

Recognizing the first ecological designers:
weaving indigenous narratives into landscape architecture curriculum

by

Sabreena Leach

A REPORT

submitted in partial fulfillment of the requirements for the degree

MASTER OF LANDSCAPE ARCHITECTURE

Department of Landscape Architecture and Regional & Community Planning
College of Architecture, Planning & Design

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2024

Approved by:

Major Professor
Lee R. Skabelund

Copyright

© Sabreena Leach 2024.

Abstract

Indigenous environmental stewardship, including the realms of Traditional Ecological Knowledge (TEK) and Traditional Ecological Practices (TEP), has gained increasing attention in Western practice in recent years. Indigenous communities possess valuable knowledge and perspectives that can inform the fields of ecological planning and design. However, many Indigenous groups have faced prejudice and targeted cultural dismemberment from the same societies that now wish to learn from them. This research explores how Indigenous narratives can be respectfully told in American landscape architecture curricula. This report compiles key resources and considerations for faculty interested in embarking on this effort.

The goal of this research is to encourage better understanding in landscape architecture of contemporary Indigenous communities and their story in relation to the American landscape. To determine what an Indigenous narrative would consist of in curricula, interviews were conducted with practitioners and educators of both Indigenous and non-Indigenous backgrounds who have worked with and learned from Indigenous communities. Interviewees were asked about what key concepts should be covered, how information could be respectfully taught, and how Indigenous communities could be equitably engaged. Responses guided the development of a curriculum framework that explores how content could be interwoven into landscape architecture courses, offering numerous lessons regarding history, worldviews, ethics, ecological design, and community engagement.

Indigenous narratives in landscape architecture curricula must transcend historical and contemporary timelines, educating students on injustices while highlighting the cultural strength and knowledge of Indigenous communities. By incorporating an Indigenous narrative into curricula, the profession can recognize the design knowledge of Indigenous communities, think beyond Western worldviews, and engage in informed dialogue with Tribal Nations. The end goal of this initiative is to establish essential understandings in the profession from which long-term relationships with Indigenous communities can be built.



Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum

SABREENA LEACH | MASTER'S REPORT

Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum

Sabreena Leach

Master's Report | 2024

Landscape Architecture

Kansas State University

Major Professor: **Lee R. Skabelund**

Committee Members:

Dr. Anne Beamish

Dr. Alex Red Corn

ABSTRACT

Indigenous environmental stewardship, including the realms of Traditional Ecological Knowledge (TEK) and Traditional Ecological Practices (TEP), has gained increasing attention in Western practice in recent years. Indigenous communities possess valuable knowledge and perspectives that can inform the fields of ecological planning and design. However, many Indigenous groups have faced prejudice and targeted cultural dismemberment from the same societies that now wish to learn from them. This research explores how Indigenous narratives can be respectfully told in American landscape architecture curricula. This report compiles key resources and considerations for faculty interested in embarking on this effort.

The goal of this research is to encourage better understanding in landscape architecture of contemporary Indigenous communities and their story in relation to the American landscape.

To determine what an Indigenous narrative would consist of in curricula, interviews were conducted with practitioners and educators of both Indigenous and non-Indigenous backgrounds who have worked with and learned from Indigenous communities. Interviewees were asked about what key concepts should be covered, how information could be respectfully taught, and how Indigenous communities could be equitably engaged. Responses guided the development of a curriculum framework that explores how content could be interwoven into landscape architecture courses, offering numerous lessons regarding history, worldviews, ethics, ecological design, and community engagement.

Indigenous narratives in landscape architecture curricula must transcend historical and contemporary timelines, educating students on injustices while highlighting the cultural strength and knowledge of Indigenous communities. By incorporating an Indigenous narrative into curricula, the profession can recognize the design knowledge of Indigenous communities, think beyond Western worldviews, and engage in informed dialogue with Tribal Nations. The end goal of this initiative is to establish essential understandings in the profession from which long-term relationships with Indigenous communities can be built.

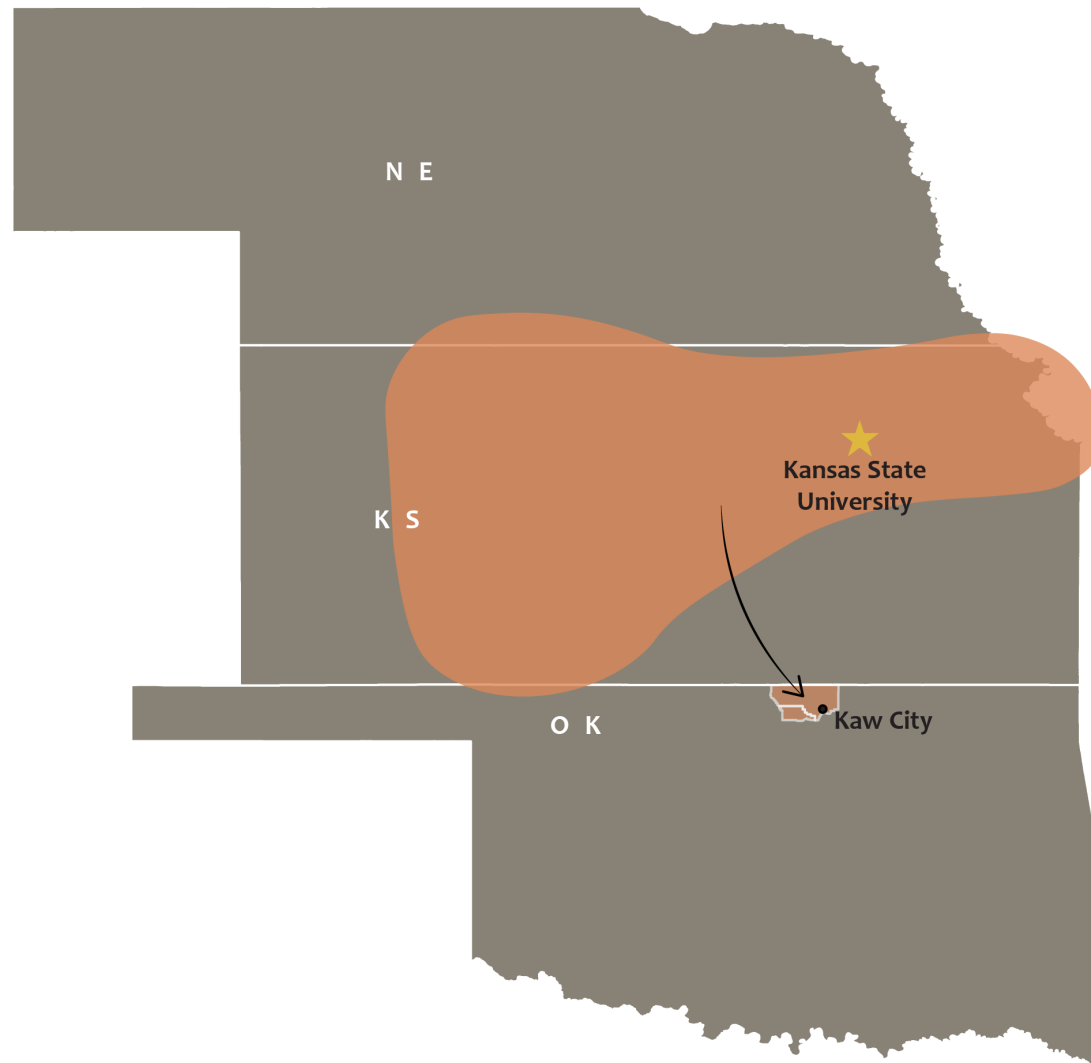


Fig. 1.1 Traditional Homelands of the Kaw Nation

The Kaw Nation were the traditional stewards of the lands on which Kansas State University sits. During Indian Removal, the Kaw Nation was forced down to Oklahoma, though the Nation strives to maintain an active connection to their traditional lands in Kansas. (Data source: Native Land Digital.)

LAND ACKNOWLEDGEMENT

Indigenous Peoples are the traditional stewards of the lands we live and work on.

Kansas State University sits on the traditional homeland of the Kaw Nation. The lands of Kansas were also home to the Pawnee and Osage Nations, among others who subsisted off land that included Kansas' western plains. Other Native Nations were moved through the state during Indian Removal (i.e. the Delaware). Today, Kansas is home to four federally recognized tribes: The Prairie Band Potawatomi, the Kickapoo Tribe of Kansas, the Iowa Tribe of Kansas and Nebraska, and the Sac and Fox Nation of Missouri in Kansas and Nebraska. These Nations were forcibly removed from their lands during colonization. We must acknowledge this history and move towards reconciliation.

As landscape architects, we have a responsibility to recognize the historical connections and contemporary presence of Indigenous Peoples. As a field whose work directly affects and alters the land, we could learn a great deal from its traditional stewards. However, when learning, we must also give, assisting Native Nations in their efforts to reconnect to their homelands and stewardship practices.

As a non-native student writing this report, my intention is to learn first myself and to advocate for greater recognition of Indigenous Peoples in the teaching and practice of landscape architecture.

ACKNOWLEDGMENTS

Thank you to all my teachers and professors. Your classes helped widen the lens through which I look out into the world. Thank you to my major professor, Lee Skabelund, and to my committee members, Dr. Anne Beamish and Dr. Alex Red Corn for your support throughout this process. I appreciate your guidance and the time you donated to my learning. Thank you, also, to Dr. Alex Red Corn and Dr. Debra Bolton for providing Indigenous perspectives during the proposal writing stage. Your suggestions helped to reshape my project for the better.

Thank you to all those who participated in this project: Dr. Melinda Adams, Dr. Charles Barden, LaVerne Bitsie-Baldwin, Dr. Paulette Blanchard, Dr. Debra Bolton, Laurie Brown, Davin Dawson, Paul Fragua, Dr. Jann Hayman, Manisha Kaul, Dr. Kelly Kindscher, John Koepke, José de Jesús Leal, Dr. Lisa Tatonetti, Brett Ramey, Chris Sanders, Scott Schulte, Audrey West, and Nathaniel Willing. Thanks for answering that email from some girl you did not know! I have learned a great deal from you all, and your words have given me a lot to think about as I enter practice.

Thank you to my friends and classmates. I feel lucky to be part of a place where I am surrounded by friends. Thank you for reminding me to stop and sun in the moment. I will miss the hacky-sack breaks and Waffle Wednesdays. However, I am excited to see the paths everyone takes. I know you all will spread a bit more joy wherever you land!

Finally, thank you to my family. You have always been there for me—to lean on during difficult periods and to celebrate during happy times. I love you all! And I am fortunate to have your love and support in life.

TABLE OF CONTENTS

INTRODUCTION: GOALS & METHODS1

BACKGROUND & RELEVANCE3

PURPOSE & GOALS5

RESEARCH QUESTION7

METHODOLOGY9

BOOK ORGANIZATION12

PART I: CONNECTIONS & CONTENT15

CONNECTIONS: ECOLOGICAL DESIGN & INDIGENOUS STEWARDSHIP17

WESTERN ECOLOGICAL DESIGN TEXT SURVEY20

INTRODUCTION TO INDIGENOUS ECOLOGICAL DESIGN & STEWARDSHIP25

TRADITIONAL ECOLOGICAL PRACTICES (TEP)30

TEP STEWARDSHIP SYSTEMS35

AN OPPORTUNITY TO MEND OTHER KNOWLEDGE GAPS46

PART II: CONVERSATIONS & CONSIDERATIONS49

IN THE LITERATURE: PARTNERING WITH INDIGENOUS COMMUNITIES51

CONVERSATIONS: INTERVIEWS55

SYNTHESIZED RESPONSES65

SUMMARY GUIDELINES114

PART III: FRAMEWORKS & ACTION117

LANDSCAPE ARCHITECTURE ACCREDITATION BOARD STANDARD ANALYSIS118

KSU CURRICULUM INVENTORY & ANALYSIS120

CURRICULUM FRAMEWORK127

CONCLUSION152

APPENDICES: GLOSSARY & REFERENCES155

AHUPUA'A | PRECEDENT STUDY157

GLOSSARY162

MASTER RESOURCE LIST164

REFERENCES170

LIST OF FIGURES

INTRODUCTION: GOALS & METHODS

Fig. 1.1 Traditional Homelands of the Kaw Nation	Land Acknowledgment
Fig. 1.2 Recognizing the Overlap	2
Fig. 1.3 Setting a Foundation	5
Fig. 1.4 Indigenous Narrative Components	6
Fig. 1.5 Methods	8
Fig. 1.6 Master’s Report Communication Timeline	10
Fig. 1.7 Literature Review Map	13

PART I: CONNECTIONS & CONTENT

Fig. 2.1 Part I: Literature Review Map	16
Fig. 2.2 The Scale of a Practice	25
Fig. 2.3 Socio-ecological Context of Traditional Ecological Practices	26
Fig. 2.4 Burning in the Flint Hills	29
Fig. 2.5 The Scale of a Landscape	35
Fig. 2.6 Scales of Understanding	35
Fig. 2.7 Ahupua’a Land Tenure System	38
Fig. 2.8 Ahupua’a Section	39
Fig. 2.9 Ahupua’a Plan	39
Fig. 2.10 Clam Garden	40
Fig. 2.11 Clam Garden Construction	41
Fig. 2.12 Collage of Traditional Ecological Practices	45
Fig. 2.13 Collage of Traditional Ecological Practitioners	45
Fig. 2.14 Extending the Conversation	46

PART II: CONVERSATIONS & CONSIDERATIONS

Fig. 3.1 Part II: Literature Review Map	50
Fig. 3.2 Interviewee Sample	54
Fig. 3.3 Synthesis Process	64
Fig. 3.4 Gathering to Collaborate	69
Fig. 3.5 View of Tower Grove East Stream Restoration	71
Fig. 3.6 A Creek in the Prairie Band Potowatomi Nation	72
Fig. 3.7 Osage Nation Bison Herd	75

Fig. 3.8 Ioway Community Event on the Land	77
Fig. 3.9 University of Illinois Urbana-Champaign Campus	79
Fig. 3.10 Jilkaat Kwaan Cultural Center and Observatory	80
Fig. 3.11 Circles of Engagement	83
Fig. 3.12 Absorbing the Considerations	112

PART III: FRAMEWORKS & ACTION

Fig. 4.1 Word Cloud of Mentioned Topics	121
Fig. 4.2 Opportunities in Non-Baccalaureate program	124
Fig. 4.3 Opportunities in Post-Baccalaureate program	125
Fig. 4.4 Framework Diagram	129
Fig. 4.5 Essential Understandings	130
Fig. 4.6 Goal of Cultural Competency	131
Fig. 4.7 Tribal Lands and Tribal Colleges	132
Fig. 4.8 Regional Partnership Opportunities	135
Fig. 4.9 Cochiti Pueblo Brownfield Project	137
Fig. 4.10 Natural Landscape Field Experience	142
Fig. 4.11 Urban Landscape Field Experience	142
Fig. 4.12 View of Konza Prairie Biological Station	143
Fig. 4.13 Layering Educational Strategies	145
Fig. 4.14 Local Field Trip Opportunities	148
Fig. 4.15 Regional Field Trip Opportunities	148
Fig. 4.16 National Field Trip Opportunities	148
Fig. 4.17 The First Step	152

APPENDICES: GLOSSARY & REFERENCE

Fig. 5.1 Hawaiian Valley	156
Fig. 5.2 Taro Patch	156
Fig. 5.4 Loko Kuapa Sea Wall	156
Fig. 5.3 Aerial of Taro Patches	156
Fig. 5.5 Ahupua’a Land Tenure System	157
Fig. 5.7 Ahupua’a Plan	158
Fig. 5.6 Ahupua’a Section	158
Fig. 5.9 Fishpond system	160
Fig. 5.8 Taro Planting to Harvest	160

LIST OF TABLES

PART I: CONNECTIONS & CONTENT

Table 2.1 Parallels between Indigenous Stewardship and Western Ecological Design 18

Table 2.2 Indigenous Environmental Stewardship Texts 19

Table 2.3 Survey of Selected Ecological Design Texts (Above) 21

Table 2.4 Search Terms Used in Survey of Selected Texts (Left) 21

Table 2.5 TEP Stewarship Examples 36

PART II: CONVERSATIONS & CONSIDERATIONS

Table 3.1 Reccomended Resources 100

PART III: FRAMEWORKS & ACTION

Table 4.1 Applicable LAAB Standards 118

Table 4.2 Applicable LAAB Core Values 119

Table 4.3 Essential Understanding Precedents 131

Table 4.4 Tribal Partnership Opportunities 135

Table 4.5 Campus Partnership Opportunities 136

Table 4.6 Tribal Education Advisory Boards 138

Table 4.7 Relevant Kansas State University Electives 140

Table 4.8 Professional Development Sources 141

Table 4.9 Local Events 141

Table 4.10 Local Natural Landscapes 142

Table 4.11 Course and Program Examples 144

Table 4.12 Ethics Module 146

Table 4.13 Traditional Ecological Practices Module 147

Table 4.14 Traditional Ecological Practice Videos 147

APPENDICES: GLOSSARY & REFERENCE

Table 5.1 Selected Ahupua’a Sources 161

Table 5.2 Master Resources List 168



BACKGROUND & RELEVANCE

Indigenous environmental stewardship is cited across disciplines by native and non-native scholars as innovative examples of sustainable and resilient land management (Berkes 1999; Gordon (Iñupiaq) et al. 2023; Kangas 2004; Nelson and Shilling 2018; Orr 2002; Van der Ryn and Cowan 1996; Wildcat 2023). While each Indigenous group is distinct, the commonality among Indigenous Peoples of a long-term relationship with their local environments often led to a strong conservation ethic, deep ecological knowledge, and adept land stewardship over time (Balick and Posey 2006) 312). Stewardship practices respected the resiliency of the surrounding environment to provide communities with desired ecosystem services without hindering the system’s ability to provide in the future (i.e. burning grasslands to provide desirable forage for bison). In contrast, industrialized societies typically relied more heavily on high-input technologies to manipulate their surroundings (i.e. powering complex machinery with fossil fuels). The latter approach has led to numerous issues including the overharvesting of natural resources and climate change (Orr 2002). Therefore, the Indigenous approach to environmental management can reframe thinking on how the built environment can be alternatively designed and managed (Martin et al. 2010; Maswood 2019; Watson and Davis 2019).

However, many Indigenous groups have faced prejudice and targeted cultural dismemberment from the same societies that now wish to learn from them. Thus, efforts to embrace Indigenous approaches must be paired with reconciliation (Latulippe 2015; Smith 1999). Landscape architecture curriculum should inform students of historical injustices (i.e., Indigenous People’s removal from traditional territories) and how design and planning professions played a role in this injustice (i.e., ignoring or romanticizing Indigenous land management practices). By recognizing mistakes made in relation to Indigenous Peoples and the land, and by working closely with Indigenous communities, landscape architects increase awareness of Indigenous history and present-day knowledge and skills and contribute to efforts to recognize treaty and land rights of Indigenous Nations. Indigenous communities possess valuable knowledge and perspectives that can inform the fields of ecological planning, design, and engineering. However, as fields embrace Indigenous knowledge, they must also embrace equitable engagement with the Indigenous communities from which this knowledge originates (Gordon (Iñupiaq) et al. 2023).

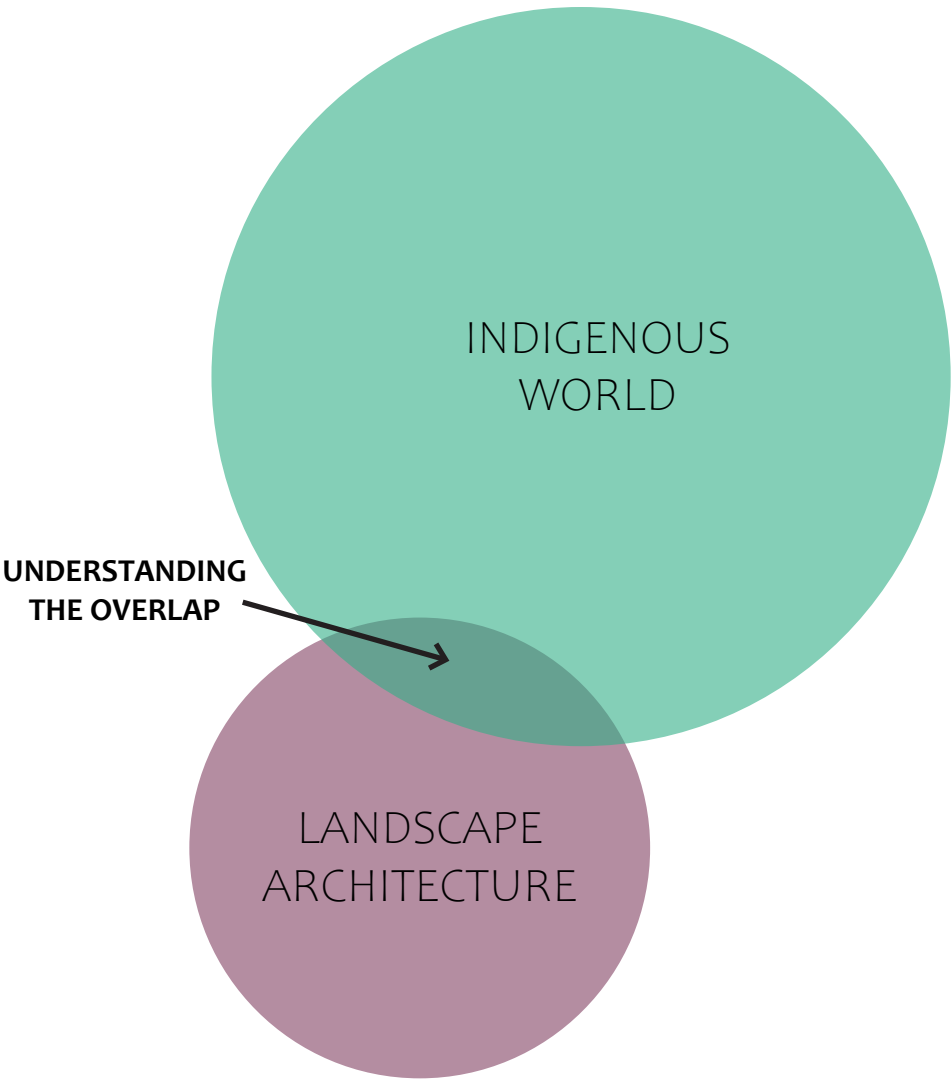


Fig. 1.2 Recognizing the Overlap
The profession needs to better understand and acknowledge the overlap between landscape architecture and Indigenous Peoples — in relation to the land, historical injustices, and contemporary issues.

PURPOSE & GOALS

The purpose of this report is to explore how the contributions of Indigenous Peoples to ecological design can be equitably recognized in landscape architecture curriculum. An equitable Indigenous narrative in landscape architecture curriculum must transcend historical and contemporary timelines, recognizing both the negative and positive arcs of Indigenous Peoples’ stories (ASLA 2020; Bolton 2023; see Fig. 1). Students can derive numerous lessons pertaining to community engagement, ethics, plant selection, ecological design, and design theory from Indigenous narratives.

Curriculum must cultivate a basic level of cultural competency and ultimately, help define a way forward centered on Indigenous empowerment. By incorporating an Indigenous narrative into curriculum, the profession can recognize the design knowledge of Indigenous nations, think beyond Western worldviews, and engage in informed dialogue with Indigenous communities (see Fig.). The goal of this report is to compile information for landscape architecture faculty looking to embark on this effort.

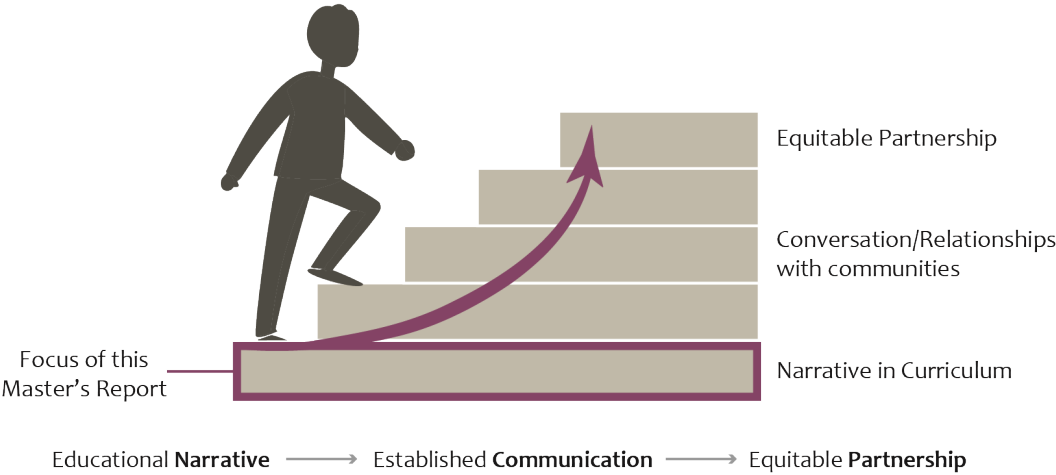


Fig. 1.3 Setting a Foundation

This report aims to investigate how a fuller narrative regarding Indigenous Peoples could be incorporated into landscape architecture curriculum. However, the goal of establishing this educational foundation is to prepare professionals engage in informed dialogue and equitable partnerships with Indigenous Nations.

