal learning processes are key dimensions in my life-work-experience.

What could conservation educators do to support students in finding their strongest path in Conservation?

Continuous reflection of our role within conservation processes, critically understand the direct or potential impact of our research – applied research and actions, recognize and respect different world views, voices and approaches, emotions (sentipensares).

What does it means to be a well educated conservation professional/practitioner?

Be able to work in collaborative fashion, compromising in long term processes, understanding the historical background, tensions and dynamics, contributing to local processes that lead to strengthening local organizations. Cultivate personal and collaborative processes to convene, listen, and negotiate.

What areas of knowledge, approaches, and/or principles should be fostered in conservation education to meet the broadening scope of conservation practice today?

Explore pedagogical processes and outcomes with new teaching content and dynamics that are based on situated knowledge, social and environmental contexts and demands (outdoor green classroom "Agrobosque Universitario Kaná").
Cultivating the Affective Domains in Conservation Education to Build Resilience in a Changed World

Scientists are depressed about what's coming next for our planet

EXEMPLARY CRISIS

We need to talk about “ecoanxiety”: Climate change is causing PTSD, anxiety, and depression on a mass scale

April 3, 2017
By Zoë Schlanger
Environment reporter

Eco-grief, Climate-anxiety
“...the psychological devastation that comes with observing, day-after-day, the growing problems facing the planet.” (Fritze et al. 2008)
I feel eco-grief at sometimes paralyzing levels and fall into a pit of absolute hopelessness for the future of our planet.

I feel anticipatory grief often because I hate not knowing what will happen.

For students with low levels of grief

For students with high levels of grief

Lovero et al. in prep
What is the role of educators in cultivating the affective domains of learning, addressing grief and anxiety in students (and ourselves), and building resilience?

We are being called to:

- Build psychological resilience
- Foster critical hope
- Develop emotional intelligence
- Resist burnout
- Cultivate coping mechanisms
- Turn knowledge into action
  - in the outer world
  - and do the inner work
- Teach the science, etc
- Develop critical thinking
- Connect to community

The affective arc of environmental curricula, by Sarah Jaquette Ray
NOTES from Martha’s group

Lee Ann: Liliana put forward the importance of considering how teaching ethics, and what are the ethics involved when a professional and engaged with others who may have different ethics; how do we become more aware of another culture’s ethics- how do we explore this respectfully [another Q from Lee Ann: When do we begin cultivating conservationists - from grade school?]

Pua’ala: This best practice guide was developed to guide research with communities in Hawai‘i. May be of interest to reference in your own work: https://seagrant.soest.hawaii.edu/wp-content/uploads/2021/09/Kulana-Noii-2.0_LowRes.pdf

Voluntary, yet very helpful - collaboration to develop the guide was an important first step; use of it has been fascinating - so training across the U Hawai‘i campuses. Ways to begin to engage - need this training. Having guidance is critical, but also having a safe zone to try to learn how to do this is also necessary

Pua’ala - Cultural ecosystem services identification - going to two sites, such differences in how and what comes up, so it can benefit from trying first in more controlled setting.

Kristen: the role of educators in dealing with climate grief, building resilience, what is there for the educators themselves and need it themselves; Martha: seeing this in DDCSP and UWB, there are many challenges we are facing and hard to process and know how to support our students. Interested by Citlalli’s effort to make a more horizontal community of learners - can this work as well as community building resilience

Lee Ann: mentorship programs that can help pull on voices from our elders/other outsiders to pull people in to be part of the group Positive Role Models, stories.

Pua’ala - to create equity for carve outs for support - say supporting staff time for project team, can bring in community practitioners whose skill set is grief management. A lot of traction in cultural ecosystem services grant is helping support that work - 60% is going to communities, easiest time for doing this. Including them as equal partners in project budget; Univ. of Hawai‘i recently created office of indigenous innovation and health equity community cultural consulting group as partner in every single project - this is a massive change in practice - an example of what orgs can do in the right circumstances with the right support

What is the role of philanthropic donors in shaping these innovations/new directions - can we pull that in as a support

Please share: what intrigued you and why?
NOTES from Ana’s group

Many relate to the eco-anxiety issue. Intrigued by the possibility that we are leaving students half way across this “journey”. What do I want to leave my students with? How to engage formally/operationally with this in my pedagogy? In my course design?