Landscape Architecture Curriculum

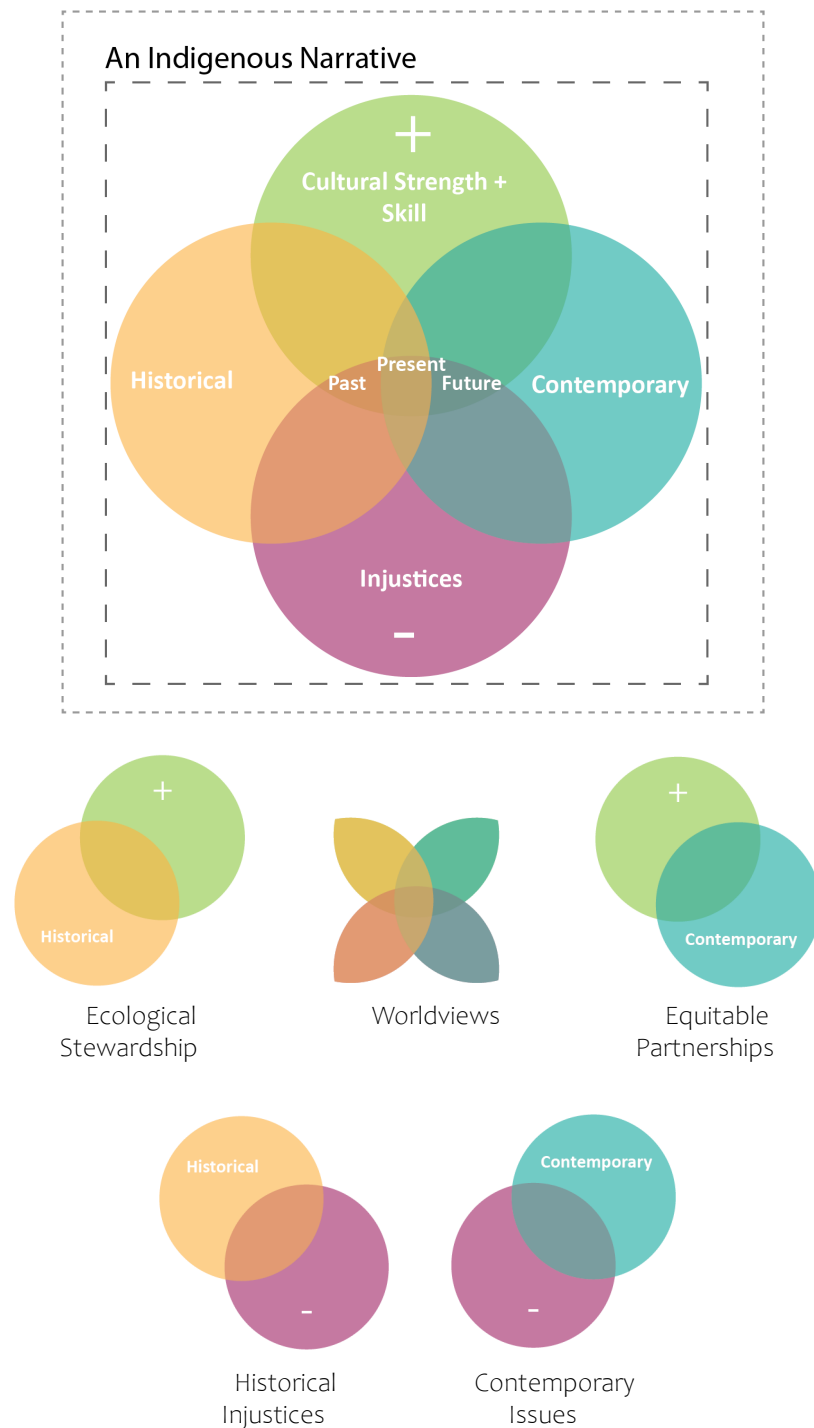


Fig. 1.4 Indigenous Narrative Components

An Indigenous narrative must transcend historical and contemporary timelines, educating the broad audience on the injustices that have occurred while taking time to celebrate Indigenous Peoples' strengths, skills, and accomplishments.

RESEARCH QUESTION

How can Indigenous innovation in ecological design be **equitably recognized** within landscape architecture curriculum?

RELATED QUESTIONS

- How can the role of Indigenous communities as ecological designers be highlighted while **avoiding the appropriation of cultural knowledge**?
- How can Indigenous environmental management be illustrated as **ecological design precedents**?
- How can landscape architecture programs **act as partners** to Indigenous communities wanting to reclaim their role as stewards of their traditional lands?
- What **historical events** and **worldviews** related to North American Indigenous communities are crucial for landscape architects to understand?
- What **contemporary issues** related to North American Indigenous communities are crucial for landscape architects to understand? How can landscape architects play a supporting role in these efforts?
- What are appropriate ways of **engaging with Indigenous communities**?
- How has this narrative been incorporated into curriculum? What needs improvement?

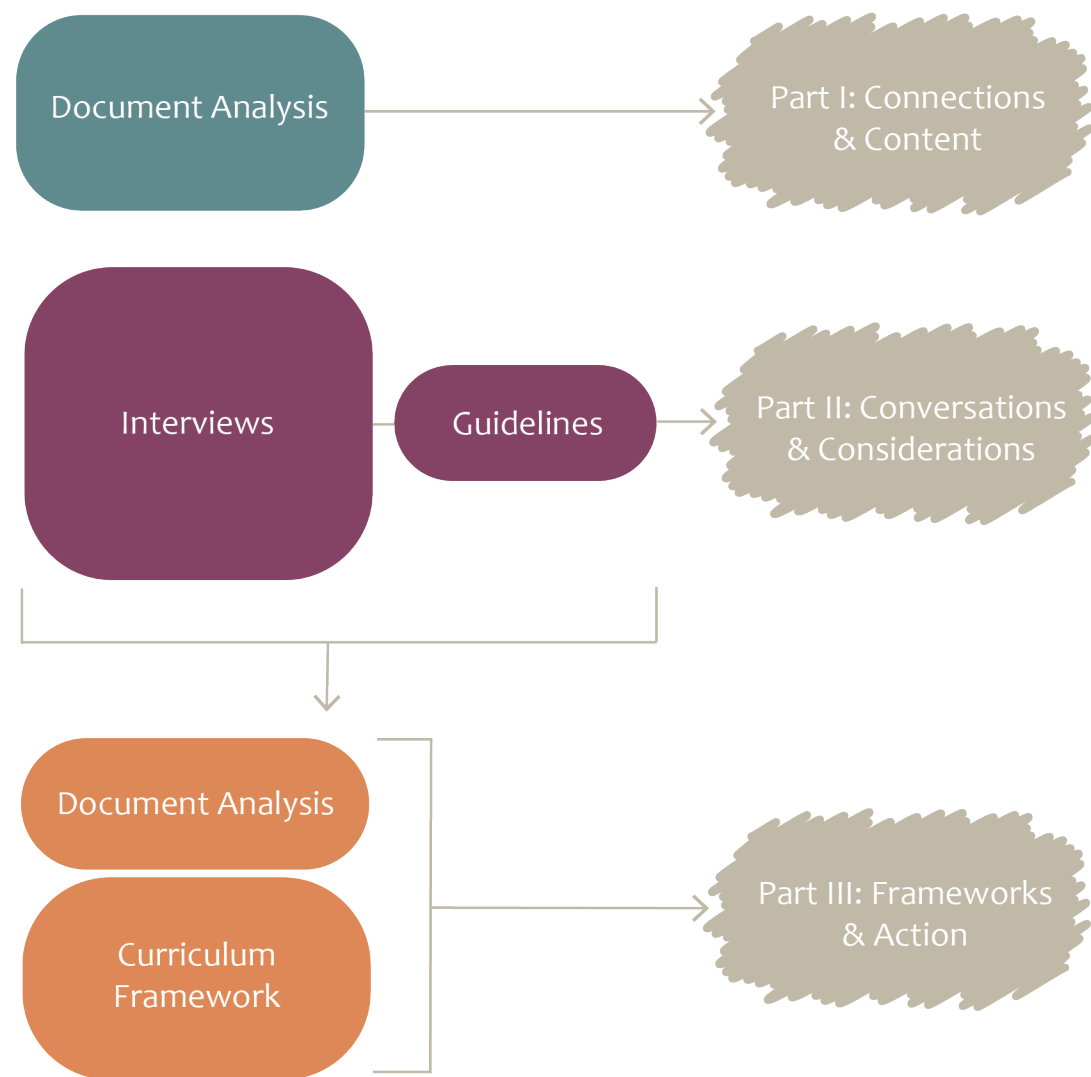


Fig. 1.5 Methods

In Part I, a literature review and document analysis of ecological design texts establishes the connection between Indigenous environmental stewardship and Western ecological design. Then, in Part II, interviews with practitioners and educators explore how Indigenous narratives can be incorporated respectfully. Finally, in Part III, LAAB standards are reviewed and suggestions are made for Kansas State University's landscape architecture program.

METHODOLOGY

DOCUMENT ANALYSIS

Documents were analyzed to identify key connections and overlaps between ecological design, Indigenous stewardship, and landscape architecture curriculum requirements.

In Part I, selected ecological design texts were analyzed for arguments that connect Indigenous land stewardship and ecological design thinking. Then, ecological design principles are compared to Indigenous land stewardship to identify parallel approaches between the two.

In Part III, the Landscape Architecture Accreditation Board standards were reviewed to determine what standards and core values Indigenous narratives align with.

INTERVIEWS

Interviews were conducted to glean insight from professionals who have experience related to Indigenous environmental stewardship and partnerships with Indigenous communities. Interviewees fell into one of two categories: 1) Educators teaching content related to Indigenous Peoples and 2) Practitioners who have worked with Indigenous communities. Some interviewees have experience in both categories and were asked questions from both question sets. Interviews with educators offer guidance on what content should be highlighted and how to avoid extractive goals. Interviews with practitioners reveal what education is most needed for practice and lessons on how to engage with Indigenous Nations.

Kansas State University IRB approval was obtained for interviews. Questions and research intentions were shared with interviewees prior to the actual interview. Interviewees had the option to remain anonymous, though none chose to do so. Interviews were held over Zoom or in a digital written format.

GUIDELINES

Interview responses, along with related literature, were refined into a summary set of guidelines at the conclusion of Part II. These outline key considerations for landscape architecture faculty as they engage with communities and incorporate information into courses.

CURRICULUM FRAMEWORK

Part III: Frameworks & Action summarizes how the information outlined in Parts I and II can be incorporated into landscape architecture curriculum. The Kansas State University landscape architecture program was evaluated as an example. An inventory and analysis identifies previous efforts, constraints, and opportunities in the program. The framework outlines essential understandings before identifying resources, potential partners, and example modules focused on Kansas State University's program.

COMMUNICATION TIMELINE

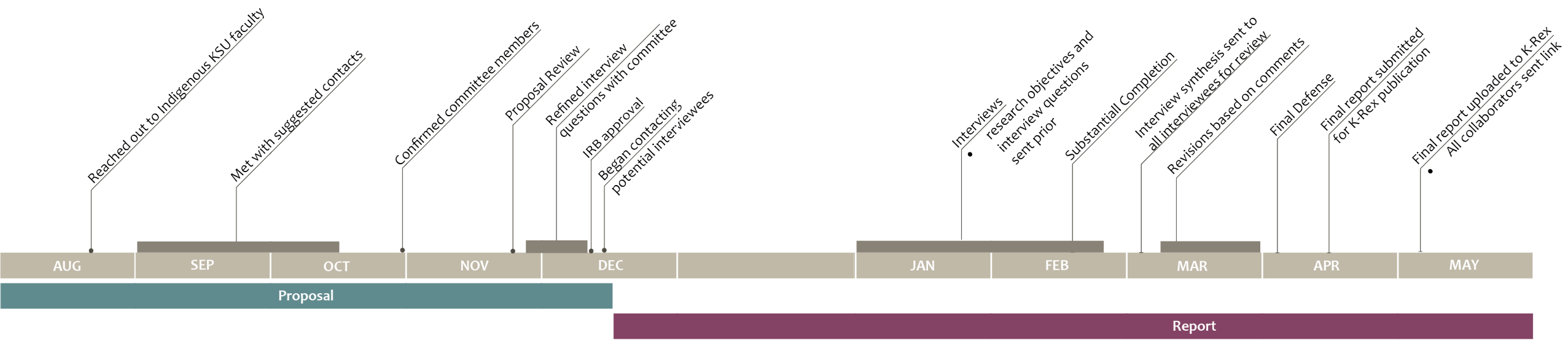


Fig. 1.6 Master's Report Communication Timeline

Early communication with Indigenous faculty was important in guiding the proposal of this project. During the interview process, transparent communication was key and interviewees were given an opportunity to review written work.

BOOK ORGANIZATION

This document is intended to act as a guide for landscape architecture faculty looking to incorporate Indigenous narratives into their curriculum. This book is organized into three main parts:

- 1

Part 1: Connections & Content highlights the overlap between Traditional Ecological Practices and ecological design and lays out the argument for why this information should be included in landscape architecture curriculum.
- 2

Part 2: Conversations & Considerations discusses equitable Indigenous partnerships and synthesizes interview responses into key considerations for faculty.
- 3

Part 3: Frameworks & Action provides an example through an analysis and framework developed for Kansas State University’s landscape architecture program.

The literature review is split according to relevance between Parts 1 and 2. Part 1 includes literature related to Indigenous environmental stewardship and Western ecological design, while Part 2 includes literature related to equitable Indigenous partnerships. In the appendices, a compiled list of resources can be found.

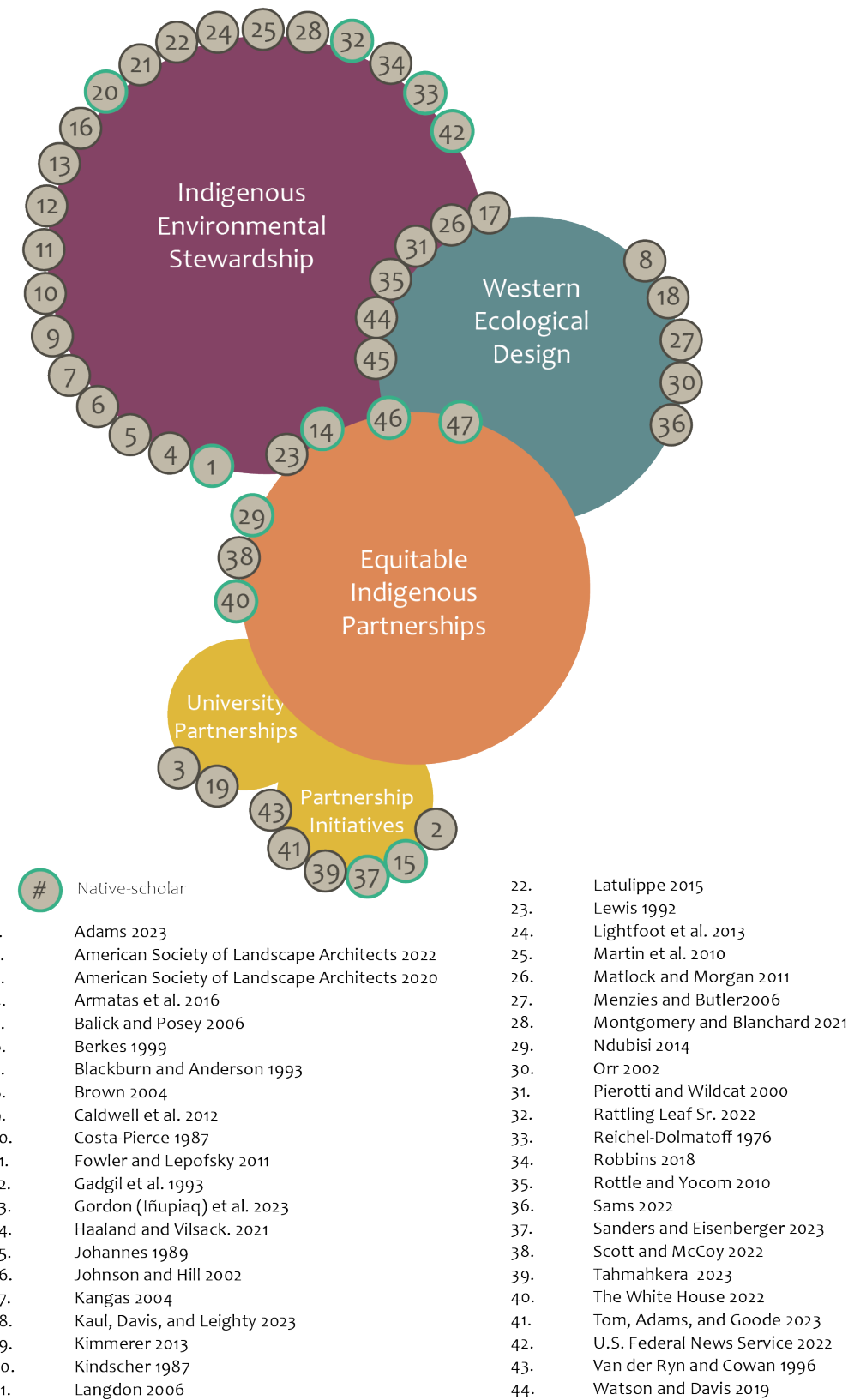
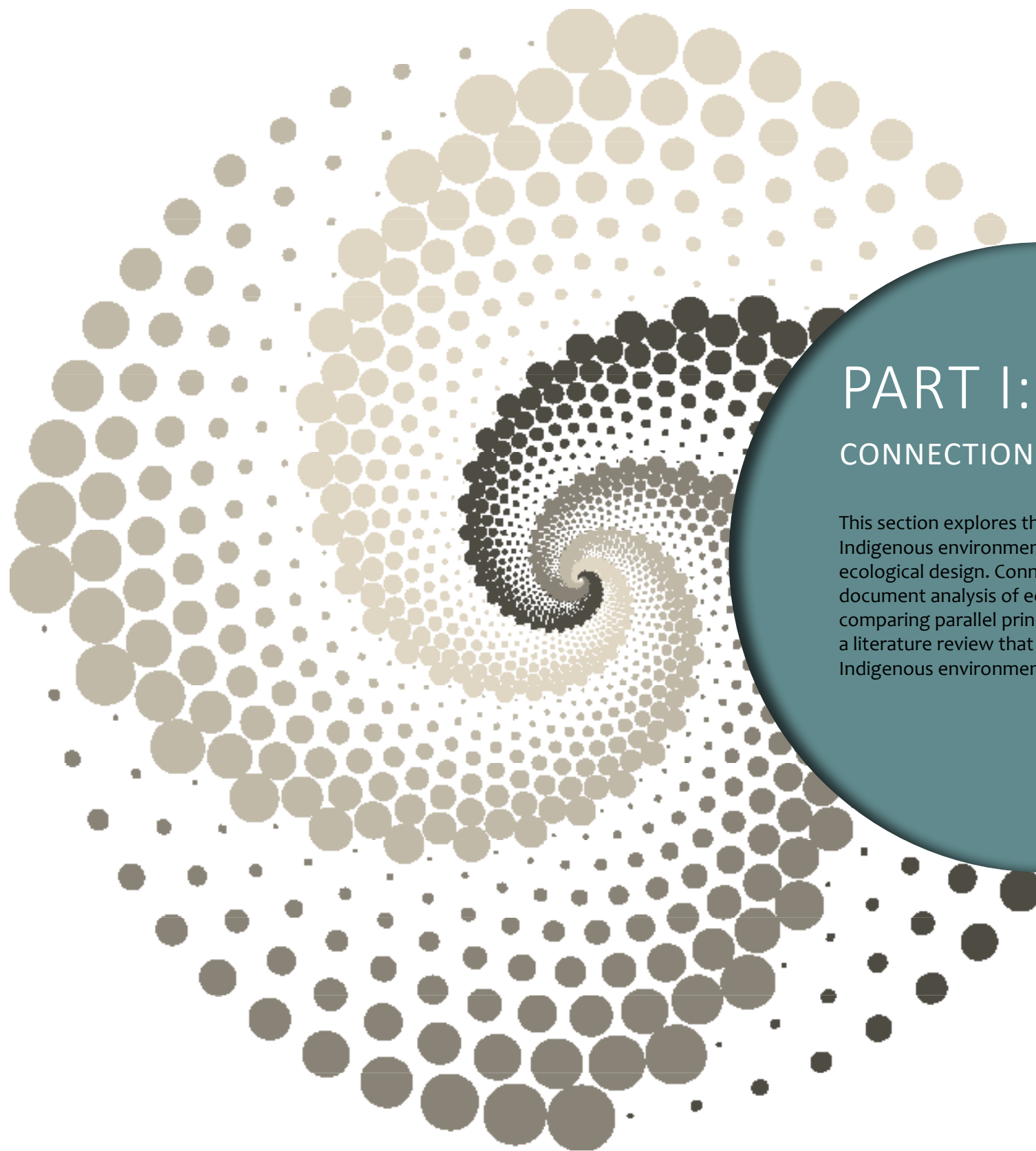


Fig. 1.7 Literature Review Map

The literature review explores Indigenous environmental stewardship, its representation in Western ecological design, and equitable Indigenous partnerships.



PART I:

CONNECTIONS & CONTENT

This section explores the connections between Indigenous environmental stewardship and Western ecological design. Connections are explored through document analysis of ecological design texts and comparing parallel principles. Content is framed through a literature review that introduces concepts relevant to Indigenous environmental stewardship.

CONNECTIONS: ECOLOGICAL DESIGN & INDIGENOUS STEWARDSHIP

THE ORIGINS OF ECOLOGICAL DESIGN IN WESTERN PRACTICE

Ecological design spans numerous fields, including landscape architecture, architecture, planning, and engineering (Johnson and Hill 2002; Kangas 2004; Matlock and Morgan 2011; Van der Ryn and Cowan 1996). Ecological design focuses on weaving human systems with natural processes so that both systems gain resilience through the recognition of their relationship (Rottle and Yocom 2010; Van der Ryn and Cowan 1996). Ecological design thinking combines knowledge of ecological systems with human interventions and management regimes to meet human needs (Kangas 2004). The ideas underpinning an ecological approach are often traced back to Western thinkers from the early 19th century who recognized the value of the natural world to humanity. Prior to this, the Western philosophy of man’s relationship to nature was an antagonistic one, originating all the way back to Ancient Greek philosophers as a man versus nature relationship. This antagonistic framework led to Western culture’s quest to tame the natural world (Ndubisi 2014, 13). However, during American westward expansion in the 19th century, questions began to arise on the extent to which nature should be tamed. Writings by Romantics like Thoreau, Muir, Emerson, and Catlin advocated for the appreciation and preservation of America’s natural landscapes (Chapman 2020; Ndubisi 2014).

At the turn of the 20th century, as industrialization took hold, rapid development led to the degradation of natural resources and worsening urban conditions. This set the stage for the wilderness conservation ideologies of the Romantics and others (i.e., Aldo Leopold, Benton MacKaye, and George Melendez Wright) to be considered within the context of built and managed environments. One result was the ecological design and planning movement (Ndubisi 2014).

Ecological design and planning took root in the 1960s and 70s with developments in architecture and in Ian McHarg’s Design with Nature (Van der Ryn 1996). Parallel approaches evolved in other Western disciplines, like in ecological engineering with H.T. Odum’s system diagrams (Brown 2004; Kangas 2004). All these approaches emphasized understanding the connection between human and natural systems.

Ecological design thinking continues to expand and gain traction in Western practice (Van der Ryn and Cowan 1996). However, while ecological design is a relatively new approach being adopted in Western practice, this approach is ancient in Indigenous realms (Van der Ryn and Cowan 1996, 25).