Is it a linear journey though? Maybe it’s a maze, full of eddies that take you back to previous stages.

Excellence A.: conservation practitioners need to connect better w communities, sharpen message. [and... beyond that to cross-learning, co-creating and dialoguing]

Situated knowledge seems a perfect complement to epistemic humility...

Given how ill-equipped we are, as biologists, to educate for current conservation challenges and practice, maybe in addition to diversifying and broadening our curricula we need to promote more conservation practice/programs in social science (ethics, political science, psych) programs/schools, etc!

What could interdisciplinary spaces look like in our current, siloed institutions?

Even in those interdisciplinary programs different ways of K are privileged. What is an acceptable dissertation? Should students be doing dissertations? Lots to explore.

Students can start a project based on needs from their community. Not just Indigenous or rural or community-based students. Not just knowledge to gain but relationships networks to build
NOTES from Jessica’s group

Key literacies that were missing:
- Collaboration and communication skills - i.e. how to navigate social and professional situations and talk to a diversity of people
- Interdisciplinarity - the “how to” - integration of varied knowledge and inclusion of varied values in conservation
- How to write / do land acknowledgments
- How to create inclusive spaces (students say this is much needed for faculty)
- Building skills to more explicitly address conservation challenges and anticipated future challenges, not just past case studies with lessons learned in hindsight
- How to deal with eco-anxiety
- Epistemic humility
- Multi-species justice
- First generational barriers
- Art as an exploration of kin-centric, relational connection to species/biodiversity
- Understanding capitalist ethics
- How to read/write/understand science writing
- Exposure to justice, sustainability, not just ecology/science
- How to work within institutions / share institutional knowledge (formally) to reduce inequalities

Questions that emerged:
- How do we integrate conservation education / values into society more broadly and how can this knowledge come at a younger age?
- How can we broaden and make the field of conservation more inclusive?
- How can we work to create ecologically-minded citizens?

Suggestions for change:
- Teach students how institutions work and how they can be changed
- Dramatically increase mentoring of early and later career students and professionals
- Expand skillbuilding mini-workshops, especially those that can be taught peer-peer
- Acknowledge different skill sets and starting places for engaging in conservation work and value those. Not everyone knows how to read a scientific paper!
- Need more engagement from faculty outside of the “formal” classroom or lab setting and this needs to be rewarded and valued
- Communications workshops for students and early career folks especially related to how to interact with different groups of people / collaborators

Please share: what intrigued you and why?
Final Ideas - Please share what you feel is critical to include for Conservation Literacies:

Commonalities across discussions - longing for more information how institutions and structures work - how to reduce inequality

Better mentoring, peer-peer and faculty student mentoring

Skill building and mini-workshops

Acknowledgment of different skill sets and places

How to talk with different stakeholders and considerations in supporting collaboration

Identifying how to broaden conservation and think about what isn’t conservation? Liliana’s point - work of multitudes over generations - broaden the purview of social sciences - broaden to see that all of it IS conservation

Our role in cultivating ecologically minded citizens

Emotional burden of work, burden of living up to your values - acknowledge these difficulties.

How do we operationalize dealing with affective domains in our courses.
What’s Next?

- Share your thoughts with the SCBNA Education Committee - E.g., What support do you need to expand your teaching toolkits? Contact Martha - groom@uw.edu

- Join SCBNA Education Committee!!

- NCEP Educator Exchange: an opportunity to continue the discussion and consider what kinds of educational materials we may want to develop!
  - Virtual sessions on October 19 & 26, 12-2pm ET; you will receive more info via email!
  - Future Educator Exchange Workshops TBD, including at NACCB 2023

- Write up and submit your teaching materials and insights to share via NCEP, and for a special issue of Lessons in Conservation