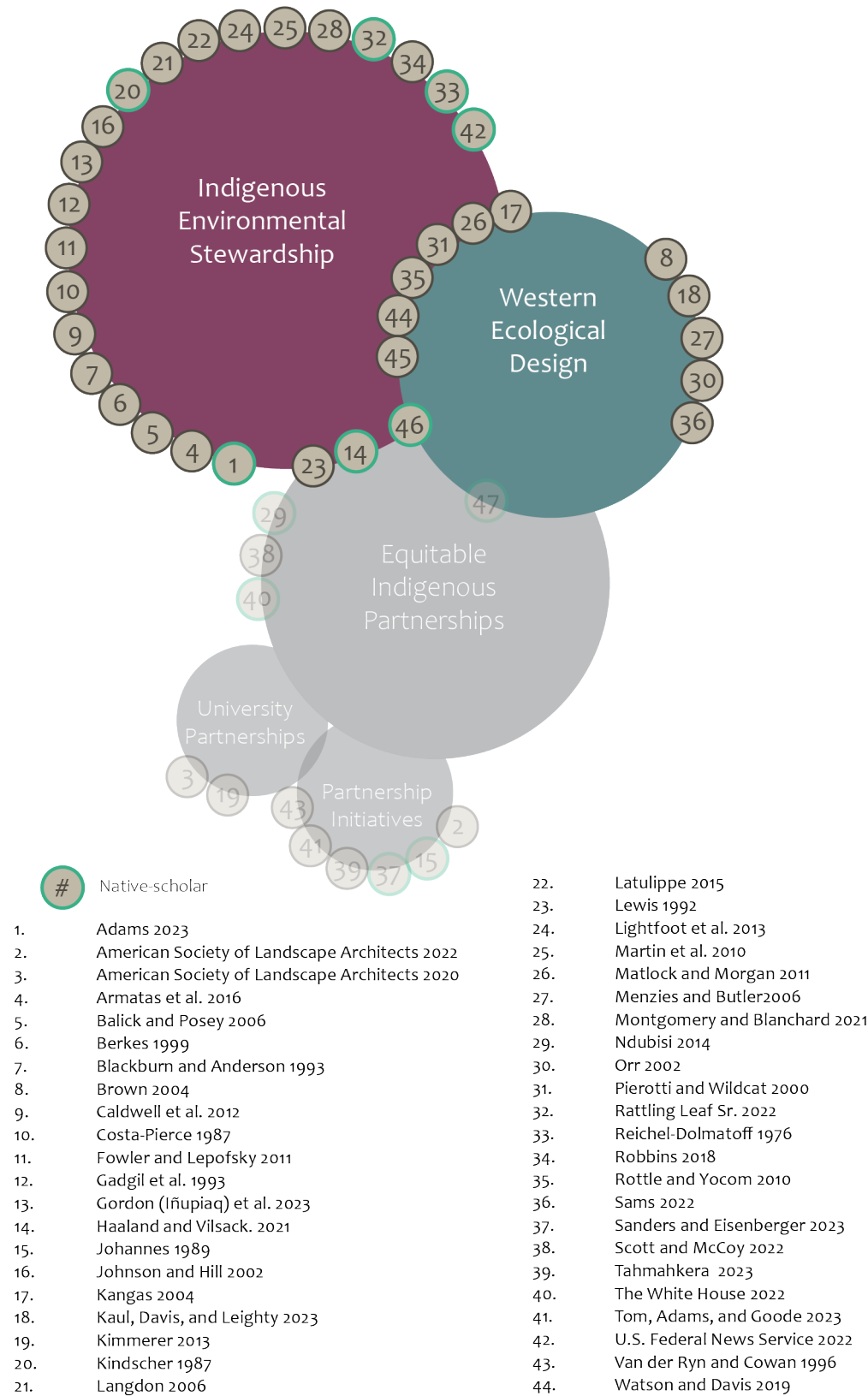


Fig. 2.1 Part I: Literature Review Map
Part I of the literature review explores Indigenous environmental stewardship and its representation in Western ecological design.

INDIGENOUS PREDECESSORS TO WESTERN ECOLOGICAL DESIGN

Parallels to many Western ecological design principles can be found in Indigenous approaches to land stewardship (see Table 2.1). While each Indigenous group is distinct, with their own approach to land stewardship, there are some general themes (Berkes 1999). Indigenous cultures commonly hold a strong conservation ethic and understanding that everything (i.e. humans, plants, animals, water, rocks) is in relationship (Berkes 1999; Wildcat 2023). Throughout the prolonged inhabitation of a territory, Indigenous cultures developed deep ecological knowledge and used this knowledge to author complex land stewardship systems. Land stewardship was guided closely by Traditional Ecological Knowledge, a conservation ethic, a long-term perspective, and an understanding that everything is in a relationship. These ideas are similar to points advocated for in Western ecological design. Except, these approaches were practiced in Indigenous communities long before the profession of landscape architecture even existed. Dan Shilling writes, “Ironically, it has taken decades for many sustainability scholars to consider the spiritual and ecological underpinnings that helped define Native peoples’ relationship to nature,

INDIGENOUS ENVIRONMENTAL STEWARDSHIP	WESTERN ECOLOGICAL DESIGN
Application of Traditional Ecological Knowledge (Fowler and Lepofsky 2011)	Application of Ecology (Rottle and Yocom 2010, p. 14)
Right relations (Wildcat 2024)	Environmental ethics (Johnson and Hill 2002, p. 245)
Holistic worldview (No distinction between humans and the natural world; Berkes 2018, p. 75-79)	Holistic approach (Human and natural systems considered together; (Rottle and Yocom 2010, p. 46)
Everything is in relationship (Blanchard 2024; Wildcat 2024)	Systems thinking (Lyle 1985, p. 228; Johnson and Hill 2002, p. 148)
Responsibility to next seven generations (Kimmerer 2013)	Long-term sustainability (Orr 2002)
Honorable harvest (Kimmerer 2013)	Sustainable materials and resource use (Rottle and Yocom 2010, p. 78)
Diversity in stewarded species (Fowler and Lepofsky 2011)	Functional redundancy (Orr 2002, 29)
Territoriality/Land tenure systems (Berkes 1999, p. 70-75)	De-centralized control (Orr 2002, 29)
Positive disturbance (i.e. prescribed burns, selective harvesting; Kimmerer 2013)	Dynamic equilibrium and resilience (Rottle and Yocom 2010, p. 70-80)
“The idea that human use ensures an abundance of plant and animal life appears to have been an ancient one in the minds of native peoples.” (Blackburn and Anderson 1999, 19)	The idea that humans can have positive impacts on ecosystem services and biodiversity in built environments (Beck 2013, p. 3-5)

Table 2.1 Parallels between Indigenous Stewardship and Western Ecological Design

There are numerous parallels between principles developed in Western ecological design and the traditional approach to environmental stewardship of many Indigenous Peoples.

even though these relationships ‘sustained’ most tribal nations, and the land on which they lived, for thousands of years” (Nelson and Shilling 2018). Therefore, Indigenous Peoples around the globe should be attributed as the first ecological designers with the development of advanced, ecologically minded land stewardship systems (Berkes 1999; Orr 2002; Van der Ryn and Cowan 1996; Wildcat 2024).

Some Western ecological designers have made connections back to Indigenous practices. A survey of selected ecological design texts were reviewed (see Table 2.3), and the following Western texts were found to discuss these connections: Ecological Design by Sam Van der Ryn and Stuart Cowan (1996), *The Nature of Design* by David W. Orr (2002), *Ecology and Design* by Bart Johnson and Kristina Hill (2002), *Lo-TEK* by Julia Watson (2019), and *Learning Country in Landscape Architecture* by David S. Jones (2021). While these Western ecological design texts establish the connection, Indigenous land stewardship has been discussed in much more detail outside of the design disciplines (see Table 2.2). Native-authored works, in particular, provide valuable first person perspectives in this area. It is important that Indigenous voices are included and elevated as these connections are further established. As a field, ecological design should embrace the approaches and precedents of Indigenous land stewardship into curriculum, recognizing Indigenous Peoples broadly for authoring these ecological design approaches (Johnson and Hill 2002).

AUTHOR	TRIBAL AFFILIATION	TITLE	DATE
Daniel R. Wildcat	Yuchi member of the Muscogee Nation of Oklahoma	Red Alert! Saving the Planet with Indigenous Knowledge	2009
		On Indigenuity: Learning the Lessons of Mother Earth	2023
Robin Wall Kimmerer	Citizen Potawatomi Nation	Gathering Moss: A Natural and Cultural History of Mosses	2003
		Braiding Sweetgrass:: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants	2014
Fikret Berkes	n/a	Sacred Ecology (4th Edition)	2018
Melissa K. Nelson, editor	Anishinaabe/Métis/ Norwegian and an enrolled citizen of the Turtle Mountain Band of Chippewa Indians	Traditional Ecological Knowledge: Learning from Indigenous Practices for Environmental Sustainability	2018
Dan Shilling, editor	n/a		
Julia Watson	n/a	Lo-TEK: Design by Radical Indigenism	2019

Table 2.2 Indigenous Environmental Stewardship Texts

While not an extensive list, the table includes selected books that provide a more in depth overview of Indigenous Environmental Stewardship approaches.

WESTERN ECOLOGICAL DESIGN TEXT SURVEY

AUTHOR	TITLE	DATE	INDIGENOUS ENVIRONMENTAL STEWARDSHIP CONNECTED TO WESTERN ECOLOGICAL DESIGN THINKING		
			YES - IN-DEPTH	YES - MENTIONED	NO
Ian McHarg	Design with Nature	1969			X
John T. Lyle	Design for Human Ecosystems	1985			X
Sim Van der Ryn and Stuart Cowan	Ecological Design	1996	X		
Philip H. Lewis, Jr.	Tomorrow by Design: A Regional Design Process for Sustainability	1996			X
Rachel Kaplan, Stephen Kaplan & Roberty Ryan	With People in Mind	1998			X
James Corner, Editor	Recovering Landscape	1999			X
Frederick Steiner	The Living Landscape: An Ecological Approach to Landscape Planning	2000			X
David W. Orr	The Nature of Design: Ecology, Culture, and Human Intention	2002	X		
Bart Johnson and Kristina Hill	Ecology and Design : Frameworks for Learning	2002	X		
Patrick C. Kangas	Ecological Engineering: Principles and Practice	2004		X	
William Marsh	Landscape Planning (4th edition)	2005			X
Dan Perlman & Jeffrey Milder	Practical Ecology for Planners, Developers, and Citizens	2005			X
Randolph Hester	Design for Ecological Democracy	2006		X	
James LaGro	Site Analysis: A Contextual Approach to Sustainable Land Planning and Site Design	2007			X
Nancy Rottle and Kenneth Yocom	Ecological Design	2010			X
Steven Apfelbaum & Alan Haney	The Restoring Ecological Health to Your Land Workbook	2012			X
Travis Beck	Principles of Ecological Landscape Design	2013		X	
F. O. Ndubisi	The Ecological Design and Planning Reader	2014			X
Margaret Grose	Constructed Ecologies	2017			X
Julia Watson	Lo-TEK: Design for Radical Indigenism	2019	X		
David S. Jones, Editor	Learning Country in Landscape Architecture: Indigenous Knowledge Systems, Respect and Appreciation	2021	X		

TERMS SEARCHED FOR:	Indigenous culture*	Traditional Ecological Knowledge
Aboriginal*	Indigenous People*	Traditional knowledge
American Indian	Indigenous societies	Traditional practice
First Nation*	Native American*	Tribal
Indian	Native people*	Tribe
Indigenous	Native*	

Note: in search of table of contents and index, tribal names were noted (i.e. Apache)

* = wildcard

Table 2.3 Survey of Selected Ecological Design Texts (Above)

Western ecological design texts were selected based on faculty suggestions, syllabi, and the literature review. Texts were searched to determine the extent Indigenous Peoples were mentioned in relation to ecological design.

Table 2.4 Search Terms Used in Survey of Selected Texts (Left)

For each text, terms related to Indigenous Peoples were searched for via an e-book (if available), the table of contents, and the index. If terms were found, the corresponding book section was read to determine if and the extent that Indigenous Peoples were connected to ecological design.

“**Ecological design is not a new idea.** By necessity, it has been brought to a high level of excellence by many different cultures faced with widely varying conditions. **The Yanomamö... Balinese aquaculture... Australian aborigines...**” (Van der Ryn and Cowan 1996, 25)

“The **oldest task in human history:** to live on a piece of land without spoiling it.” (Leopold 1989, 148)

“Perhaps similar philosophies to McHarg’s ‘design with nature’ or Buckminster Fuller’s ‘do more with less’ can be found embedded in some Amazon Indian cosmology...” (Kangas 2004, 326-27)

“Natural technology is a concept that has **deep historical roots**, much deeper than nineteenth-century engineering.” (Johnson and Hill 2002, 174)

INDIGENOUS STEWARDSHIP

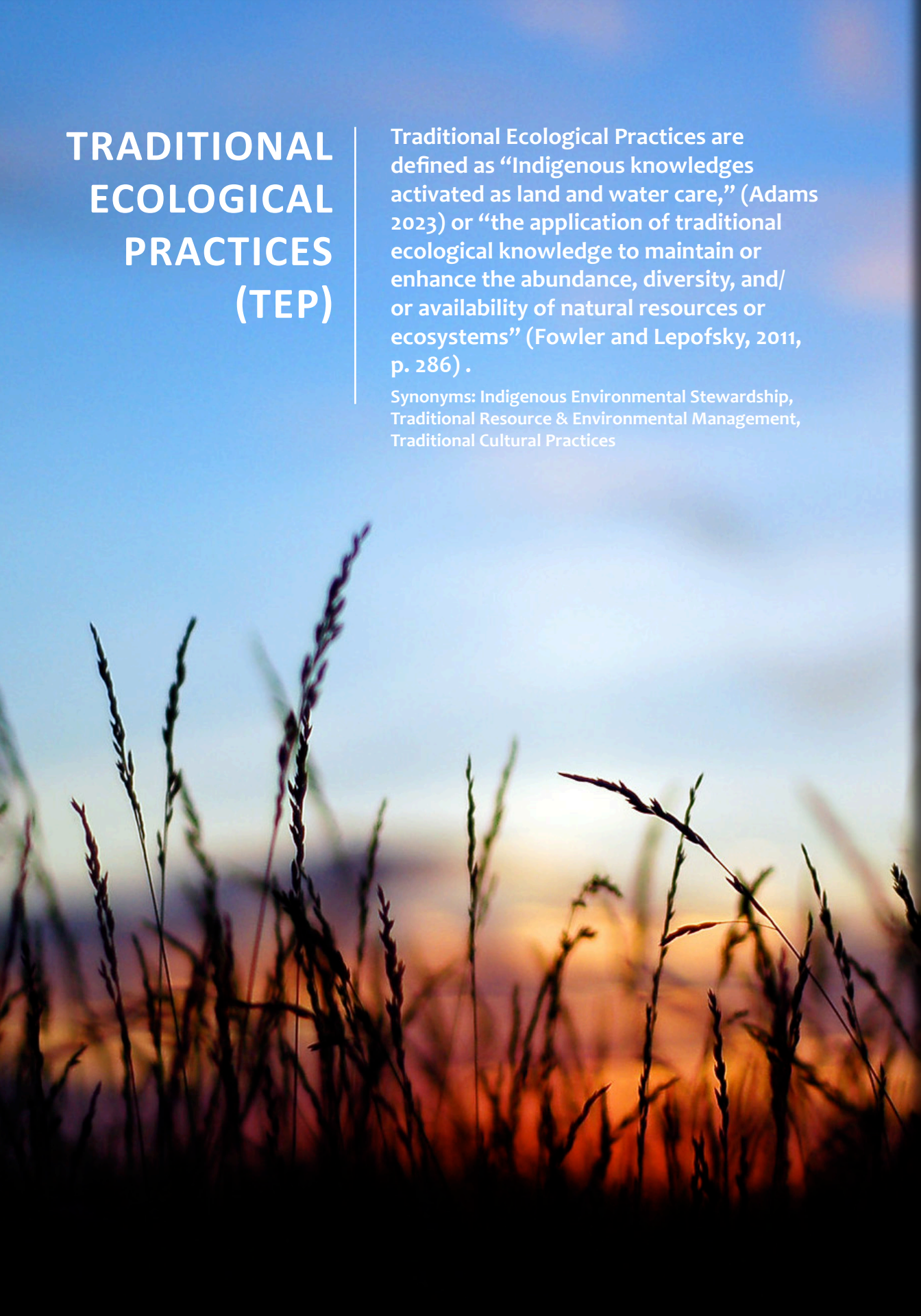
“Ethnobiologists recognize that groups who earn a living directly from their surroundings have **significant, long-term knowledge about their environments** and the resources within them... it **may hold keys to sustainable practices**” (Fowler and Lepofsky, 2011, p. 286).

IS ECOLOGICAL DESIGN

“The starting point for ecological design is not some mythical past, but the **heritage of design intelligence evident in many places, times, and cultures prior to our own.**” (Orr 2002, 5)

“Designer Victor Papenek once identified the **Inuit people of northern Alaska as the best designers in the world.**” (Orr 2002, 7)

“**Settled cultures, without using the word ‘ecology,’ have designed with ecology in mind** because to do otherwise would bring ruin, famine, and social disintegration.” (Orr 2002, 9)

The background of the left page is a photograph of tall, thin grasses in the foreground, silhouetted against a warm, golden sunset sky. The grasses are in sharp focus, while the sky is a soft gradient of orange and blue.

TRADITIONAL ECOLOGICAL PRACTICES (TEP)

Traditional Ecological Practices are defined as “Indigenous knowledges activated as land and water care,” (Adams 2023) or “the application of traditional ecological knowledge to maintain or enhance the abundance, diversity, and/or availability of natural resources or ecosystems” (Fowler and Lepofsky, 2011, p. 286) .

Synonyms: Indigenous Environmental Stewardship, Traditional Resource & Environmental Management, Traditional Cultural Practices

INTRODUCTION TO INDIGENOUS ECOLOGICAL DESIGN & STEWARDSHIP

DEFINING TRADITIONAL ECOLOGICAL KNOWLEDGE AND TRADITIONAL ECOLOGICAL PRACTICES

The study of Traditional Ecological Knowledge (TEK) has gained attention in the last four decades as the Western world recognizes the deep environmental knowledge possessed by Indigenous communities. TEK comprises an Indigenous culture’s cumulative knowledge of the environment gleaned across generations during continuous inhabitation of a territory (Berkes 1999; Gadgil, Berkes, and Folke 1993; Menzies 2006). This unique knowledge informs Indigenous stewardship practices. Indigenous environmental stewardship practices are referred to under multiple terms including Traditional Resource and Environmental Management (TREM; Fowler and Lepofsky 2011), Traditional Cultural Practices (TCP; Tom, Adams, and Goode 2023), and Traditional Ecological Practices (TEP; Adams 2023). Broadly speaking, these terms can be defined as “the application of traditional ecological knowledge to maintain or enhance the abundance, diversity, and/or availability of natural resources or ecosystems” (Fowler and Lepofsky, 2011, p. 286) or “Indigenous knowledges activated as land and water care,” (Adams 2023). In this report, Traditional Ecological Practices (TEP) is used to refer to ecological design and management within Indigenous cultures, as it represents an application of the community’s TEK to interact with their environment (see Fig. 2).

TEP has gained attention due to the alternative perspective it offers to the predominant western view of environmental design & management (Armatas et al. 2016; Berkes 1999; Fowler and Lepofsky 2011; Orr 2002; Menzies and Butler 2006). Western, global-industrial societies vary greatly from Indigenous societies, and as a result, their environmental management approaches vary greatly too. Global industrial societies, with a focus on mass production and division of labor, do not subsist on a local scale and rely heavily on hard infrastructure and mechanized technology to maintain constant yields in their far-spanning systems around the world. Indigenous societies, at the other end of the spectrum, primarily subsist from local environments and rely more heavily on the stewardship of ecological processes to sustain a wide array of life over the long-term (Berkes 1999, 76; Fowler and Lepofsky, 2011, p. 286; Martin et al. 2010, 842; Orr 2002, 8; Wildcat 2024).

It is important to note that TEP is not inherently sustainable, but the constraints faced by these societies (of local sustenance and more direct reliance on natural systems) create a scenario where innovation in ecological design would likely occur (Orr 2002, 7). As Fowler and Lepofsky 2011 put it, “even within a cultural group, people are neither exclusively degraders nor completely effective managers... In fact, environmental depletion may be linked to the development of TEP among some people” (Fowler and Lepofsky, 2011, p. 288). However, “Ethnobiologists recognize that groups who earn a living directly from their surroundings have significant, long-term knowledge about their environments and the resources within them. This ecological knowledge along with attendant procedures for working with local resources is not only of interest in and of itself, but because it may hold keys to sustainable practices” (Fowler and Lepofsky, 2011, p. 286).

Fig. 2.2 The Scale of a Practice (Left)

Traditional Ecological Practices include each action Indigenous Peoples performed in the care of the surrounding landscape.

Indigenous societies affected their environment in both positive and negative ways, and TEP stewardship systems were developed through trial and error. Through an approach similar to adaptive management, Indigenous groups refined successful TEP stewardship systems (Latulippe 2015; Menzies and Butler 2006). Acknowledging both the positive and negative environmental histories of Indigenous societies recognizes the agency of these Indigenous groups. It took great skill and intention to develop the mutually symbiotic stewardship systems studied today (Lewis 1992).

While it should not be unwittingly romanticized, TEP offers possible precedents for guiding how sustainable resource management, ecological design, and biodiversity conservation can be achieved (Fowler and Lepofsky 2011; Johannes 1989, 7; Kangas 2004, 326; Menzies and Butler 2006, 4; Orr 2002; Watson and Davis 2019). As Blackburn and Anderson (1993) describe, “The idea that human use ensures an abundance of plant and animal life appears to have been an ancient one in the minds of native peoples.” (Blackburn and Anderson 1993, 19). However, it is important to realize that TEP systems are not only physical designs or management actions. TEP systems include variables and components that transcend across a socio-ecological boundary (Berkes 1999; Gadgil 1993; Kangas 2004, 327). For this reason, characteristics and anticipated outcomes of TEP must be examined while considering sociological factors.

CONTEXTUAL FACTORS

TEP is inherently tied to the place and society in which it developed. Its success and sustainability were achieved in the context of the socio-ecological systems in which it formed. Each Indigenous group’s worldview and social systems are embedded in their TEP systems (see Fig. 1; Berkes 2018, 19). Without the ethics and constraints those social systems imbue, the system design and its associated outcomes change. These socio-ecological factors are imperative to consider as they are often vastly different from those found in much of Western culture (Berkes 1999).

Unlike predominant Western cultures, Indigenous cultures often imbued a strong conservation ethic in its people (Balick and Posey 2006; Reichel-Dolmatoff 1976). A conservation ethic is a common societal value of maintaining the long-term quality of the surrounding environment (Berkes 1999; Johannes 1989). Because many Indigenous societies were

traditionally settled cultures, strongly tied to a territory or place, long-term sustainability is valued. A conservation ethic is taught to Indigenous youth through cultural parables and religious stories, and its practice was encouraged through social norms (i.e. excessiveness discouraged) and enforcement procedures (i.e. regulations on quantity and timing of harvests; Berkes 1999; Orr 2002). Along with relatively low human population densities, these social factors maintained ecological impacts within a regenerative range (Berkes 1999; Johannes 1989, 8; Orr 2002). The checks and balances of these sociological factors are essential to the sustainability of TEP.

RISKS OF MISAPPLICATION OF TEK AND TEP THROUGH WESTERN LENSES

Without careful consideration of contextual factors in the application of TEP, the design and associated outcomes change. For example, the Gorotire Kayapo in the Amazon practice a swidden agriculture system, known as Apêê, where parts of the forest are cleared, cultivated, and left fallow over 30-year cycles, contributing to a diverse forest matrix (Berkes 1999). However, a form of swidden agriculture, known as slash-and-burn, was adopted by industrial farming in the Amazon basin, and it has resulted in the deforestation of massive swaths of the Amazon rainforest. Unlike the Kayapo swidden system, slash-and burn agriculture operates at much larger scale and higher intensity with insufficient conservation regulations. While both may use fire as a management tool, slash-and-burn agriculture ignores the delicate nutrient cycling of the tropical forest, while the Kayapo system, with its extended fallow periods, embraces it (Berkes 1999, 61). The Kayapo system can yield 183% more over five years as a result (Balick and Posey 2006, 318). Slash-and-burn agriculture is an example of contextual factors not being considered when applying an Indigenous management tool. It stands as a warning of the consequences of misapplying TEP. To account for sociological factors, ecological designers should consider what conservation policy is necessary to enable the sustainability of large-scale systems within a society’s worldview. Above all, practitioners should understand that the TEK and TEP cannot be applied without the participation of the communities who authored them (Latulippe 2015).

Indirect applications over direct applications of TEP are encouraged in the literature as differences in human density and worldviews in contemporary Western societies affect how Indigenous practices can be applied while maintaining the original design intent (Johannes 1989, 8). Indigenous knowledge and culture are inherently tied together. TEP systems should be celebrated as design precedents, but examples should not be directly replicated without the associated Indigenous community leading that effort (Latulippe 2015). Fowler and Lepofsky mention that some “age-old management systems no longer ‘work’ because of changes in the environment, population, or technology, or [because] TEP have been forgotten due to modernization and displacement.” (Fowler and Lepofsky, 2011, p. 295). Most importantly to fully understand TEP systems, it is essential that practitioners have dialogue with the Indigenous communities who authored these systems through the development of equal partnerships (Gordon (Iñupiaq) et al. 2023, p. 4). This topic is covered further in *Part II: Conversations and Considerations*.



Fig. 2.3 Socio-ecological Context of Traditional Ecological Practices

Traditional Ecological Practices are influenced by the Traditional Ecological Knowledge, social institutions (laws, taboos, etc.), and worldviews (i.e. relationship to nature) of an Indigenous community.



INDIGENOUS ECOLOGICAL DESIGN IN NORTH AMERICA

REGIONAL PREVALENCE OF RECORDED TEP IN THE LITERATURE

Information passed down within Indigenous communities and studies in archaeology, ethnography, paleoecology, and ecology define what is currently known about TEP (see Fig. 3; Fowler and Lepofsky 2011). Knowledge has been disturbed and lost due to targeted cultural genocide by European-settlers on many Indigenous nations. Native American peoples were murdered by settlers, removed from the lands which they stewarded, outlawed to practice their culture, and forcibly assimilated in boarding schools. The cultural knowledge that was transmitted in the face of these atrocities is a wonder in itself and speaks to the strength of Indigenous communities. As a result, Indigenous Peoples and their knowledge should be regarded respectfully and approached in a sensitive manner by outsiders. Attempts to recover lost knowledge is constrained by the data needed to determine TEP in archaeology and paleoecology. Therefore, the timing and impacts of European colonization result in more being known about TEP in certain Indigenous groups than in others (Kindscher 1987; Lightfoot et al. 2013).

As an example, Kindscher (1987) mentions limitations to understanding ethnobiology in the American prairie. Because most first contacts were European men, the accounts of these settlers followed mostly the activities of Indigenous men (hunting). However, Indigenous women performed most of the gathering and tending activities, and this pattern may have led to TEP being overlooked (Kindscher 1987, 5). Kindscher also mentions the limits of the archaeological record in the prairie. The prairie environment is open and exposed, leading to little being preserved of food remains from historical Indigenous settlements (Kindscher 1987, 5). Additionally, certain landscape features, like trees and lakes, that are used by paleoecologists to determine landscape patterns are less frequent in the prairie. This makes it more difficult to determine the frequency and scale of historic TEP such as cultural burning in the region (Dr. John Blair, personal communication, October 2, 2023).

Generally, there are more records about TEP in the Western U.S. where European contact occurred later than in the Eastern U.S. where colonization began earlier (Lightfoot et al. 2013, 286). In the words of Lightfoot et al., “A particularly vexing problem is that our current understanding of [TEP] in many regions of North America has been greatly determined by the timing, methods, and impacts of European exploitation and settlement.” (Lightfoot et al. 2013, 286). Many Indigenous North American communities practiced an oral tradition, where stories and practices are passed down through the spoken word. The cultural transmission of TEP knowledge was disrupted to different extents depending on the timing and intensity of colonization. Therefore, while knowledge of TEP may not be as extensive in some areas, this does not mean that TEP systems were not practiced there. More knowledge may be reclaimed and shared by Tribal Nations as methodologies related to TEP advance in the future and partnerships that encourage respectful sharing grow (Lightfoot et al. 2013).

Fig. 2.4 Burning in the Flint Hills (Left)

Burning was a common Traditional Ecological Practice for many Indigenous Peoples throughout the Americas.

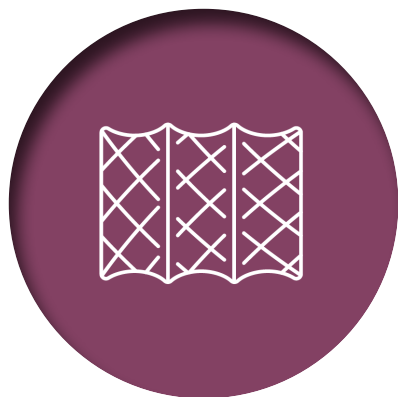
TRADITIONAL ECOLOGICAL PRACTICES (TEP)

TEP are individual actions of environmental stewardship. Like any land management or stewardship regime, TEP can be broken down into specific actions. The following categories of TEP are laid out by Fowler and Lepofsky (2011): 1) burning, 2) forming enclosures, 3) digging and tilling, 4) pruning, coppicing, or pollarding, 5) transplanting, 6) mulching and fertilizing, 7) selective harvesting and replanting, and 8) weeding and cleaning. The following sections provide examples and definitions for each category.



BURNING

Human-prescribed burns are one of the “best known” TEP, and examples exist throughout the globe (Fowler and Lepofsky 2011, 288). The use of fire as a stewardship tool can reinvigorate plant communities and reduce the risk of high-intensity fires, among a range of ecological effects (see Fig. 4). Indigenous prescribed burns varied in scale from large-scale burns (over multiple square miles) to smaller-scale burns (10-50 acres; Fowler and Lepofsky 2011, 288). Some burns were even set at the individual plant or grove level to cultivate strong and straight plant fibers for building and weaving or to increase yields in certain edible plants (Blackburn and Anderson 1993; Fowler and Lepofsky 2011, 288). Specific examples in North and Central America include the burning of large swaths of prairie by people of the Great Plains for bison and game drives, the burning of chaparral and oak savannas by Indigenous people of the West coast, and the burning of forest patches for the Milpa Cycle by the Maya of the Yucatan peninsula (Blackburn and Anderson 1993; Fowler and Lepofsky 2011).



FORMING ENCLOSURES

Enclosures are “devices for confining resources and are generally associated with domestication.” (Fowler and Lepofsky, 2011, p. 292) Examples include the creation of intertidal fish traps by people of the Salish Sea and the Tlingit of Alaska (Caldwell et al. 2012; Langdon 2006). Another example is the Mono Lake and Owen Valley Paiute digging trenches around Jeffery pines to trap Pandora Moths (Fowler and Lepofsky, 2011, p. 292).

DIGGING AND TILLING

Digging is defined as “moving soil, rocks, and other debris from an area with important underground resources (plants, burrowing animals).” Tilling refers to, cleaning or clearing “beds in preparation for planting seeds or propagules.” (Fowler and Lepofsky, 2011, p. 290). These actions helped to aerate the soil, disperse propagules, prevent overcrowding, and mix in organic matter (see Fig. 4; Fowler and Lepofsky 2011). North American examples of this practice included the tending of clam beds in the Pacific Northwest (Deur et al. 2015) and the digging of prairie turnips in the Great Plains (Kindscher 1987, 188).



PRUNING

“Pruning is the removal of dead and living material from a plant to change its shape or enhance its production.” (Fowler and Lepofsky, 2011, p. 290). Coppicing and pollarding are specific types of pruning with coppicing meaning, “the regular cutting back of growth, usually to ground level” and pollarding referring, “to the coppicing of trunks, specifically” (Fowler and Lepofsky, 2011, p. 290). These actions influenced where the plant put energy into vegetative growth and what form new growth might take (see Fig. 4). Many North American Indigenous groups pruned plants to produce straight and strong fiber for building or weaving materials (Fowler and Lepofsky 2011). In areas with limited woody material, pruning was also used to increase production of fuel wood (Fowler and Lepofsky 2011).





TRANSPLANTING

“Transplanting involves purposefully introducing a species from one wild setting and/or habitat to another, often to extend its range or to replenish a depleted population.” (Fowler and Lepofsky, 2011, p. 290). Transplanting can extend the geographic range of a species by establishing new populations (See Fig. 4). Kindscher mentions that the Cree of Ontario planted chokecherries near their homes, extending chokecherry range further south into the U.S. Great Plain region (Kindscher 1987, 182). Kindscher also says, “when the Pawnee were relocated to a reservation in Oklahoma in the 1870s, they brought with them wild plums from their homelands in Nebraska.” (Kindscher 1987)



MULCHING AND FERTILIZING

Mulching and fertilizers in TEP usually consisted of “kitchen waste or other gathered organics,” and were applied around plants that were being tended (Fowler and Lepofsky 2011, 292). These added nutrients and raised soil temperature through the act of decomposition (see Fig. 4). However, not all mulch was of organic material. The Pueblos of New Mexico, for example, mulched with rocks to reduce evaporation during the day, provide heat at night, and lower weed competition (Fowler and Lepofsky 2011, 292).

SELECTIVE HARVESTING AND REPLANTING

Selective harvesting and replanting refer to the decision to harvest or plant an individual specimen based on specific characteristics. For example, young propagules would be replanted to encourage further growth for the next harvest (Fowler and Lepofsky 2011, 291). Selective harvesting also extends to hunting and fishing (Fowler and Lepofsky, 2011, p. 291). In the Ahupua’a system in Hawaii, lagoon grates were woven at a mesh size that allowed smaller fish to enter while larger, adult fish were trapped inside for harvesting (Costa-Pierce 1987). Cultural practices regulating the timing and size of harvests also fall into this category (Fowler and Lepofsky, 2011). Robin Kimmerer lays out the tenets of the Potawatomi Honorable Harvest in a chapter of *Braiding Sweetgrass* and mentions that similar harvesting tenets were practiced throughout Indigenous North America (Kimmerer 2013).



WEEDING AND CLEANING

The practice of weeding and cleaning, “involves removing unwanted plants from around valued plants by cutting, pulling, and digging... In some situations, weeding may produce a ‘first harvest’ of edible greens, while in others, weeds may be turned into mulch” (Fowler and Lepofsky, 2011, p. 290). This practice reduces plant competition, increases water infiltration, and removes excess debris that could be a fire hazard (see Fig. 4; Fowler and Lepofsky 2011, 289).



TEP STEWARDSHIP SYSTEMS

Individual Traditional Ecological Practices (TEP) form the elements of TEP stewardship systems, painting the larger picture of how TEP affected the surrounding ecosystem. At this scale, the ecological design of the system can be more holistically examined.

TEP STEWARDSHIP SYSTEMS

Individual TEP can form the elements of TEP stewardship systems. These Indigenous stewardship systems paint the larger picture of how TEP affected the surrounding ecosystem. At this scale, the ecological design of the system can be more holistically examined. A common theme in TEP systems is that the system depended on the health and care of numerous Relatives. These numerous relationships kept Indigenous Peoples in relation to the land. Necessary food and fiber could be harvested, while responding to each Relative's needs, a predecessor to adaptive management. Diversity in harvests creates a more resilient output for the community and often sustains greater biodiversity as well (Berkes 1999, 76; Costa-Pierce 1987; Johannes 1989; Menzies and Butler 2006). Design strategies of TEP stewardship systems could provide valuable lessons to ecological designers. However, it is important to recognize that TEP are inherently embedded in cultural meanings and practices, and the system cannot be fully understood without that cultural understanding (Berkes 1999).

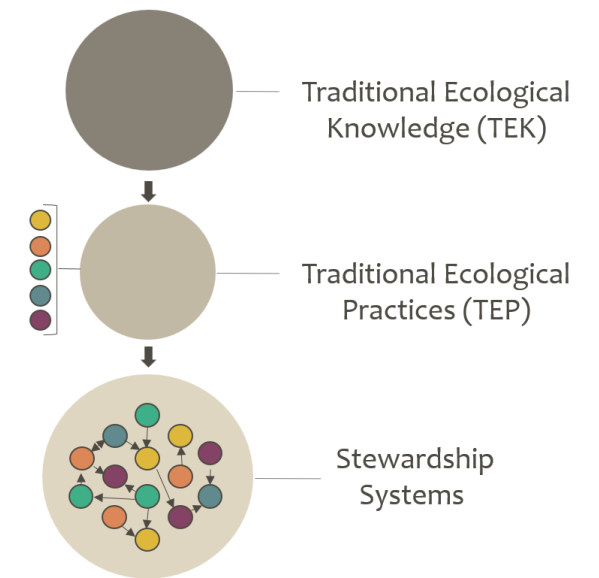


Fig. 2.6 Scales of Understanding

TEK informs TEP. TEP then forms the elements of stewardship systems.

The design behind TEP Stewardship systems includes both the physical layout and construction of elements and the stewardship activities performed by the community. Stewardship actions influence the system along with physical changes to the landscape. Because of this, the design of TEP Stewardship systems is not fully captured through the illustrative graphics commonly used in landscape architecture (i.e. plans, sections, orthographic projection). Future work could explore ways TEP stewardship systems could be better illustrated through design drawings (Brown 2004; Kangas 2004; Watson and Davis 2019). “Ultimately, the development of diagramming techniques may be as important to the design of human ecosystems as the development of orthographic projection was to the design of buildings” (Lyle 1985, 233). To learn from Indigenous ecological designs, these systems must first be visualized in a way that design practitioners can understand. If designers cannot draw it, they cannot design it. Therefore, system diagrams, like H.T. Odum’s energy system diagrams (Brown 2004) or NRCS’s conservation practice network diagrams (Natural Resource Conservation Service n.d.) could offer formats for visualizing the advanced design thinking behind TEP stewardship systems.

Fig. 2.5 The Scale of a Landscape (Left)

TEP stewardship systems encapsulate all the TEP an Indigenous community performs on the landscape.

TEP STEWARDSHIP SYSTEM EXAMPLES

A FEW EXAMPLES

The following pages introduce a few examples of TEP stewardship systems. These descriptions are meant to provide a glimpse of the ecological design evident in these systems, highlighting a few Indigenous precedents that could be included in landscape architecture curriculum. Remember, the end goal *should not be to replicate* the designs but *to learn from their design strategies*. The role of replicating and re-introducing a TEP stewardship system lies with the Indigenous community that authored it. When incorporating Indigenous precedents into design curriculums, we should uplift and celebrate Indigenous Peoples’ accomplishments, not extract those accomplishments for our own (Smith 1999).

LANDSCAPE	SYSTEM	INDIGENOUS NATION(S)	SOURCES
Acquatic	Intertidal Ecosystem Stewardship	Northern Coast Salish and Wakashan speaking peoples (i.e. Kwakwaka’wakw, Kwakiutl)	Fowler and Lepofsky 2011; Deur et al. 2015; Caldwell et al. 2012; Nelson 2018; WSÁNEĆ Leadership Council 2020
Aquatic	Adaptive Fishery Managment	Chisasibi Cree	Berkes 2018, 157
Desert	Death Valley Plant Subsistence System	Timbisha Shoshone (Panamint)	Fowler and Lepofsky 2011
Desert	Waffle Gardens	Zuni Pueblo	Watson 2019, 268; Berkes 2018, 89; Maswood 2019
Desert	Salt River Valley Canal System	Hohokam	Johnson and Hill 2002, 174; Watson 2019, 268
Desert	Arid Floodplain Wash Farming	Ak-Chin	Watson 2019, 268
Forest	Kumerachi, Fire Succession Stewardship	Raramuli	Berkes 2018, 93
Grassland	Fire Succession Management	Gwich’in	Berkes 2018, 93
Savannah	Garry Oak Savannah Stewardship	Coast Salish	Berkes 2018, 93
Shrubland	Chaparral Valley Erosion Control	Kumeyaay	Blackburn and Anderson 1993; Berkes 2018, 96
Temperate forest	Selective Timber Harvesting	Menominee	Berkes 2018, 269; PBS Terra 2023
Tropical Forest	Milpa Agroforestry	Maya of the Yucatan Peninsula	Fowler and Lepofsky 2010, 301; Watson 2019; Berkes 2018, 86
Tropical Forest	Yaokwa Ritual, Subsistence System	Enawenê-nawê	Watson 2019, 163; UNESCO 2024
Tropical Forest	Apêtê Forest Islands	Kayapo	Watson 2019, 162;
Tropical Island	Ahupua’a, Watershed Management	Hawaiians	Costa-Pierce 1987; Millison 2023; Mueller-Dombois 2007
Varies	Three Sisters Agriculture	Throughout North America with variations from region to region	Watson 2019
Wetland	Waru Waru (Camellones)	Incas	Watson 2019, 30
Wetland	Chinampa, Floating Gardens	Aztecs	Millison 2022; Watson 2019, 394
Wetland	Totora Reed Floating Islands	Uros	Watson 2019, 271

Table 2.5 TEP Stewarship Examples

The table provides a few stewardship system examples from the Americas that were mentioned in literature review sources. The listed sources provide a starting point for learning more about these systems.

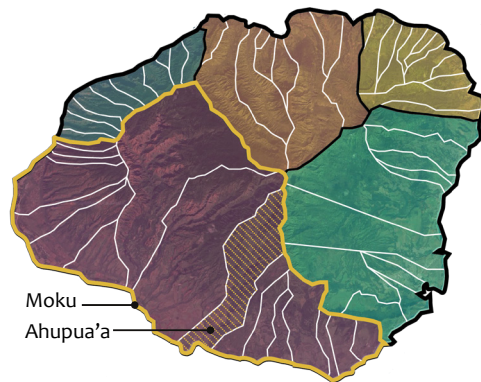


Fig. 2.7 Ahupua'a Land Tenure System
Islands were divided into Moku and then Ahupua'a. Ahupua'a were watershed-scale land units overseen by lesser chiefs.

HAWAIIAN AHUPUA'A

The Hawaiian Ahupua'a system developed because of population pressures around 1200 CE (Mueller-Dombois 2007). The Nation of Hawaii divided islands into Ahupua'a, watershed-scale land units overseen by lesser chiefs (Costa-Pierce 1987). By dividing the island on watershed lines, stewardship decisions could more holistically consider the watershed from mountain to coast. Each Ahupua'a was broadly divided into six management zones according to elevation (from mountain ridge to ocean): sacred land (wao akua), headwaters (wao kele), conserved forest (wao nahéle), tended forest (wao wā 'lau), cultivated land and dwelling areas (wao kanaka), and the coast (kaha kai; Millison 2023). In addition to these management zones, the Ahupua'a included a system of fish ponds. The fish pond system included four types: natural or excavated freshwater ponds (loko wai), flooded terraces for taro root production (loko i'a kalo), brackish water ponds (loko pu'uone), and sea ponds divided from the rest of the ocean by a sea wall (loko kuapa). These ponds stewarded a variety of aquatic life and the fish acted as a form of integrated pest management in taro terraces (Costa-Pierce 1987). The large sea walls and extensive terracing projects stand as testaments to the engineering accomplishments of the Hawaiian People. These sea walls and constructed fish ponds can easily be seen in satellite imagery along the Hawaiian coasts.

The Ahupua'a model demonstrates a respect for downstream effects of practices. By prioritizing the health of the water throughout the watershed, the Ahupua'a was more productive and could support a denser population (Millison 2023). Despite being uprooted and forced out of lands due to colonization, the Nation of Hawaii has been restoring their Ahupua'a system. In the village of Pu'u honua O Waimanalo, the Nation is restoring their Ahupua'a system to feed their people and heal the watershed (Millison 2023).

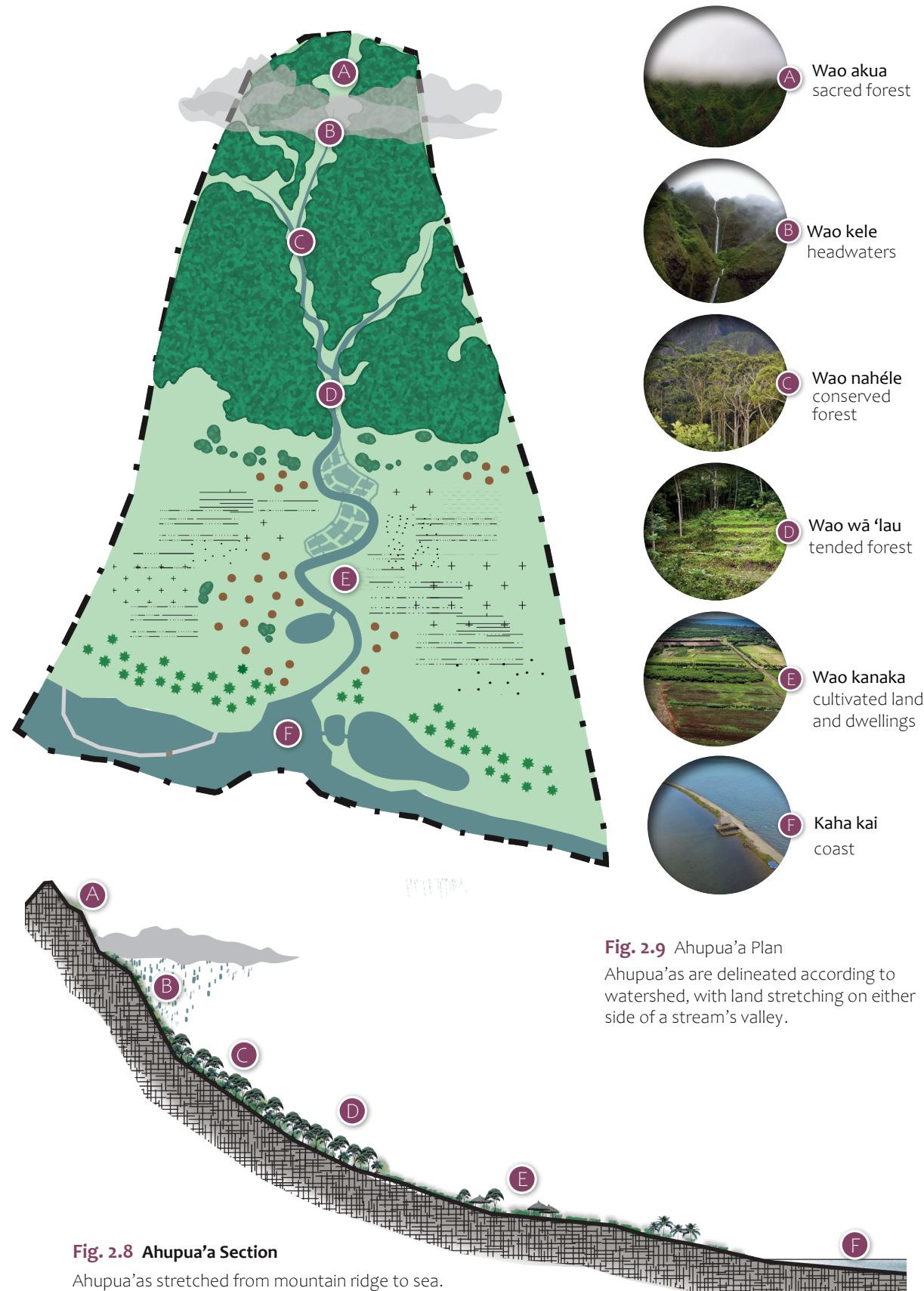


Fig. 2.9 Ahupua'a Plan
Ahupua'as are delineated according to watershed, with land stretching on either side of a stream's valley.

Fig. 2.8 Ahupua'a Section

Ahupua'as stretched from mountain ridge to sea.



Fig. 2.10 Clam Garden
An aerial view of a clam garden in the Salish Sea.

SALISH INTERTIDAL ECOSYSTEM STEWARDSHIP

The North Coast Salish and Wakashan speaking peoples (i.e. Kwakwaka'wakw) developed TEP to steward intertidal zones on the coasts of the Salish sea. Their TEP include the extension of clam beds, the construction of various fish traps, and the tending of salt marsh root crops (Fowler and Lepofsky 2011, p. 298-99). Rock walls are constructed downslope from clam and salt marsh gardens, backfilling the area with sediment. This effort extends the intertidal zone in which clams and desirable root crops thrive, while providing crevices for small marine life in the rock walls. Other TEP included clearing the clam beds of large rocks (which were then used in construction of the fish traps and rock walls) and selectively harvesting species with a focus on ensuring healthy populations for the future (i.e. only clams over a certain size harvested). The TEP cared for culturally important Relatives who in turn provided for the people. This stewardship system demonstrates Salish Peoples' deep understanding of the area's intertidal ecology (tidal patterns, life histories, animal behavior, etc.) and how that knowledge can be applied to care for the system.

Colonization disrupted Coast Salish Peoples' freedom to steward these intertidal systems (Fowler and Lepofsky 2011). Barriers still exist today including issues surrounding privatized shorelines, water pollution, ocean acidification, and shellfish regulations (Nelson 2018). Despite these barriers, Coast Salish peoples are working to restore their intertidal stewardship systems and to develop intergenerational programs that pass on traditional knowledge to Indigenous youth. The Clam Garden Restoration Project is one example. The project is a collaboration between, the ƵSÁNEĆ Nation, the Hul'q'umi'num Nations, and Parks Canada to restore ancient clam gardens in the Gulf Islands National Park Reserve (ƵSÁNEĆ Leadership Council 2020).

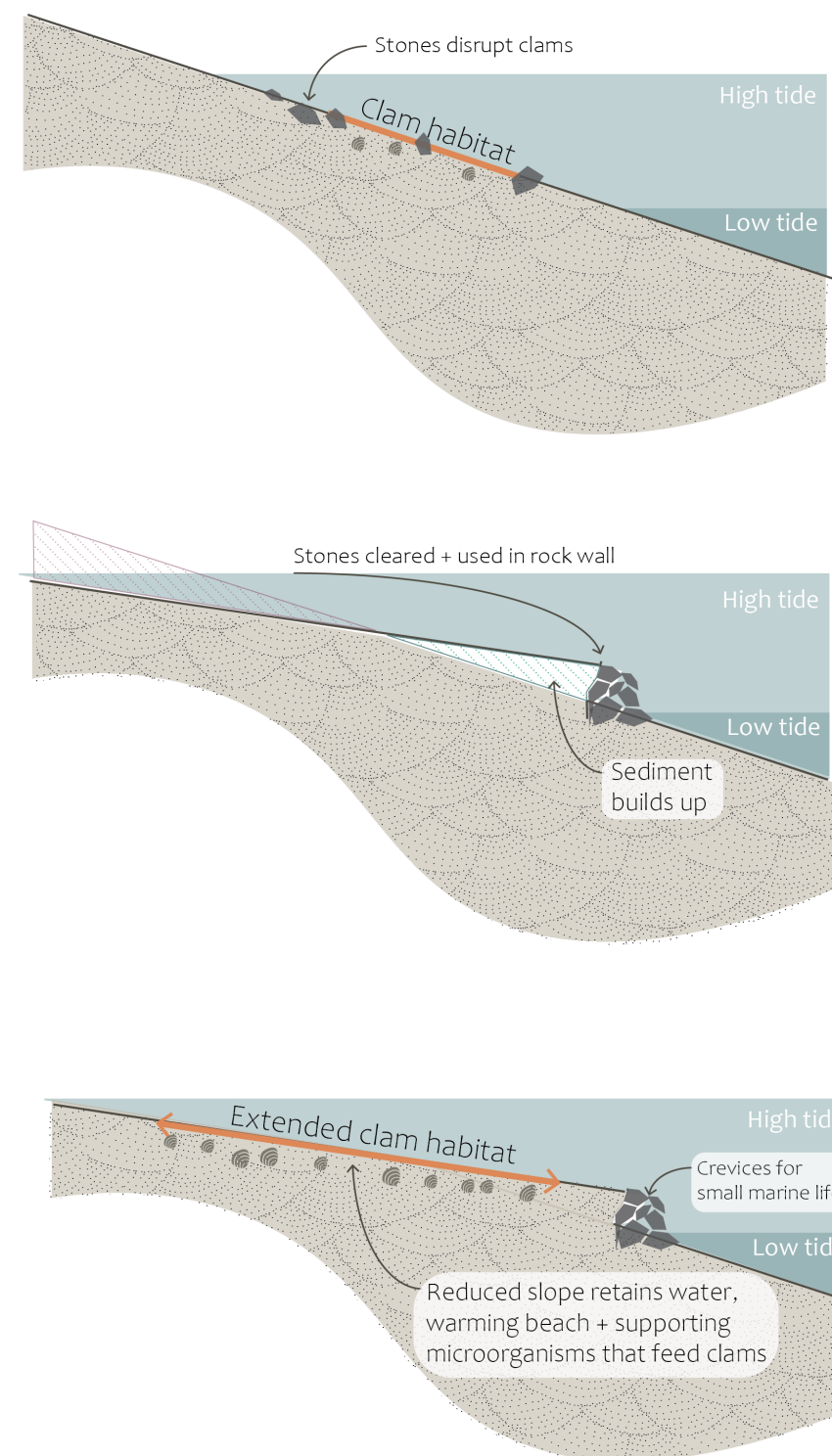


Fig. 2.11 Clam Garden Construction

Clam gardens were maintained by clearing the beach of rocks, which were then used in the construction of a rock wall at the low tide line. This rock wall altered the slope of the beach, extending clam habitat.



Ahupua'a | Nation of Hawaii



Cultural Burning | Various Nations



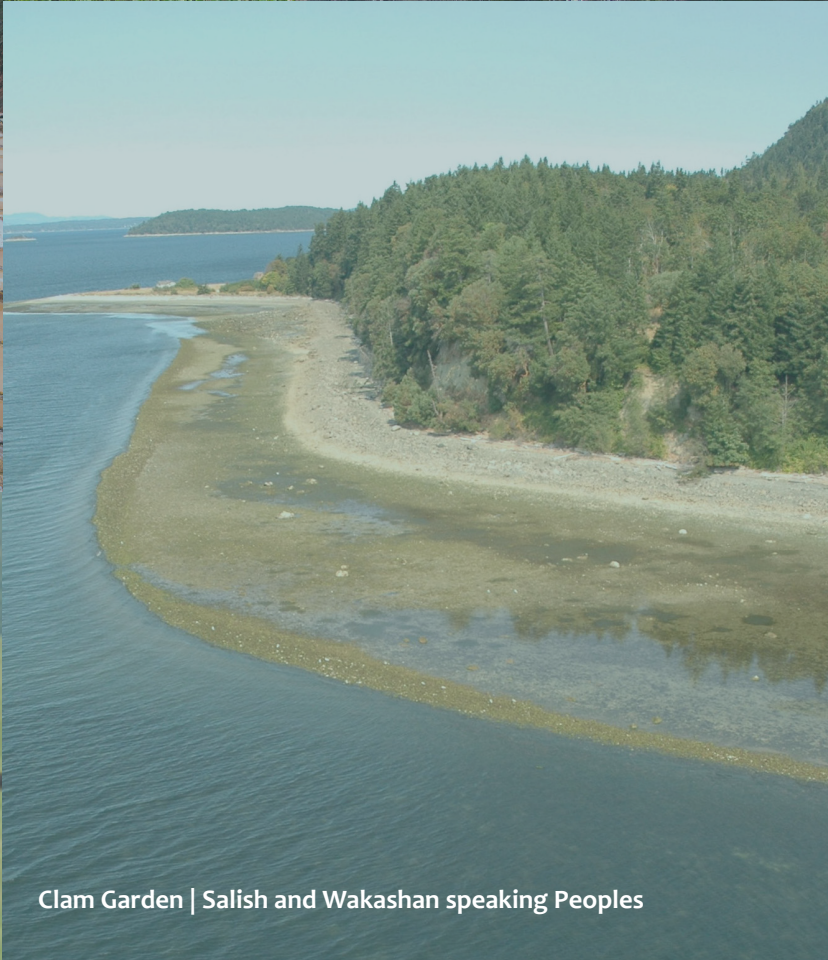
Totora Reed Islands | Uros



Chinampas | Aztecs



Salinas des Maras | Incas



Clam Garden | Salish and Wakashan speaking Peoples



Bison Drives | Various Nations



Agriculture Terraces | Incas

THIS IS ECOLOGICAL DESIGN.



Nahua Peoples | Chinampas Xochimilco



Uros | Totoro Reed Islands



Maya of the Yucatan Peninsula | Milpa Agroforestry



The Klamath Tribes | Dugout Canoe



Nation of Hawaii | Ahupua'a



Kaurna Ngarrindjeri | Fire-Stick Farming

“students studying to become professionals in land management fields can learn to **engage with local Indigenous communities and jointly design land management strategies that honor** and draw on Indigenous wisdom and TEK, address environmental justice, and **build relationships that foster cross-culture knowledge sharing and understanding.**” (Gordon [Iñupiaq] et al. 2023, 2)

“Indigenous peoples can begin to build institutions of environmental governance that are integrated with non-indigenous institutions in ways that **benefit indigenous communities and respect the stewardship goals of their worldviews.**” (Whyte 2013, 8)

RECOGNIZE THE INDIGENOUS NATIONS WHO AUTHORED THESE SYSTEMS.

“researchers and writers ought to situate their work; that is, to **consider their positionality and the implications of their approaches for Indigenous empowerment and self-governance.**” (Latulippe 2015, 126)

“TEK must play the role of inviting **cross-cultural and cross-situational learning** for indigenous and non-indigenous policy makers, natural resource managers, scientists, activists, elders, and youth. An important implication of this is that science and policy literatures that invoke TEK should **discuss it as a collaborative concept.** That is, **care must be taken** to show that the concept invites participation to a long term process of **mutually respectful learning.**” (Whyte 2013, 10)

Fig. 2.12 Collage of Traditional Ecological Practices (Previous)

Fig. 2.13 Collage of Traditional Ecological Practitioners (Left)

AN OPPORTUNITY TO MEND OTHER KNOWLEDGE GAPS

The relationship between an Indigenous community and their surrounding ecosystem is just one thread of their much larger story that continues to be written. The role of Indigenous peoples as ecological designers and stewards offers important lessons to fields like landscape architecture, but Indigenous Peoples’ stories should not be confined to that realm alone. Among the American public, there are many knowledge gaps related to Native Americans that need to be addressed. Students in American public education do not receive sufficient education related to Indigenous Peoples, and information that is included is often confined to past-tense, damage-centric narratives (Adams 2024). This information is not representative of Indigenous Peoples’ fuller stories.

When students enter university programs, knowledge gaps need to be addressed. In landscape architecture curriculum, background knowledge on Indigenous histories, contemporary issues, and worldviews should be included along with information on Traditional Ecological Practices. By including information in all these areas, a more balanced, representative narrative is presented (more is discussed on this in *Part II: Conversations and Considerations*).

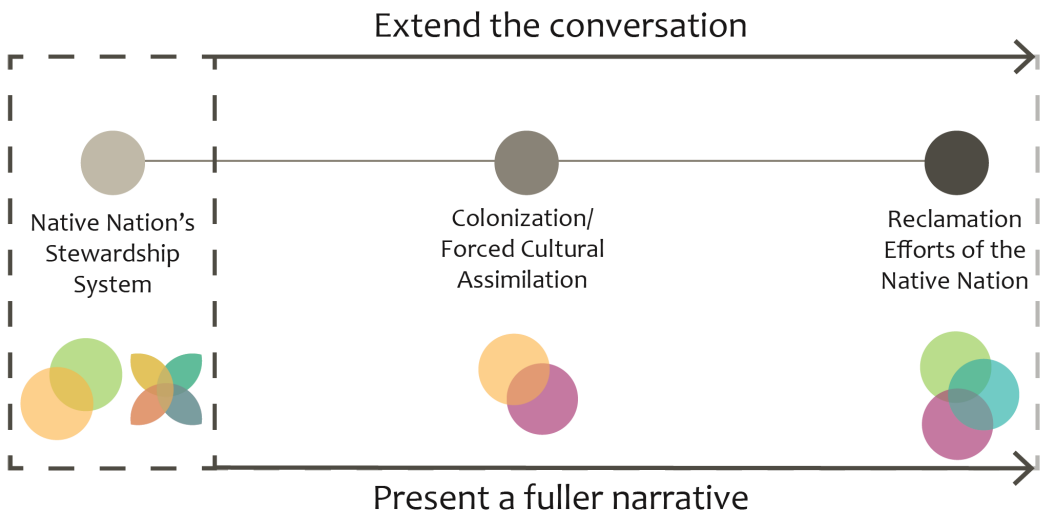


Fig. 2.14 Extending the Conversation
When discussing Indigenous environmental stewardship it is important to recognize colonization’s disruption to Indigenous People’s knowledge and practices as well as current efforts of the Indigenous community to reclaim these cultural practices. By including this information, a fuller narrative is captured.



PART II:

CONVERSATIONS & CONSIDERATIONS

Part II: Conversations & Considerations emphasizes the need for ethical Indigenous partnerships. A portion of the literature review introduces the topic and the relevance of these issues. Then, the research interview process is discussed before the responses are synthesized. The chapter concludes with a summary of key considerations from the interviews.

IN THE LITERATURE: PARTNERING WITH INDIGENOUS COMMUNITIES

RECOGNIZING PAST FAILURES

Many Indigenous groups have faced prejudice and targeted cultural dismemberment from the same societies that now wish to learn from them. A crucial ethical dilemma is, “The need for Indigenous groups to control their knowledge... balanced against the need to share their insights as part of the common heritage of mankind” (Berkes 1999, 28). Latulippe argues that in attempting that balance, not enough emphasis has been placed on the former (Latulippe 2015). In the past, Indigenous-related policy and research has unethically engaged with these communities - damaging trust, inflicting harm, and stealing land (Smith 1999; Gordon (Iñupiaq) et al., 2023, p. 4). Unethical research studies have viewed Indigenous groups as subjects rather than partners used data without consent, held primarily extractive goals, and wielded results to undermine Indigenous sovereignty and to support racist policy (Gordon (Iñupiaq) et al., 2023, p. 5; Smith 1999). All those who engage with Indigenous communities should be aware of this history and be careful to avoid repeating it.

CRAFTING ETHICAL PARTNERSHIPS

While outside partners should educate themselves about past failures, partnerships with Indigenous communities should not be damage-centric (University of New Mexico 2020). The Indigenous Design and Planning Institute (iD+Pi) at the University of New Mexico lays out four tenets to help overcome assumptions when working with Indigenous communities (University of New Mexico 2020). The tenets are:

- o “We are not minorities,” meaning that within Indigenous nations, Indigenous people are the majority, and outside partners enter a realm in which Indigenous perspectives are the prevailing view.
- o “We do not need translators,” indicating that Indigenous communities can articulate their wants and self-determine their future.
- o “We do not suffer from cultural amnesia.” Indigenous communities remember their cultural histories and where they come from.
- o “The people are beautiful already.” When working with Indigenous communities, partners should focus on the strength and resilience of these communities – the story of their agency, not the story of those who committed crimes against them.

Similar sentiments include advocating a proactive, not reactive, approach (Tahmahkera 2023), aligning to the 7 R’s of Indigenous Research (Montgomery and Blanchard 2021), and focusing on entering “right relations” (Wildcat 2024). Indigenous communities should be engaged in a way that acknowledges their sovereignty and self-determination, recognizes injustices, and embraces humbleness when learning about their culture (Barnes & Warren 2022; Gordon (Iñupiaq) et al., 2023; Smith 1999). Overcoming assumptions is essential when forming equitable partnerships.

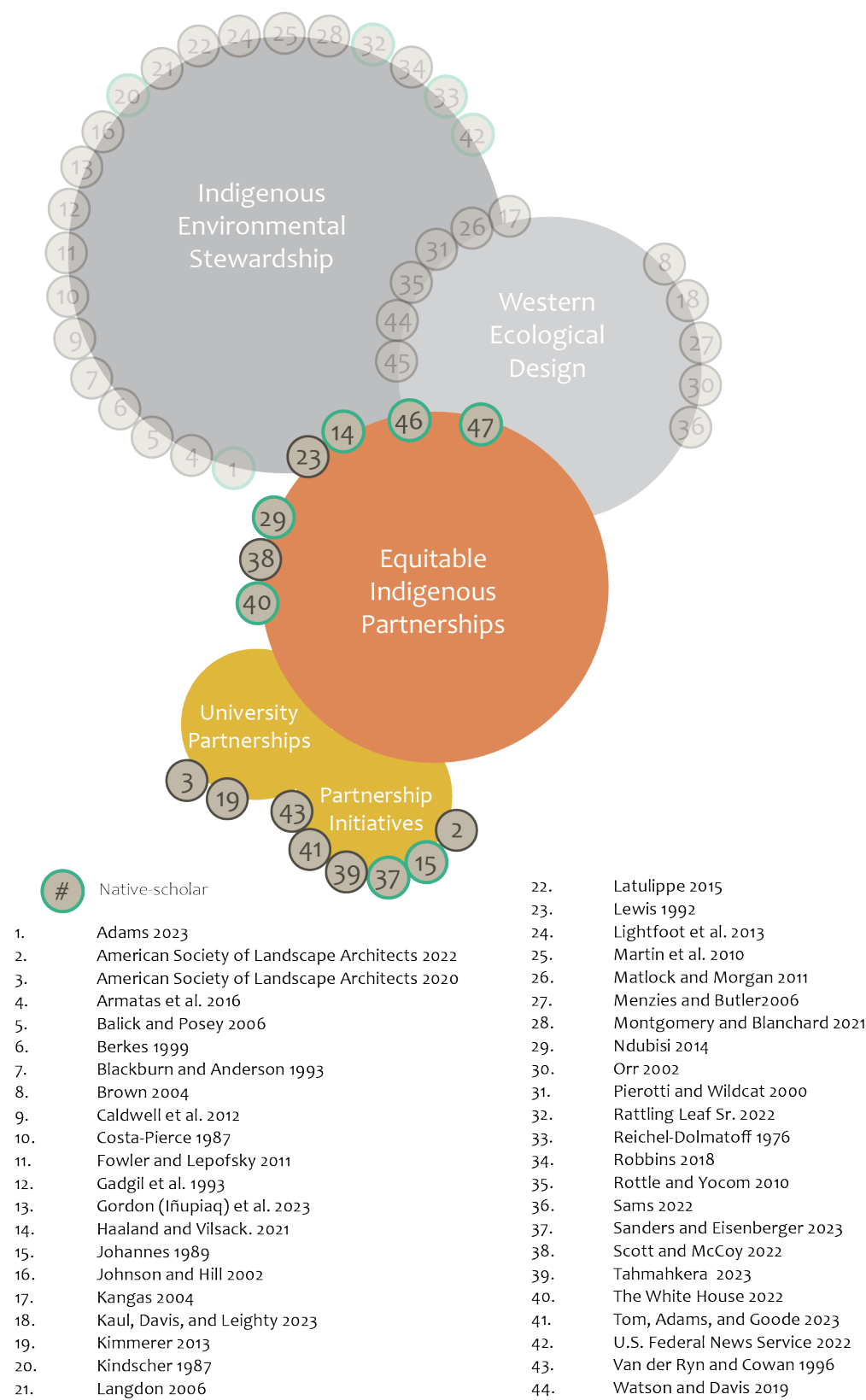


Fig. 3.1 Part II: Literature Review Map

The literature review included in Part II: Conversations & Considerations focuses on equitable Indigenous partnerships and related current initiatives.

PARTNERSHIPS TIED TO LAND

A critical point related to partnerships tied to land is that partners must recognize the active role Indigenous communities play as stewards of their lands (Gordon (Iñupiaq) et al. 2023; Scott and McCoy, 2022) the authors use an environmental justice lens to review the history of land management practices: first practiced through stewardship by Indigenous Peoples and then taken over by Western science-based land management. There is a long history of environmental injustice in this Great Turtle Island (North America). A large aspect of ethical partnerships is how power is shared. As Martin et al. state, “If TEK [Traditional Ecological Knowledge] research does not take place within a broader framework that addresses power relationships, it runs the risk of commodifying TEK with little or no benefit to local people” (Martin et al. 2010, 845). Instead, ethical partnerships related to land should meaningfully include tribal partners in decision-making, aid tribal partners in achieving self-determined goals, and spread awareness of tribal expertise in land stewardship (Gordon (Iñupiaq) et al., 2023; Latulippe 2015). The field of ecological design can recognize the design and planning knowledge of Indigenous Nations by engaging in ethical partnerships with Indigenous communities (Gordon (Iñupiaq) et al., 2023).

Within academia, Traditional Ecological Knowledge (TEK) and Traditional Ecological Practices (TEP) should be recorded without Western bias, and partners should listen to Indigenous views that contradict or fall outside of current academic discourse. There are numerous instances of Indigenous communities informing western thought (Berkes 1999; Johannes 1989). During a long-term study in Canada, Berkes (1999) cited the James Bay Cree peoples’ extensive knowledge of seasonal fish patterns. He noted that they knew information about local fish migrations that scientists had not been privy to. He says, “What was science to me regarding the ecology of James Bay fish was common sense to them” (Berkes 1999, 37). A general example is how multiple Indigenous naming systems are more extensive than their Linnaean counterparts (Berkes 1999; Johannes 1989). The Hanunoo of the Philippines have over 400 more names for organisms in the local forest than Linnaean taxonomy (Johannes 1989, 5). This has far-reaching implications on understanding local biodiversity at the species and genetic level. In another example, the Inuit of Point Barrow identified a methodological fault in the International Whaling Commission’s bowhead whale survey in 1978. The Inuits knew that some whales were swimming under the ice and not being counted. This was proven true in the following investigation (Johannes 1989, 41). However, the fact that their knowledge needed to be “proven” through a Western scientific investigation indicates a larger problem of Indigenous Knowledge not being recognized at the same level as Western Knowledge. Yet, all these examples demonstrate why Western academia should respect Indigenous knowledge systems as equal counterparts.

In an editorial for *Frontiers in Ecology and the Environment*, James Rattling Leaf Sr. (2022) continues with this point, saying that “If all knowledge systems are equal, then no single system has more weight or legitimacy than another, and none requires another to support its own credibility and relevance” (Rattling Leaf Sr 2022, p. 3). The Western study of TEK is not about validating the legitimacy of this knowledge through a Western

lens; its validity is supported by generations of observation and affirmed by knowledge holders within Indigenous communities. Instead, TEK should join with Western ecological knowledge to influence future thoughts and studies (Rattling Leaf Sr. 2022; Scott and McCoy 2022). As Johannes (1989) puts it, Indigenous communities can point scientists in the right direction for “which questions to ask about the environment, and where and when to look for the answers” (Johannes 1989, 8).

However, this should be accomplished in ways that return benefits back to the Indigenous community. Partnerships should avoid extractive goals and instead ask Indigenous communities what questions they want to be answered (Smith 1999). Research outcomes should be shared with the Indigenous community for review prior to publishing, and the results should be presented in a format that is useful to the Indigenous community (Gordon (Iñupiaq) et al., 2023, 5). In summary, Gordon (Iñupiaq) et al. states “Academic organizations can create strong partnerships based on the principles of good communication, power sharing, incorporating partners’ voices into all aspects of the design and planning they want to be involved in, and creating long-term commitments.” (Gordon (Iñupiaq) et al., 2023, p. 6).

These long-term academic partnerships can take the form of participatory community-driven research, Indigenous research institutions, and exploratory programs for Indigenous youth (University of New Mexico 2020; Barnes and Warren 2022; Gordon (Iñupiaq) et al., 2023). Establishing programs and institutions can give Indigenous youth opportunities to explore careers while exposing non-Indigenous students to Indigenous perspectives in land management (Gordon (Iñupiaq) et al., 2023, 5). The Indigenous Design and Planning Institute (iD+Pi) within the School of Architecture and Planning at the University of New Mexico is one example of this (University of New Mexico 2020).

INCREASING MOMENTUM

Traditional ecological knowledge (TEK) and traditional ecological practices (TEP) are gaining increasing recognition in broader society in the face of climate change and resilience efforts (Adams 2023; Wildcat 2024). Western science is formally recognizing Traditional Ecological Knowledge as an equal counterpart (Rattling Leaf Sr 2022; Scott and McCoy 2022), and Western land management is learning from the ingenuity of traditional ecological practices (Adams 2023; Robbins 2018). U.S. government initiatives are pushing for more collaboration with tribal governments on U.S. public lands (Haaland and Vilsack 2021; Sams 2022; The White House 2022), and state agencies are exploring their own collaborative programs (Adams 2023). Within landscape architecture, there have been increasing discussions at conferences and considerations in formal reports (University of New Mexico 2020; American Society of Landscape Architects 2022; Kaul, Davis, and Leighty 2023; Leal 2023; Sanders and Eisenberger 2023). The momentum behind these efforts is increasing. It is the responsibility of all those involved to ensure that that this momentum carries us down the right side of the hill, into a stable state of right relations.

CONVERSATIONS

INTERVIEWS

Semi-structured interviews were conducted to glean insight from professionals who have experience related to Indigenous environmental stewardship and with Indigenous community partnerships. Kansas State University IRB approval was obtained, and questions and research intentions were shared with interviewees prior to the actual interview. Interviewees had the option to remain anonymous though none chose to do so. Interviews were held over zoom and varied between 30-90 minutes with most lasting about 50 minutes. After the interviews, responses were synthesized, and interviewees were given an opportunity to review the written sections.

Fifteen interviews were conducted in total. Interviewees held both Indigenous or non-Indigenous backgrounds and fell into one of two categories: 1) Educators teaching content related to Traditional Ecological Knowledge (TEK) and 2) Practitioners that have collaborated with Indigenous communities. Some interviewees have experience in both categories. An effort was made to interview Indigenous scholars and practitioners, and 7 out of 15 interviewees hold tribal affiliation (see Fig. 3.17). The following scholars and practitioners were interviewed, donating their time and thoughts to this effort.

INTERVIEWEES

- Dr. Melinda Adams (N’dee, San Carlos Apache) | Assistant Professor, Dept. of Geography & Atmospheric Science and Dept. of Indigenous Studies, University of Kansas** – With her training as an environmental scientist and ecologist, Dr. Melinda Adams aims to imbue Indigenous pedagogies into STEM education and research. Her research interests include plant, soil, and fire ecology rooted in Indigenous Ways of Knowing. Dr. Adam’s current work is focused on cultural burning practices for purposely placed fire in the West.
- Dr. Charles Barden | Director of Geyer Forestry Center, Kansas State University** – Dr. Charles Barden is a State Extension Forester and Professor at Kansas State University. He has been with the State Extension office since 1989. He has worked with the Prairie Band Potawatomi Nation since 1998 and has also collaborated with the Kickapoo Tribe in Kansas. Projects spanned stream bank stabilization, red elm (*Ulmus rubra*) germination, and various horticulture workshops. He also mentors graduate students, often related to Tribal work.
- LaVerne Bitsie-Baldwin (Citizen of the Navajo Nation) | Director of Multicultural Engineering Program, Kansas State University** – LaVerne has led the Multicultural Engineering Program at Kansas State University for 20 years. As one of the oldest DEI programs on campus, her work focuses on recruiting, supporting, and mentoring historically underrepresented groups in the College of Engineering.
- Dr. Paulette Blanchard (Absentee Shawnee Citizen) | Co-Principal Investigator, Rising Voices Changing Coasts Hub (RVCC), Haskell Indian Nations University** – Dr. Blanchard is a Co-Principal Investigator for RVCC, an interdisciplinary research hub funded by the National Science Foundation and focused on climate resilience in coastal communities in Hawaii, Alaska, Louisiana, and Puerto Rico. Her work also focuses on Indigenous science and education including teaching Indigenous Methodologies.

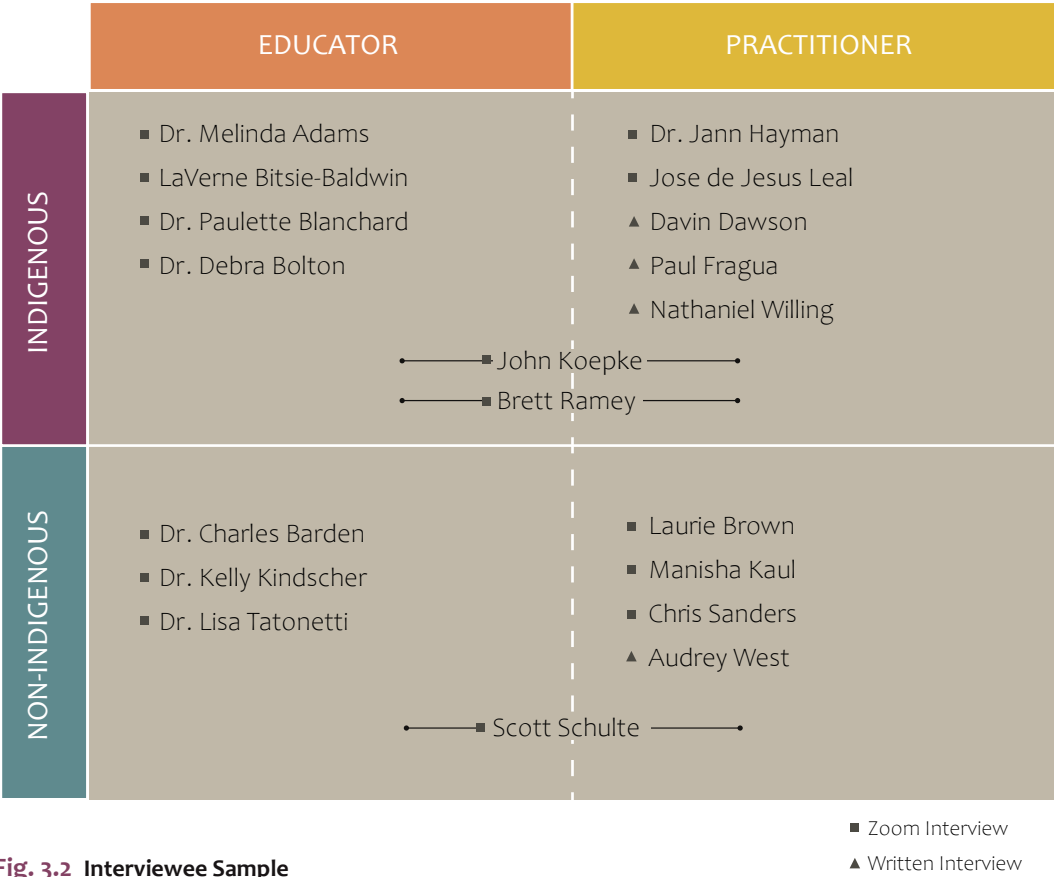


Fig. 3.2 Interviewee Sample
Fifteen zoom interviews and four written interviews are included in the synthesis of considerations. Participants included educators and practitioners of Indigenous and non-Indigenous backgrounds.

- **Dr. Debra Bolton (Ohkay Owingeh/Diné/Ute) | Director of Intercultural Learning and Academic Success and faculty member in the Dept. of Geography and Geospatial Sciences, Kansas State University** – Dr. Bolton’s work aims to foster intercultural learning and cultural advocacy, and she leads SAFE Zone and ally trainings at Kansas State University. She combines her background in geography and human ecology in research focused on historically excluded and minoritized populations in the U.S.
- **Laurie Brown, LEED® AP | Conservation Ecologist and Planner at Vireo, Kansas City, MO** – Laurie Brown has over 30 years of experience in ecological and urban planning. Her work spans biological and environmental assessments, ecosystem and cultural landscape restoration, native landscaping, and community planning. At Vireo, she has worked on projects spanning 10 years with the Prairie Band Potawatomi Nation and with the Winnebago tribe of Nebraska.
- **Dr. Jann Hayman (Citizen of the Osage Nation) | Secretary of Natural Resources, Osage Nation** – As part of the Chief’s cabinet, Dr. Hayman oversees the environmental programs for the Osage Nation. Her work includes the development of programs and facilities aimed at increasing food sovereignty in the nation. She holds a Master of Agriculture and Doctor of Education, and she recently received the Agricultural Leadership Distinguished Alumni from Oklahoma State University.
- **Manisha Kaul, FASLA, PLA, LEED® AP | Principal at Design Workshop, Chicago, IL** – With backgrounds in both architecture and landscape architecture, Kaul is enthusiastic about creating synergies between natural and built worlds. She has led federal, institutional, and public projects with over 20 years of experience in private practice. Recently she gave a talk at the national ASLA conference titled, “Repositioning Campus Landscapes: Can Engaging Native Nations Promote Social and Environmental Resilience?” where she and colleagues discussed efforts on recent university masterplans.
- **Dr. Kelly Kindscher | Senior Scientist, Kansas Biological Survey, and Professor of Environmental Studies, University of Kansas** – Dr. Kindscher is an advocate for native plants, native landscapes, and wild places. He studies native prairie and edible plants, and has published books on the subject, including *Edible Wild Plants of the Prairie* (1987). He has worked on multiple ethnobotanical projects with Tribal Nations and teaches the Ethnobotany course at the University of Kansas.
- **John Koepke (Enrolled Member of the Lac Courte Oreilles Band of the Lake Superior Chippewa Indians of Wisconsin) | Professor Emeritus, College of Design, University of Minnesota** – John Koepke holds 35+ years of experience in private practice and academia. His research in landscape architecture lies at the intersections of Native American cultures and environmental science. During his time at the Univ. of Minnesota, he led landscape architecture studios and seminars that engaged with local Tribal Nations, and he has received numerous awards for his work and research.
- **José de Jesús Leal, PLA (Nahua/Mexican-American) | Director of the Native Nation Building Studio at MIG, Sacramento, CA** - With over 25 years of experience, José focuses on culturally sensitive design that is rooted in the community. He leads the Native Nation Building Studio at MIG where his team works with Indigenous Nations, supporting community-building and self-determination efforts. In the American Society for Landscape Architects (ASLA), he was a part of the committee that developed ASLA’s Climate Action Plan, collaborating with the committee to incorporate language and initiatives acknowledging Indigenous communities’ roles in climate efforts.
- **Dr. Lisa Tatonetti | Professor of English, Kansas State University** – Dr. Tatonetti is a Coffman Chair for Distinguished Teaching Scholars, and through the Kansas Land Treaties Project, her research works to bring attention to Indigenous Peoples, cultures, and history in the state. She has worked on multiple efforts with the Kaw Nation and as a founding member of K-State’s Indigenous Faculty and Staff Alliance.
- **Brett Ramey (Iowa Tribe of Kansas and Nebraska) | Climate Resilience Planner, Iowa Tribe of Kansas and Nebraska** – Brett Ramey helps run the Ioway Climate Resilience program and is co-designing a stewardship and agroforestry plan for Ioway Tribal National Park. In the past, he has served as Director of the University of Washington’s Doris Duke Conservation Scholars Program and taught courses related to climate change and traditional foods at tribal universities.
- **Chris Sanders, PLA, SITES® AP, ENV SP, ASLA | Senior Associate at Lamar Johnson Collaborative, Kansas City, MO** – Chris Sanders has over 10 years of experience in professional practice collaborating closely with communities to design spaces that tell their story. He was part of the design team that collaborated with the Osage Nation for the Tower Grove East Stream Restoration project, a project that recently received an Award for Excellence in Design from ASLA St. Louis.
- **Scott Schulte, M.U.P, ENV SP | Associate Professor of the Practice, University of Kansas, and Senior Environmental Planner at Vireo, Kansas City, MO** – Scott Schulte has over 30 years of experience in practice, not-for-profit, and academia. His interests include multi-functional, nature-based solutions for environmental management and resiliency. He has worked on projects for over 10 years with the Prairie Band of the Potawatomi Nation, and now teaches courses for the M.S. in Environmental Assessment program at the University of Kansas.

INTERVIEW QUESTIONS

Interview questions were developed in accordance with the protocols associated with Research Involving Human Subjects and were approved by the Institutional Review Board (IRB) at Kansas State University. My Master’s Report committee helped to review and refine drafted questions. Questions aimed to collect key considerations and resources for faculty looking to incorporate Indigenous narratives into landscape architecture programs.

To accomplish this, questions were asked in two categories: 1) Indigenous Partnerships and 2) Curriculum Content. Indigenous Partnership questions asked about the qualities of successful long-term partnerships, insight into the collaboration process, important considerations for practitioners, and how those experiences could translate to the classroom. Curriculum Content questions asked about balancing broad information with specific information, what concepts should be included, effective educational strategies, and important considerations for professors.

WRITTEN INTERVIEW

During the interview with José de Jesús Leal, Director of the Native Nation Building Studio at MIG, José offered to reach out to the rest of his team regarding this research. Due to time constraints, zoom interviews were not able to be offered, but a written interview including five open-ended questions was sent to MIG’s Native Nation Building Studio. Written questions asked about important considerations for practitioners, what students should learn about, deterrents to Indigenous youth, and what led respondents to landscape architecture. The written interview does not provide an opportunity to respond as in-depth as in the zoom interviews. However, four more practitioners were able to be engaged as a result:

- **Davin Dawson (Cherokee Nation) | Landscape Architect, MIG, Seattle, WA** – Davin Dawson is a licensed landscape architect in the Native Nation Building Studio. He wishes to use his creativity and leadership to design a better future.
- **Paul Fragua (Pueblo of Jemez) | Architect/Planner, MIG** – As a senior advisor at MIG, Paul Fragua’s mission is “to bring voice to the voiceless and visibility to the invisible” (Fragua 2024). Paul has over 40 years of experience collaborating with Native communities and specializes in strategic planning, master planning, and resource development.
- **Audrey West | Director of Landscape Architecture, MIG, Seattle, WA** – Audrey West brings over 20 years of experience to her work in creating inclusive, sustainable, and culturally vibrant communities.
- **Nathaniel Willing (Ojibwe (Anishinaabe) First Nation) | Landscape Designer, MIG, Sacramento, CA** – Nathaniel Willing strives to have a positive effect on the communities he works with. He wants to contribute to the improvement of Indigenous communities and the reclaiming of their Indigenous Knowledge.

WRITTEN INTERVIEW

HOUSEKEEPING ITEMS

1. Name (You may choose to remain anonymous):
2. What is your tribal affiliation and how would you like me to document that?

QUESTIONS

3. What is important for practitioners to understand when engaging with Indigenous communities?
4. In landscape architecture education, what do you wish students would learn about regarding Indigenous communities (i.e. histories, knowledge, contemporary issues, worldviews)?
5. Are there any resources you recommend for landscape architecture faculty looking to incorporate that information (i.e. readings by native-scholars, professional development, websites, etc.)?
6. What are possible deterrents to Indigenous youth looking to enter the landscape architecture profession? Do you have any suggestions for faculty looking to reduce these barriers?
7. What led you to pursue landscape architecture? And what has kept you in the profession?
8. Are there any other thoughts you’d like to share that did not fit under the previous questions?

PRACTITIONER INTERVIEW

HOUSEKEEPING ITEMS

1. Would you like your answers to remain anonymous in the report? (Instead of “Jane Doe mentioned x,y,z,” the report will read “An [Indigenous or non-indigenous] design practitioner mentioned x,y,z.”)
2. If interviewee has tribal affiliation: What is your tribal affiliation and how would you like me to document that?
 - c. Are there any additional tribal affiliations you would like me to know?

ON INDIGENOUS PARTNERSHIPS & ENGAGEMENT

4. Can you talk a little about the work you have done with Indigenous communities?
5. What was the engagement or collaboration process with the Indigenous community like on the project(s)? You are welcome to touch on either or both of the following categories:
 - o Lessons learned about community engagement
 - o Influence on your perspective or approach as a practitioner
6. What is important for practitioners to understand when engaging with Indigenous communities?
7. How could the experience of working with Indigenous communities be translated to the classroom or studio environment?
 - h. If interviewee has tribal affiliation: Would you like to share any fundamental knowledge or understanding from your community that you think should be taught in landscape architecture education?

ON CURRICULUM CONTENT

9. By incorporating an Indigenous narrative into curriculum, the landscape architecture profession can recognize the design knowledge of Indigenous communities and engage in informed dialogue with Indigenous peoples. What concepts related to Indigenous ways of knowing would be appropriate to include in landscape architecture curriculum? You are welcome to touch on any or all the following categories:
 - o Indigenous knowledge (Indigenous environmental stewardship, Traditional Ecological Knowledge, etc.)
 - o History (historical injustices, major events tied to the American landscape etc.)
 - o Contemporary Issues (current initiatives, future goals, contemporary injustices, etc.)
 - o Culture/Worldviews (relationship of humans to their environment, concept of community, ethics, social norms, etc.)

10. In practice, many landscape architects will work on projects spanning numerous traditional territories. How should broad information on Indigenous peoples, as a cultural group, be balanced with specific information on local Indigenous Nations?
 - k. When working in intertribal communities, i.e. Lawrence, KS, how should landscape architects balance intertribal contexts with the Nation(s) to whom the land traditionally belonged?
12. What educational strategies could be effective for introducing non-native students to Indigenous knowledge? (field work, dedicated lecture, examples discussed throughout course, guest lecturer, required reading and discussion, studio project, research paper, reflective essay, etc.) What approaches do you recommend?
 - m. Are there approaches or activities one should avoid?

CONCLUDING THOUGHTS

14. Is there anything else you would like to speak about that was not covered in the previous questions?

EDUCATOR INTERVIEW

HOUSEKEEPING ITEMS

1. Would you like your answers to remain anonymous in the report? (Instead of “Jane Doe mentioned x,y,z,” the report will read “An [Indigenous or non-indigenous] design practitioner mentioned x,y,z.”)
2. If interviewee has tribal affiliation: What is your tribal affiliation and how would you like me to document that?
 - c. Are there any additional tribal affiliations you would like me to know?

ON INDIGENOUS PARTNERSHIPS & ENGAGEMENT

4. If non-indigenous educator: Tell me about your experiences engaging with Indigenous communities.
 - e. How has that influenced the way you introduce students to Indigenous knowledge?
6. If Indigenous educator: Tell me about your experience or knowledge related to landscapes architecture, planning, or land management.
7. What qualities make a long-term academic partnership with Indigenous communities successful?

ON CURRICULUM CONTENT

8. By incorporating an Indigenous narrative into curriculum, the landscape architecture profession can recognize the design knowledge of Indigenous communities and engage in informed dialogue with Indigenous peoples. What concepts related to Indigenous ways of knowing would be appropriate to include in landscape architecture curriculum? You are welcome to touch on any or all the following categories:
 - o Indigenous knowledge (Indigenous environmental stewardship, Traditional Ecological Knowledge, etc.)
 - o History (historical injustices, major events tied to the American landscape etc.)
 - o Contemporary Issues (current initiatives, future goals, contemporary injustices, etc.)
 - o Culture/Worldviews (relationship of humans to their environment, concept of community, ethics, social norms, etc.)
9. In practice, many landscape architects will work on projects spanning numerous traditional territories. How should broad information on Indigenous peoples, as a cultural group, be balanced with specific information on local Indigenous Nations?
 - j. When working in intertribal communities, i.e. Lawrence, KS, how should landscape architects balance intertribal contexts with the Nation(s) to whom the land traditionally belonged?

11. What obstacles have you faced when trying to increase awareness, appreciation, and understanding of this topic (including efforts to incorporate Indigenous perspectives into curriculum)? What helped to overcome those obstacles?
12. What educational strategies could be effective for introducing non-native students to Indigenous knowledge? (field work, dedicated lecture, examples discussed throughout course, guest lecturer, required reading and discussion, studio project, research paper, reflective essay, etc.) What approaches do you recommend?
 - m. Are there approaches or activities one should avoid?
14. What are important considerations professors should keep in mind when speaking on this subject, especially if they come from a non-indigenous background?
15. Any recommended resources?

CONCLUDING THOUGHTS

16. Is there anything else you would like to speak about that was not covered in the previous questions?

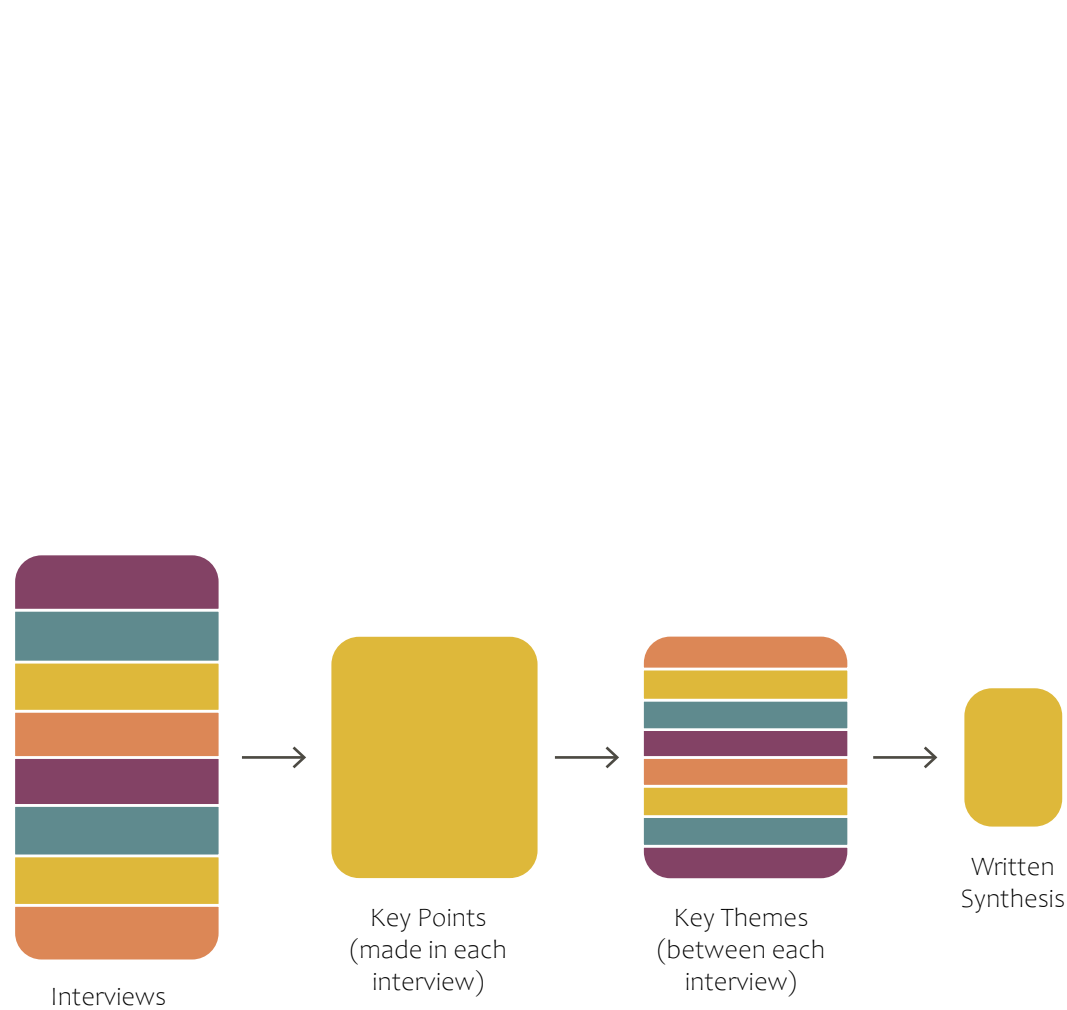
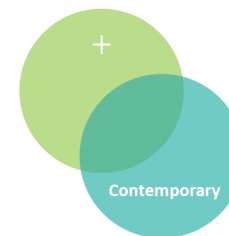


Fig. 3.3 Synthesis Process

Participant responses are synthesized in the following discussion using a combination of paraphrasing, summarizing, and direct quotes. While many interviewees brought up overlapping points, each illustrated their points with unique examples, anecdotes, and metaphors. **The synthesis attempts to capture the nuance of each interviewees’ responses.**

SYNTHESIZED RESPONSES

ON INDIGENOUS PARTNERSHIP



LESSONS FOR SUCCESSFUL LONG-TERM PARTNERSHIPS

Indigenous partnerships are based in relationship (Leal 2024). This relationship is not confined to a project or a formal agreement (Koepke 2024). It is continuous, extends into the past, and recognizes the injustices that have occurred over time and space.

When entering a partnership with an Indigenous community, partners must go beyond good intentions to educate themselves and reflect on that relationship (Brown 2024; Fragua 2024; Kaul 2024; Schulte 2024; Willing 2024). Scott Schulte says, “You can understand why you might be working with people who are wary of you” (Schulte 2024). In awareness of repeated injustices, respect and trust must first be repaired (Blanchard 2024; Fragua 2024; Hayman 2024; Koepke 2024; Leal 2024; Schulte 2024; Willing 2024).

In a January 2024 talk at Kansas State University, Dr. Daniel Wildcat, a leading Indigenous scholar in climate resilience, spoke of the importance of being in “right relations.” Partners must be conscious of their relationships in all areas (including to other peoples, organisms, and ecosystems). **Being in right relations is about making those relationships positive** (Wildcat 2024). As part of this, Koepke stresses that trust-building is “an investment of time” (Koepke 2024). Outside partners must invest time in rebuilding trust to enter right relations in the future.

Partnerships should avoid the pitfalls of the savior complex. When beginning a partnership, it is not about showing off your qualifications. Lean into humility instead. Dr. Blanchard illustrates this by saying, “You are the baby, and you’re coming to the elder” (Blanchard 2024). The role of the outside partner is not to fix or save. As Dr. Adams says, “[Indigenous Ways of Being] are going to continue and thrive with or without the academy” (Adams 2024). Therefore, outside partners should begin by listening and learning (Dawson 2024; Schulte 2024). Do not presume to know the best solution (Sanders 2024).

Additionally, **partnerships should shift the focus from damage-centric narratives to a desire-based approach**. As Dr. Adams points out, “We are powerful nations, and we have moments of joy and celebration... there’s desire, and there’s power intermixed with the negative and bad things that are prevalent within our communities.” Paul Fragua says, “We are in a great period of revitalization [of] language, ceremonies, and more management of our affairs and lives” (Fragua 2024). The narrow and flat narrative often presented to the American public relegates native communities to the past, frequently in a negative light (Bolton 2024). Partnerships should work to redirect this narrative to a more positive light that shines on Indigenous accomplishments and communities’ self-determined goals (Adams 2024; Hayman 2024).

As a caveat, **Indigenous communities should never be approached for the benefit of tribal affiliation.** While Dr. Jann Hayman is welcoming to potential non-native partners, she has regressed from partnerships that felt like a means to gain points on funding applications. Partners should always be honest (Kindscher 2024) and ensure their intention to collaborate is genuine (Hayman 2024).

Continuing with that point, **free prior and informed consent should be received from Indigenous partners** (Adams 2024). In the past, researchers have collected, used, and published data without consent, destroying trust and feeding into racist agendas (Adams 2024; Blanchard 2024; Bolton 2024). Partners should be transparent about the extent of the collaboration (Leal 2024; Schulte 2024) and straightforward about the collaboration process (Kindscher 2024). Partners should understand that certain knowledge is told in trust with the understanding that it will not be shared elsewhere without consent (Brown 2024; Schulte 2024; Sanders and Eisenberger 2023). Partners should safeguard confidential information, remain transparent throughout the partnership, and receive proper approvals before publication.

Collaborations should consider the mental load placed on Indigenous communities (Bitsie-Baldwin 2024). When Indigenous partners are asked to contribute to a project or class, they should be compensated (Bolton 2024; Tatonetti 2024). (Compensation is discussed in further detail in “Important Considerations for Professors”). Especially in smaller nations, tribal representatives wear many hats and are often overworked (Tatonetti 2024). When collaborating with Indigenous partners, it is important to be dependable (Kindscher 2024). When outside partners commit to doing something, they should deliver. “Under promise and over deliver,” as Dr. Charles Barden says (Barden 2024). The scheduling of projects should also be consistent (Bitsie-Baldwin 2024; Koepke 2024). LaVerne Bitsie-Baldwin says consistency helps by “not adding to the mental load of the communities to find out are they going to do it again this year?” (Bitsie-Baldwin 2024). Engagement should operate on a consistent timeline (i.e., studio project held annually; Koepke 2024). Over time, collaborations can respond to new questions or problems the community poses (Bitsie-Baldwin 2024).

Relationships must be reciprocal, and work must be relevant to the community (Bitsie-Baldwin 2024; Blanchard 2024; Leal 2024). Jose asks, “Are we [as partners] willing to offer in order to receive?” (Leal 2024) As a framework, Dr. Paulette Blanchard references the 7 Rs of Indigenous Research, which exhibit many qualities mentioned by other interviewees:

The 7 Rs of Indigenous Research

1. **Respect**—Demonstrate respect and humility toward the people, traditions, and worldviews of those you work with.
2. **Relevance**—Results and experience of the partnership are purposeful to the participating community, people, and place.
3. **Reciprocity**—The partnership gives back to the community (answering questions posed by the community, donating time and labor, and producing information of value to the community).

4. **Responsibility**—Partnerships should empower, not extract. Private knowledge that is not to be shared with outsiders must be respected. Partners are held accountable for keeping private knowledge private and getting approval before publishing information.
5. **Relatedness**—Partners should recognize the broader community of a place (plants, animals, water, rocks, etc.) and that all are related, including us. Partnerships should be conscious of the connections between all entities, which tie the greater system together.
6. **Relationship**—Relationships exist between all partners, community members, and places. Establishing and maintaining positive relationships takes work.
7. **Redistribution**—The partnership’s products should be accessible and in a helpful format for the community.

(Montgomery and Blanchard 2021)

Dr. Melinda Adams recommends referring to the United Nations Declaration on the Rights of Indigenous Peoples. The formal document recognizes the hostile political environment that Indigenous Peoples are often subjected to, affirms Indigenous Peoples rights, condemns actions that hinder these rights, and values the diversity these cultures contribute to humankind (United Nations 2007).

In summation, Tatonetti stresses, **“consult, consult, consult”** (Tatonetti 2024). Koepke explains that you must be careful to proceed respectfully with everything (i.e., tree removal, grading, or any other negative disturbance). The community may have procedures for conducting those activities that you must follow (Koepke 2024). Additionally, terminology matters. Words that may seem interchangeable to outside partners can be tied to specific connotations within Indigenous realms (Kaul 2024). For example, Dr. Bolton and Dr. Barden mentioned the term “natural resource.” Indigenous worldviews often do not separate humans from other members of the natural world. They are respected as community members, and therefore, using the term “resource” can be seen as disregarding that worldview (Barden 2024; Bolton 2024). Working with a tribal liaison or consultant can help to avoid these mistakes (Kaul 2024; Koepke 2024; Tatonetti 2024).

Indigenous partnerships do not follow a linear path, so practitioners must be flexible (Leal 2024). It is not just about reaching a final solution; it is rooted in building relationships (Kaul 2024; Schulte 2024). Relationships do not come and go with funding (Barden 2024). Dr. Charles Barden says, **“I’ve always tried to keep relationships open even when I don’t have a current grant. I keep checking on the trees we planted. I visit the sites. I stop in and visit with the Tribal EPA office...”** (Barden 2024). The relationship doesn’t end with the project (Brown 2024). However, at the conclusion of projects, Indigenous partners should be asked for feedback on what went right and what could have gone better (Bitsie-Baldwin 2024). In this way, the relationship can improve over time. While each community is different (Hayman 2024; Leal 2024), these guidelines can start interested parties down the right path to right relations.



THE COLLABORATIVE DESIGN PROCESS

Design practitioners were asked about the engagement and collaboration process on their projects with Indigenous communities. While each collaboration process was unique, all emphasized designing as a facilitator of the community's vision (Brown 2024; Kaul 2024; Sanders 2024; Schulte 2024). Chris Sanders illustrates this role through the metaphor of a painter and a paintbrush:

“I think **one of the most powerful things we can do as designers is to actually humble ourselves** and relinquish some of that control. I refer to it as instead of being the artist, you're the paintbrush. You're not trying to tell the story of this community as opposed to you're trying to be a conduit to allow the community to tell their story, as opposed to telling it for them... we may know best practices and standards like health, safety, welfare... **But what we don't know is what it's like every day to wake up on that block or what it's like to be a member of a group like the Osage. So let that experience come through in the designs that we're curating.**” (Sanders 2024)

Multiple interviewees warned against honoring someone or something without first engaging with the people it is about (Bolton 2024; Sanders 2024; Schulte 2024; Tatonetti 2024). Dr. Lisa Tatonetti and Dr. Debra Bolton mentioned the example of a Kaw warrior statue in a roundabout in Manhattan, Kansas. The Kaw Nation was not engaged when the statue was first designed. When the Nation was finally consulted, they pointed out that the dress the warrior was depicted in was that of an entirely different nation. A new statue was commissioned by a native artisan, but the engagement experience was not successful (Bolton 2024; Tatonetti 2024). To not engage first is to assume a community's wants (Sanders 2024). Does the nation even want that memorial? Dr. Tatonetti says, “We're at a point where there's a lot of interest in markers and creating a kind of acknowledgment of Indigenous folks, which is really great. But I feel like a lot of landscape architects and city planners are being pulled into that work, and they don't have the background for it” (Tatonetti 2024). Designers must recognize when they should consult relevant parties (Tatonetti 2024). The following spreads highlight practitioner interviewees' collaboration process on various projects and programs.

Fig. 3.4 Gathering to Collaborate



TOWER GROVE EAST STREAM RESTORATION

When done correctly, a collaborative approach can result in an expressive design with an intricate story that is meaningful to the people it is about. Chris Sanders describes it as a kind of superpower, being able to ground a design to a place and a community with that level of specificity. On the Tower Grove East Stream Restoration project, Sanders and the team at Lamar Johnson Collaborative worked with the Osage Nation to incorporate culturally relevant components for the nation, who visits sacred sites in the region annually (Sanders and Eisenberger 2023). The daylighting project incorporates interpretive elements that Osage members can use to teach about their history and culture. For example, at a bend in the daylighted stream, stones are laid in the traditional arrangement of an Osage village, with individual stones representing specific families. When talking about the village, Sanders mentions “the excitement [of the Osage people] to be able to come to a space that actually acknowledges their cultural history, even to the specifics of individual members or components of the tribe... a father can bring their son, or a mother can bring her kids, and come to a spot and say that this [stone] within this broader picture represents your ancestors. It was almost a little bit of ownership there. And [the Osage] were really excited about things like that. And that means something as a designer. It makes you feel good” (Sanders 2024). The collaborative process used during the design stage was key to that success.

“instead of being the artist, you’re the paintbrush. You’re not trying to tell the story of this community as opposed to you’re trying to be a conduit to allow the community to tell their story”

- Chris Sanders

For the Tower Grove East Stream Restoration project, the Osage Nation was engaged early and kept engaged throughout the process. The Osage tribal historian, Dr. Andrea Hunter, would participate in design reviews. Dr. Hunter would distribute design iterations to Osage elders and return the elders’ feedback to the design team. The team approached reviews as a time to present opportunities within the site and to highlight the design principles used in each iteration. Then, Dr. Hunter would think of ways to incorporate cultural elements or stories. For example, when discussing the flow path of the daylighted East stream, she mentioned how the Osage would construct villages on bends or meanders in the river. In response, the design team incorporated a stream bend in their plans, and the stone village was born. **The team leaned on one another’s expertise rather than trying to play an expert outside their area.** Through open and iterative dialogue - showing a design, hearing ideas and feedback, applying comments, repeat – the resulting design embraces components of the story to a much higher degree of specificity (Sanders 2024).

Fig. 3.5 View of Tower Grove East Stream Restoration

PRAIRIE BAND POTAWATOMI WATERSHED ASSESSMENT

An open dialogue was also key in Vireo’s work with the Prairie Band Potawatomi Nation (PBPB; Brown 2024; Schulte 2024). Laurie Brown and Scott Schulte worked with the PBPB’s Division of Planning and Environmental Protection and the U.S. Army Corps of Engineers (USACE) to develop ecosystem restoration plans within the parameters of a USACE-funded program.

A technical advisory committee was established for an internal engagement process. The committee consisted of department heads, tribal council, and other partners (USACE) and was tasked with envisioning the ecosystem restoration goals that the USACE program could fund. Visioning included long-term planning (considering the next seven generations) and how those plans fit within broader initiatives (spanning land use, agriculture, etc.; Brown 2024; Schulte 2024). Schulte explains that the PBPB long-term planning “is different than a lot of transitory communities that you might work in where you’re working in a suburb somewhere... If you’re working with a tribal nation, even if they may not be on the land they historically inhabited, they probably have a much greater sense of that history that they’re bringing to whatever project it is that you’re working on with them” (Schulte 2024).

Vireo also assisted with community outreach efforts, such as newsletters and community engagement meetings. One effective engagement format was a chili feed. Participants could eat and socialize while contributing to planning efforts (Brown 2024). In community engagement meetings, members were asked what their landscape is like now, what it has meant to them culturally (both in their original lands around the Great Lakes and in Kansas), and what they want it to be. Conversations were also held about climate change. Members were asked what they have seen in their lifetimes, what they see now, and how they would like to prepare for the future. Asking open-ended questions allowed members to share what they wished.

Laurie Brown mentioned that a goal was “making certain that we understand their perspectives and are respectful of their practices so that they know that we are trying to learn and help them move forward, but we are not going to jeopardize anything” (Brown 2024). **The role was to facilitate, not direct.** Schulte noted that “a lot of times we as designers and professionals, we think we know, but you always learn things you could not possibly have known if you actually listen to communities” (Schulte 2024).

“A lot of times we as designers and professionals, we think we know, but **you always learn things you could not possibly have known if you actually listen to communities.**”

- Scott Schulte

“...we are trying to learn and help them move forward, but we are not going to jeopardize anything.”

- Laurie Brown

Fig. 3.6 A Creek in the Prairie Band Potawatomi Nation



OSAGE NATION DEPARTMENT OF NATURAL RESOURCES PROGRAMS

The Osage Nation's Department of Natural Resources carries out environmental programs, including land stewardship and food sovereignty efforts. Dr. Jann Hayman is the Osage Nation's Secretary of Natural Resources. Her department oversees many lands and facilities, including a ranch, a bison processing facility, a greenhouse and indoor farm, and an orchard. All these efforts move the Nation toward food sovereignty (Hayman 2024).

“We recognize that there’s going to be cattle grazing probably on most of the land that we own. But how can that be **incorporated in such a way that we’re also promoting wildlife... hunting... an education piece...**”

- Dr. Jann hayman

The Osage Nation owns and operates a 43,000-acre ranch with a 3,300-acre bison preserve. The Nation also built a bison processing facility so that their herd can be processed for their people by their people. A goal of the ranch was **“taking into account our history as an Osage people, and the relationship [we have] with the bison and the relationship the bison have on the landscape”** (Hayman 2024).

Dr. Hayman continues, “We recognize that there’s going to be cattle grazing probably on most of the land that we own. But how can that be incorporated in such a way that we’re also promoting wildlife and we’re promoting hunting opportunities and trying to get, as part of that, an education piece... building the education for people that don’t hunt or, or youth and things like that, and providing opportunities to get back to some of that

historical relationship with the land that may not across the board exist.” With these goals in mind, the Nation hired an ecologist to help write land management plans for all land owned by the Nation, with a primary goal being stewardship that works towards healthier land and healthier people. In addition to the ranch, the Osage Nation also runs the Harvest Land facility, which includes a greenhouse, indoor farming operation, and orchard. The Nation is working to incorporate pawpaw, a traditional food of the Osage, into their orchard (Hayman 2024).

Programs connected to these efforts aim to incorporate educational opportunities for the Osage and broader community. For example, the design of the Harvest Land facility incorporates a 3-mile walking trail that will include educational signage on traditional plants and uses. Harvests from the farm supply food to the Elders Nutrition Program, the Nation’s early learning academy, and various cultural events (The Osage Nation n.d.). Regarding educational outreach, students from within the Nation and surrounding communities have been invited to see the Nation’s food sovereignty efforts in action. Students from Oklahoma State University’s food science program toured the Nation’s bison processing facility, and the department partnered with Oklahoma State University’s biosystems engineering program to explore aquaponic systems through student capstone projects (Hayman 2024).

Fig. 3.7 Osage Nation Bison Herd



Fig. 3.8 Ioway Community Event on the Land

IOWAY CLIMATE RESILIENCE REPORT AND IOWAY TRIBAL NATIONAL PARK

The Iowa Tribe of Kansas and Nebraska have been internally working on various planning projects, including the 2023 Ioway Climate Resilience Report and the establishment of Ioway Tribal National Park in White Cloud, KS. Brett Ramey works for his tribe, the Iowa Tribe of Kansas and Nebraska, on these efforts (Ramey 2024).

In 2021 and 2022, the Climate Resilience program was organized to establish a process for future climate adaptation planning. The result was the Náwo Wapánagun Hinmányi (2023 Ioway Climate Resilience Report). One goal of the program was to develop the report through community engagement. Brett Ramey explains, **“Rather than making a flat document based in theory that may or may not actually be applicable in real time, I designed a series of activities and practices that then essentially became the [means] through which we identified priority areas”** (Ramey 2024). Engagement included formal interviews with elders, partnerships with other departments (i.e., traditional foods for elders program), work with the farm teams, and community events with the tribe. The engagement aimed to “glean what people’s priorities were... not just what we were potentially fearful of or some of the catastrophes and impending doom. That might be very well on its way as it relates to climate change impacts. But also, what are the strengths, what are the beauties of our community, our culture, that we want to make sure we ground in as we move forward?” (Ramey 2024). The resulting report outlines anticipated impacts due to climate change and a framework for climate resilience planning (Iowa Tribe of Kansas and Nebraska 2023). The climate adaptation planning process identified climate resilience strategies. One of which was Indigenous land stewardship. Ioway Tribal National Park is a primary focus area for that effort (Ramey 2024).

Ioway Tribal National Park was established in 2020, the second Tribal National Park in the U.S. to be established. It sits on over four hundred acres of land along the bluffs of the Missouri River in White Cloud, Kansas, which consists of both prairie and deciduous forest.

Engagement activities aimed to “glean what people’s priorities were... not just what we were potentially fearful of... But also, **what are the strengths, what are the beauties of our community, our culture, that we want to make sure we ground in as we move forward?**”

- Brett Ramey

Since its establishment, numerous events have been held to bring the community together on the land. During the planning process, questions were asked like “how can we be out on landscape with community and then also integrate it into other things that we’re doing and just make those opportunities more accessible to people? And then... if people don’t have a common practice as individuals or as families of being out on the land in that way, how can we bring the land to them?” (Ramey 2024) A multigenerational walk was held for one event to get the community out on the landscape. Leaves were collected on the walk and then used as the basis for floral designs in a collaboratively designed community mural.

In February 2024, the Iowa Tribe of Kansas and Nebraska conducted its first community burn in the Tribal National Park. The burn involved non-native partners from Indian Cave State Park, who had been partnering with the Ioway Nation on burning efforts. The partnership included Indian Cave staff “inviting [the Iowa] up their way to help them burn [at Indian Cave state park and then] coming down [to the Tribal National Park], bringing their materials, their labor, their expertise from their understanding of prescribed fire and being on the ground support” (Ramey 2024). The burn at Ioway Tribal National Park began with cultural practices and protocols. The goal of the stewardship activity was not just to accomplish a burn but to engage the community in the cultural components tied to it. These cultural elements distinguish between prescribed burns and cultural burns. Brett Ramey explains that while prescribed burns focus on the end result, cultural burns emphasize the process and protocols. The burn offered an opportunity “for community members to be able to actively go and participate in some of these land stewardship activities in the Tribal National Park” (Ramey 2024).



UNIVERSITY OF ILLINOIS – URBANA-CHAMPAIGN MASTERPLAN

Manisha Kaul is working on the University of Illinois – Urbana-Champaign Masterplan as part of the team at Design Workshop. Master planning is still in process, but initiatives are being set to engage tribal nations connected to the lands of the land-grant university. Kaul explains how the tribal engagement process differs from other community engagement work: “Usually when we go out there, we define a typical meeting, an interview, a stakeholder listening session; we have a list of questions, and we have a time frame in which we are expecting people or stakeholders to answer those questions, but things work a little differently when you are trying to establish a relationship” (Kaul. 2024). **Building relationships among numerous Indigenous partners is complicated. However, establishing this effort as a “critical path item” is a first step.** The university will begin engaging Indigenous Nations in subsequent implementation phases. Kaul admits this has been a new process for her, but collaborating with Indigenous consultants has helped in this complex process. She highlights how, in practice, tribal relations are multi-faceted. Transitioning tribal relation initiatives across key stages (masterplan to implementation) can be difficult (Kaul 2024).

“Usually... we have a list of questions and we have a time frame in which we are expecting people or stakeholders to answer those questions, but **things work a little differently when you are trying to establish a relationship.**”

- Manisha Kaul

Similarly, other interviewees mentioned how the political climate of the university and/or Native Nation(s) could disrupt initiatives throughout long-term projects (Barden, 2024; Tatonetti, 2024). Partners should be prepared for potential political pushback when advocating for Indigenous voices. “It’s a moment where you have to walk carefully” and consider how interactions could educate and open minds (Tatonetti 2024). Kaul also raised an important dilemma in private practice: some clients will not be aware of Indigenous issues or might not care to have those conversations. One way to get around this is by **incorporating Indigenous considerations into the firm’s design process (in procedural site research, outreach efforts, etc.).** Establishing a framework over time can make it easier to meet these goals within the constraints of a for-profit company (Kaul 2024).

Fig. 3.9 University of Illinois Urbana-Champaign Campus

NATIVE NATION BUILDING STUDIO AT MIG

José de Jesús Leal and his team lead the Native Nation Building Studio at MIG. The studio brings together a primarily Indigenous staff to focus on design and planning projects where Tribal Nations are the clients. Projects range from strategic visioning to master planning (MIG 2023). The studio developed after “seeing that, as much as we tried, we were still missing the mark at times with the engagement we were doing with Tribal Nations and Indigenous communities. So, I offered my studio to try to support that.” José explains, “In many ways, for me here [in the Native Nation Building Studio], it’s how do we embed the diversity that our Native people bring into our project work?... a lot of our Native people do bring a different worldview, different values that sometimes are necessary for the work that we’re doing” (Leal 2024). The team also supports other MIG divisions where Tribal partners are consulted.

A goal is to authentically engage Indigenous Peoples in all the work MIG does, helping public agencies navigate engagement to make it a more meaningful process for all. He says, “We understand [that] every piece of land used to be native land at one point. Especially critical areas like rivers, lakes, sacred sites, any of that really needs to have some deeper engagement” (Leal 2024). Adopting this process into the firm has been a learning process, but he has found it helpful to lead by inspiration. His studio tries to inspire others by demonstrating the benefits of meaningful engagement with Native Nations (Leal 2024).

The studio’s engagement process looks to offer “everyone a seat at the table,” including youth, elders, knowledge holders, tribal leadership, the general council, and the voiceless (i.e., rivers, plants, animals, etc.). José shares, “We tailor it to each group that we’re meeting with” (Leal 2024). Engagement includes surveys, community workshops, listening sessions, focus groups, and meetings with the Tribal Council. His team usually eases into community meetings, starting with food and ending with an offering, like a raffle. Events are hosted for the community as an opportunity to socialize, with a secondary opportunity to offer input on the project. José says, “It’s about connecting communities through the process as well” (Leal 2024). Currently, José is working with the American Society of Landscape Architects to develop Tribal engagement resources for the broader profession (Leal 2024).

“...a lot of our Native people do bring a different worldview, different values that sometimes are necessary for the work that we’re doing.”

- José de Jesús Leal

Fig. 3.10 Jilkaat Kwaan Cultural Center and Observatory
Rendering of a cultural center by the Native Nation Building Studio at MIG.



WORKING IN INTERTRIBAL COMMUNITIES

Today, Indigenous communities can include many intertribal contexts. Many Indigenous Nations were forcibly removed from their traditional territories, and some Nations were later moved again from where they were relocated (Brown 2024; Schulte 2024). These histories complicate questions on which Native Nation land is returned to during Land Back efforts (Tatonetti 2024). In addition to this historical context, some communities include Native citizens of multiple nations living together today. For example, there are numerous Tribal universities and colleges, like Haskell Indian Nations University in Lawrence, Kansas, which are melting pots of students and faculty from many Indigenous Nations. On an individual level, some people hold heritage in multiple tribes (i.e., parents from different tribes; Schulte 2024). Additionally, within individual communities, people possess a spectrum of beliefs (Barden 2024). Dr. Barden references the intertribal medicine garden at Haskell Indian Nations University; some individuals support the project, while others believe medicinal knowledge from different tribes should not be mixed and instead remain within tribes and clans (Barden 2024). All these factors complicate how Native Nation(s) should be consulted during a project.

With all these factors, there is no simple answer on navigating an Intertribal situation, and it can be difficult even as an Indigenous person from one of the involved Nations (Blanchard 2024; Ramey 2024). There are various levels of relationships between tribes, with some getting along better than others (Blanchard 2024). Dr. Barden says it can be akin to a “sibling rivalry” (Barden 2024). **Trust must be built between Nations, and that process takes time. Once established though, intertribal relationships can be strong and enduring** (Hayman 2024). Brett Ramey says, “If nothing else, it’s understanding that there’s layers of nuance every place you go. Sometimes it’s contentious. Sometimes it’s not” (Ramey 2024). He mentions how the Iowa lived on lands up near Minneapolis before the early 1700s when they were pushed down to present-day Iowa. Today, Minneapolis is generally understood as Dakota land, along with Ho-Chunk and Ojibwe (Anishinaabe) ties. In that intertribal context, Ramey does not feel the need to “assert that tie unless [his] presence and political status, as somebody with historical ties, can be supportive to Dakota sovereignty efforts” (Ramey 2024). In Intertribal situations, it is important to lean on an Indigenous partner, consultant, or local designer who may have a better understanding of the situation (Kaul 2024).

José de Jesús Leal likes to conceptualize this complexity through circles. He refers to it as “the circle of engagement” (Leal 2024; see Fig. 3.21). Start by learning who the original caretakers of the land are. Then, recognize which tribe(s) passed through that place (Bitsie-Baldwin 2024; Tatonetti 2024). For example, Kansas State University sits on Kaw land. Many other nations were moved to Kansas, and some were later moved down to Oklahoma (Bitsie-Baldwin 2024; Tatonetti 2024). Understand the goals, agendas, and beliefs of these Nation(s) and how they stewarded their land ecologically responsibly (Koepke 2024). **When working with a specific nation, start by understanding where that Nation’s original homelands are and then understand the journey they made to get to where they are today.** That history can set the stage for their cultural practices (Brown 2024). For example, the Prairie Band Potawatomi are originally from the Great Lakes region but now live in Kansas. While these environments are vastly different, in both places, the

Nation can manage their water in a way that reconnects them to their homelands (Brown 2024). From the teaching standpoint, Dr. Kindscher notes that a professor may know they have Indigenous students in the class, but they do not know where everyone is coming from. Even if someone’s tribal affiliation is known, you should not assume what beliefs or traditions they hold (Kindscher 2024).

When working in any Intertribal context, engage with the communities as soon as possible. Do not bring Nations in as add-ons with no time to integrate their input meaningfully (Adams 2024). In general, outreach should be initiated with the prevailing group in the area. However, understand that “it’s complicated. Tread respectfully, knowing that there’s no one size fits all to how you engage” (Ramey 2024). When establishing relationships, reach out to the first caretakers and see how you can help. For example, Kansas State University’s Indigenous Faculty and Staff Alliance assists the Kaw Nation with their language program each year (Bitsie-Baldwin 2024). While certain laws require tribal engagement, Brett Ramey and Jose de Jesus Leal urge practitioners to engage further than what is required by law. For example, Jose’s team may “have official consultation with tribal leadership but may also have a set of listening sessions where other members of the community can come” (Leal 2024). Engagement should start early, be meaningful, and be willing to engage from both sides beyond what is prescribed by law.

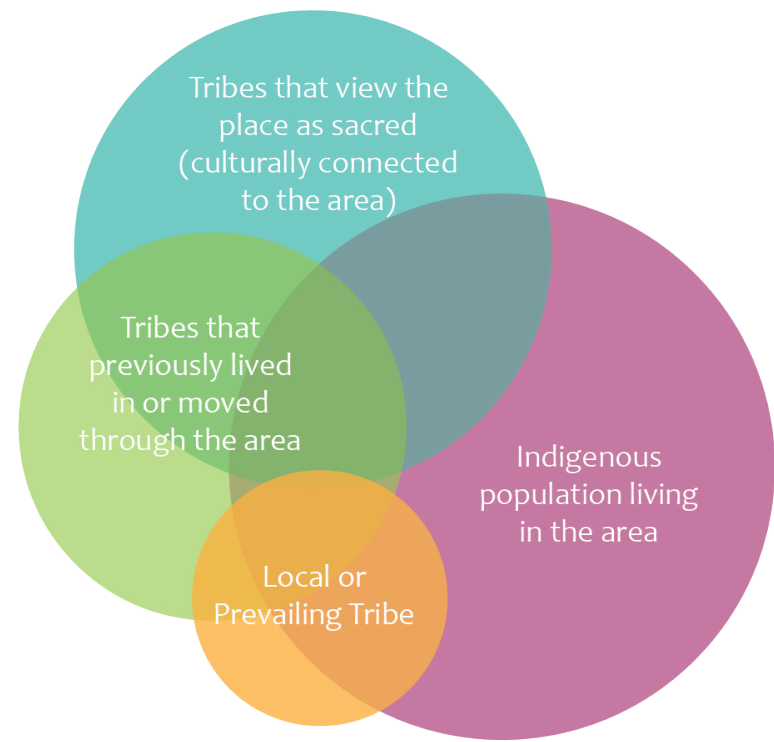


Fig. 3.11 Circles of Engagement
A visualization of the concept mentioned by José de Jesús Leal incorporating elements mentioned by Brett Ramey (Leal 2024; Ramey 2024). The diagram highlights various Indigenous communities that should be considered and the overlap of these communities.

TRANSLATING THE EXPERIENCE OF ENGAGEMENT TO THE CLASSROOM

Practitioners were asked how lessons learned could translate to the classroom. Scott Schulte and Chris Sanders said to **start by bringing in native voices however you can** (guest lecturers, readings, etc.; Sanders 2024; Schulte 2024). Students could read relevant books that involve landscapes when telling the story (Kaul 2024). Lessons could include the importance of terminology and how words can have different attached meanings (Kaul 2024). It would also be helpful for students to have a basic understanding of Indigenous histories and be exposed to Indigenous worldviews (Schulte 2024; West 2024). José mentions how Indigenous worldviews or values could “help us as a profession of individuals maybe evolve a little bit. [For example,] understanding how different Indigenous people view the land: they view it as being alive, as being a person. And I think at times we [as landscape architects] see the land as just being something that we mold, and we shape.” He explains how, from an Indigenous standpoint, this approach can be seen as disrespectful. By incorporating Indigenous values into the classroom, the profession could see “that maybe there’s a better way to do something, a more proper way to do something” (Leal 2024).

Brett Ramey suggests that the focus should not just be on what is taught but how it is taught. When teaching Indigenous narratives, adopt Indigenous pedagogies. For example, a class could be taught with everyone at the same level, sitting in a circle, rather than the hierarchy of a lecturer speaking over a class. He says, **“as my friend, Reuben, will talk about [regarding] our traditional corn planting, how we plant in mounds because corn is social and is stronger when standing together. People are the same. That’s where collective learning, collective knowing, occurs is through that process of being together in mounds rather than standing in individual rows”** (Ramey 2024). **These “subtle but also very profound worldview shifts can be emulated... [to] deconstruct and challenge some of the prevailing power structures that are really prominent in [Western] academia”** (Ramey 2024).

Additionally, courses should introduce students to exemplary work by or with Indigenous Nations (Schulte 2024). Dr. Jann Hayman says a module on Indigenous work could highlight what Native Nations are accomplishing today. Information could help connect students to Indigenous scholars and other educational resources (Hayman 2024). Laurie Brown suggests participating in community events. Whether it relates to a project or not, participating in community events can give students a better understanding of the people they work with (Brown 2024).

During site analysis, Manisha Kaul suggests thinking about the “cultural evolution of the land” (Kaul 2024). When conducting inventory and analysis, understand the people that live(d) there, identify culturally significant sites, and understand the patterns of land development (Dawson 2024; Kaul 2024; Ramey 2024). “... I’m not saying [with the proposed design to] go back into history. I’m saying learn from the history so that you can respect it, integrate it, and evolve your ideas from what has worked in the past” (Kaul 2024).

It is also essential to understand Tribal consultation from a legal perspective (Leal 2024; Ramey 2024). Section 106 of the National Historic Preservation Act requires federal agencies to consult with associated Native Nations when performing work that may affect a site of cultural or religious significance to them (Advisory Council on Historic Preservation 2021). Brett Ramey explains that it is “a protection in place to make sure that with any sort of development or alteration of lands that there are representatives from the tribes with historical and, or ongoing ties to that place” (Ramey 2024).

Regarding unsolicited memorials (mentioned in “The Collaborative Design Process” design students should be educated on this issue (Bolton 2024; Sanders 2024; Schulte 2024; Tatonetti 2024). A lesson could contrast examples of what not to do and how, instead, relevant communities should be engaged from the beginning (Schulte 2024; Tatonetti 2024). **When producing a culturally sensitive design, students should be exposed to how this can be accomplished successfully (by listening closely to a community’s story and wants and refining designs through cycles of community feedback; see “The Collaborative Design Process” for examples).** Chris Sanders encourages students to think about how the community’s character, traditions, and aspirations could be further woven into the design beyond decisions on programming (Sanders 2024). He makes an analogy to baking: “Baking is unique because it’s like chemistry, and that’s kind of what we’re doing. We’re taking all these components, but you have to put them together. When you get it right, you get this beautiful loaf of bread, but if you get it wrong all of a sudden, it’s not good... so it’s figuring out how to bring all those things together in the right way. And it’s a skill that you will develop and evolve throughout your career” (Sanders 2024).

ON INDIGENOUS NARRATIVES

OBSTACLES TO AWARENESS

Educators were asked about obstacles they have faced when trying to increase awareness, appreciation, and understanding of Indigenous narratives. Interviews cited obstacles, including a lack of understanding in the American public (including racism, stereotyping, and ignorance), university and institutional politics, and a lack of recognition of Indigenous knowledge.

There is a lack of education in the history of Indigenous Peoples 1900s and beyond (Bitsie-Baldwin 2024). As a result, American public education often lacks depth in learning about Indigenous Peoples (Leal 2024; West 2024). This lack of cultural competency can lead to numerous obstacles. John Koepke mentioned that some Indigenous worldviews may be “antithetical” to how others were raised, which may spark defensiveness (Koepke 2024). Dr. Blanchard mentioned how she has faced “outright hate and hubris and arrogance” (Blanchard 2024), and Dr. Bolton expressed similar sentiments (Bolton 2024). On the opposite end of the spectrum are overly romanticized views of Indigenous Peoples (Blanchard 2024; Ramey 2024; Tatonetti 2024). All these assumptions must be broken in the classroom (Bitsie-Baldwin 2024; Tatonetti 2024). Overly romanticized views can lead to conversations of Indigenous Peoples in the past tense (Tatonetti 2024) or approaches based on a white savior mentality (Blanchard 2024; Koepke 2024). LaVerne Bitsie-Baldwin pointed out that stereotypes are built-in all around us, mentioning the Manhattan High School and Kansas City NFL mascots as two local examples. Education must break these ingrained stereotypes by providing representative examples of contemporary Indigenous communities that are relevant and connected to learning (Bitsie-Baldwin 2024; Leal 2024; Tatonetti 2024).

Paired with education is politics. José de Jesús Leal mentions the ongoing “structural racism” that has been embedded in U.S. systems since colonization (Leal 2024). Institutional politics can dictate educational initiatives regarding Indigenous narratives. For example, Institutional Review Boards (IRBs) were created to protect human subjects participating in research. However, IRB processes vary from university to university, and some can protect the institution from liability without fully protecting participants from an ethical standpoint. As Dr. Paulette Blanchard points out, **“Do you have an IRB that protects the school, or do you have an IRB that protects the people and the school? Are you protecting the people first or the school first?”** (Blanchard 2024). Research related to Indigenous communities has a tumultuous history. As a result many Tribal Nations and Universities are exerting their sovereignty by developing their own IRB process for researchers that wish to work with their people (Smith 1999). In addition to research, politics can influence how an institution wishes to present its relationship with Indigenous communities (Barden 2024; Tatonetti 2024). For example, Kansas State University has an established land acknowledgment, but over time, this acknowledgment has been challenged multiple times for the use of the term “stolen lands.” Influential players in institutional politics (i.e., donors, administrators, etc.) may not wish to recognize the history between land-grant universities and Indigenous Nations. In other cases, state universities have been criticized by local governments for doing work with Native Nations instead of other communities that pay local taxes. Dr. Barden notes that “people are very

sensitive to who’s paying the bills,” so you must be prepared to advocate and explain (Barden 2024).

On the opposite end of the spectrum, others may want to flaunt Indigenous students or relations to Native Nations for the wrong reasons (Blanchard 2024; Hayman 2024). Dr. Blanchard mentions an alarming example in the following:

“The desire for institutions to take a native student and use them to leverage their program or to show them around like a show pony and telling everybody look how good we’re doing. And then turn on that student when the student says what you’re doing is culturally inappropriate, and I can’t participate in that, and I won’t do it. And then having that same advisor tell that student, well, then I’m going to kick you out of the program, and I’m not going to fund you. You have to go somewhere else. That stuff happens regularly.” (Blanchard 2024)

Institutional politics can corrode even the best intentions, so efforts to spread awareness must anticipate and protect against these factors.

Dr. Blanchard mentions the struggle of being the only Native in a department or university, which can lead to undue pressure. Indigenous individuals may be asked to provide information on anything and everything Indigenous just because they are Native. As Dr. Blanchard asks, how can she be expected to know information regarding every Indigenous Nation when she is not yet even an expert on her own? These requests can exhibit generalizations others possess regarding Indigenous Peoples in their grouping of all Native Nations together (see “Balancing Broad Information with Specific Information” for more detail). Dr. Blanchard also mentions that it can be labor-intensive to find native-scholar work as there is a “lack of a clearinghouse of native scholarship” (Blanchard, 2024). However, while native-scholar work can be challenging to find, there is a massive amount of work out there. Then, the problem becomes how to pass that on to others without overwhelming them with information (Blanchard 2024).

A final crux is the idea in Western academia that all knowledge should be shared, while in Indigenous knowledge systems, some information is sacred and held private. For scholars balancing these two knowledge systems, this situation can create quite a paradox. Dr. Blanchard explains, “It’s hard for native scholars to walk that line sometimes and be a good scholar, but also a good native and a good researcher” (Blanchard 2024). Academia needs to be cognizant of this situation so that researchers respect each knowledge system’s epistemology. Dr. Melinda Adams mentions the obstacle of always needing validation for Indigenous knowledge (Adams 2024). She says in Western academia, “[Indigenous] knowledge systems and our identities constantly need to be validated.” However, Indigenous knowledge has repeatedly informed Western science (Rattling Leaf Sr. 2022; Johannes 1989; The White House 2022). **“This is Western science catching up to what Indigenous knowledges have been telling us since time in memorial”** (Adams 2024). Indigenous Knowledge Systems should be recognized as an equal counterpart to Western Knowledge Systems (Adams 2024; Bitsie-Baldwin 2024). Regarding contemporary environmental issues (i.e., wildfire, climate change, ecological collapse), Indigenous knowledge can provide some answers, but it is not an instantaneous silver bullet; it takes time, land, and funds to enable Indigenous Nations to apply Indigenous knowledge to the landscape (Adams 2024).

DETERRENTS TO RECRUITING INDIGENOUS YOUTH IN LANDSCAPE ARCHITECTURE

Some participants mentioned specific deterrents to recruiting Indigenous youth into landscape architecture and related fields. Interviewees cited constraints in the lack of awareness of the profession, location of job opportunities, the breaking of taboos or worldviews, and damage-centric or flat Indigenous narratives in education.

Indigenous youth may not be aware of landscape architecture as a career path (Dawson 2024; Fragua 2024). Landscape architecture organizations and programs should establish relationships with Indigenous communities (Fragua 2024). Landscape architecture programs could do outreach programs in Indigenous communities, introducing middle and high schoolers to the field. Outreach could include Indigenous mentors and show youth how a career in landscape architecture could help their community (West 2024). Dedicated scholarships for Indigenous students could then help lower cost barriers when entering a university program (West 2024).

Landscape architects are employed throughout the United States, but many firms are concentrated around large urban centers. This job distribution may not allow Indigenous practitioners to live on their Nation’s reservation. While increasing remote work may provide more flexibility in the future, this may deter Indigenous students from wanting to leave home (Koepke 2024). In addition to job constraints, the theory behind landscape architecture may conflict with Indigenous worldviews.

In Western landscape architecture, the natural world is not regarded as relatives. Instead, plants are referred to as “plant palettes,” and the environment is regarded as “natural resources” (Schulte 2024). In landscape architecture, the environment is often viewed as objects for designers to manipulate. This terminology highlights stark differences in Western and Indigenous worldviews. While terminology alone may not spark an ethical dilemma in Indigenous youth, the implications of that worldview in practice can (Koepke 2024; Leal 2024). For example, greenfield developments can be a widespread practice in private practice, and not all firms adhere to sustainable standards. This work could have a negative impact on the environment, and Indigenous youth may not wish to enter the profession because it conflicts with their ethics (Willing 2024). **John Koepke admits that the “[profession focuses] too much on the form-giving and hardscape in our landscape architecture design, and we don’t focus enough on bringing plants and habitat into those urban environments”** (Koepke 2024). Nathaniel Willing mentioned his capstone project, in which he incorporated an Indigenous worldview of the Tequesta people, but he was mocked for the concept (Willing 2024). Educators should be respectful of Indigenous worldviews brought in by students. More broadly, Dr. Kindscher references a study where Native American students were not as comfortable in STEM classes when taboos were broken. Taboos vary from Nation to Nation, but educators should try to be conscious of what could inadvertently make students uncomfortable (Kindscher 2024).

Indigenous youth know their story, and they notice when their story is not being included, whether that omission is intentional or not. José de Jesús Leal mentioned that when he was in school, he was surprised that Indigenous Peoples were not mentioned in landscape architecture history. He said the omission of his People’s land stewardship practices made him feel invisible (Leal 2024). There is a significant focus on European landscape architecture in the curriculum (West 2024), so highlighting Indigenous examples in landscape architecture can help broaden Indigenous narratives in education. **While the profession should recognize injustices that occurred, focusing on tragic histories can be difficult for Indigenous students. Focusing on the positives of what Indigenous Peoples have accomplished and what they are doing today can be empowering** (Hayman 2024).

BALANCING BROAD INFORMATION WITH SPECIFIC INFORMATION

There are 574 federally recognized Native Nations in the United States, and there were over 1,000 before European colonization (Bolton 2024). In curriculum, there is a tendency to blanket and generalize, but it is important to recognize that each Native Nation is unique (Barden 2024; Bolton 2024; Fragua 2024; Hayman 2024; Sanders 2024). While there may be themes (in worldviews, practices, etc.), there is no pan-Indian culture (Bitsie-Baldwin 2024; Hayman 2024). With this diversity and all the relevant information to landscape architecture, there is not enough time to cover much of it in depth; many of these topics could be their own course or degree (Blanchard 2024; Kindscher 2024). Interviewees were asked how to address these constraints by balancing broad information on Indigenous Peoples with specific information on individual communities.

Responses varied, but with any approach, the tribal affiliation of mentioned people, sources, or projects should be shared (Bitsie-Baldwin 2024). Regarding broad information, Dr. Melinda Adams mentions that there are opportunities to widen the hemispheric lens, highlighting Indigenous Peoples across the globe and in the U.S. (Adams 2024). Dr. Paulette Blanchard suggested that with worldviews, there is room to be broader (Blanchard 2024), but when discussing information more broadly, professors should note that it is a generalization (Barden 2024). **Broad information should be balanced with specific knowledge of the Indigenous Peoples and history tied to the site** (Brown 2024; Blanchard 2024; Ramey 2024). Dr. Kelly Kindscher mentioned that when providing specific information, case studies are a great method for delving deeper into connections between practices and culture (Kindscher 2024). In landscape architecture, Dr. Charles Barden cautioned against using motifs (i.e., teepees) because those are not representative of every tribe and can feed into stereotypes (Barden 2024).

INDIGENOUS NARRATIVES: COURSE CONTENT AND CONCEPTS

Interviewees were asked what concepts they thought would be appropriate to include in landscape architecture curriculum regarding Worldviews, Traditional Ecological Knowledge, History, and Contemporary Issues. Responses included numerous opportunities to incorporate Indigenous narratives into landscape architecture curriculum.

General advice included embracing the nuance of the story. When addressing knowledge gaps not typically covered in K-12 education, **it is important to take a decolonial approach and complicate the “flat, 2D narrative” that is too often told about Indigenous Peoples** (Adams 2024). While Scott Schulte teaches courses that do not typically focus on Indigenous issues, the opportunity “bubbles up” in many areas. He uses these to share lessons from his professional work with Indigenous communities (Schulte 2024). Other opportunities include connecting coursework to campus events or speakers hosted by local Indigenous organizations. Students can learn from the ideas presented and build off them in their coursework (Bitsie-Baldwin 2024).



WORLDVIEWS

Indigenous worldviews are inherently different than Western worldviews (Barden 2024; Koepke 2024; West 2024). While Western worldviews are characterized by individualism, Indigenous worldviews are based on collectivism (Barden 2024; Bolton 2024). Indigenous worldviews are influenced by the long-term relationships these communities developed with their local environment. Because of this, a strong conservation ethic and long-term planning approach are present in many Indigenous communities. This relationship to land is more permanent and tied to place than that of dominant Western society (Koepke 2024; Schulte 2024). Dr. Charles Barden mentions the following differences in worldviews, broadly, to his graduate students to prime them on what to expect when working on the reservation:

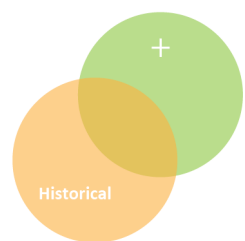
- o Collectivism (i.e., emphasis on cooperation) [Western: individualism]
 - o Concept of time (time as circular, patience, etc.) [Western: time as linear]
 - o Respect with age (i.e., towards elders) [Western: glorification of youth]
 - o Harmony with nature (respecting other members of the natural world as relatives) [Western: human dominion of nature, utilization of natural resources]
- (Barden 2024)

Generally, in Indigenous worldviews, humans are viewed as part of the natural world rather than as separate or placed above it (Willing 2024). John Koepke mentions how, in the Ojibwe creation story, humans are created last and, therefore, thought of as least important. The organisms and entities created before are respected as elders. This contrasts greatly from the human to nature relationship presented in most Western religions (Koepke 2024). José shared a Nahua teaching from his grandmother that parallels this lesson:

“The fundamental lesson she taught me at an early age and just emphasized throughout my life was the importance of respect. And it wasn’t just respect for our people, our family, our community, but it was respect for the land, the plants, the animals, the water. And she really felt that if I could take anything with me in life, that’s the most important one. Just really having that respect and the understanding that all of us have a purpose and also every element in nature has a purpose. It has a spirit and that we’re not above it as people” (Leal 2024). He shares another worldview: **“And we’re not above others. We should always be at an equal level with everybody and be willing to share our gifts with the understanding that others will share back with us”** (Leal 2024).

In other sources, this worldview is referenced as a gift economy (Kimmerer 2013) or the concept of being in reciprocal or “right relations” with other members of the community (Wildcat 2024). Another implication of this worldview is that harvested materials are viewed as gifts from the community rather than natural resources (Bolton 2024; Schulte 2024). And with all gifts, something must be given in return (Blanchard 2024).

Courses can introduce Indigenous worldviews by first getting students to think about their own worldview (Blanchard 2024; Leal 2024; Tatonetti 2024). Students can think critically about how worldviews affect decision-making (Adams 2024) and what Indigenous worldviews could teach the Western world in the face of climate change (Brown 2024; Wildcat 2024). Dr. Blanchard wants students to “recognize that relationship between species, between the physical earth itself, and how much of an impact humans have on that... When you think about landscape and architecture, what are you building and why? And how are you populating that space when you’re putting a footprint that will alter the soil and the environment for years to come? What is that footprint like? What is your relationship at that point? And are you balancing it with measures of sustainability?” (Blanchard 2024) Indigenous worldviews have direct implications on the level that environmental sustainability is valued in those communities (Kindscher 2024). Worldview discussions can deepen conversations about ethics and “help the next generations of Landscape Architects design and create from [a] healing perspective” (Willing 2024). However, when discussing Indigenous worldviews in class, these views should be respected without romanticizing them (Blanchard 2024; Ramey 2024; Tatonetti 2024).



TRADITIONAL ECOLOGICAL KNOWLEDGE (TEK) AND TRADITIONAL ECOLOGICAL PRACTICES (TEP)

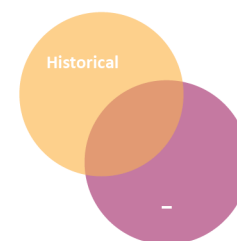
First, Traditional Ecological Knowledge should be recognized as a valid knowledge system (Koepke 2024). Dr. Bolton says students should be introduced to ways First Peoples use and steward the land and examine how those practices compare to the “colonial concept” of landscape architecture. Indigenous stewardship occurs with an awareness that every part of the natural world is living and connected as a system (Bolton 2024; Fragua 2024). In discussions on land, Brett Ramey references the following definition by Sandra Styres: “Land is made up of the nuanced stories and systems of relationships with human and more-than-humans across time, practices, histories, and hopes. It includes all plants, animals, waters, ancestors, and other relations who presently inhabit, who have inhabited, and who will continue to inhabit a place. It refers both to the: (1) Physical geography and (2) Philosophies, the living teachings, affective experience, and ways of being of a place” (Styres 2017). Dr. Blanchard says that understanding how a landscape has transformed over time is important for getting to know the personality of a place (Blanchard 2024). **“A place has a personality; it has characteristics that can be defined. And a place can get sick and be poisoned; a place can heal and nurture. What are the things in that place that have been altered over time with human interaction? How has that influenced, helped, or hindered?”** (Blanchard 2024) Chris Sanders comments on how making these connections is important in landscape architecture: “We learn a lot of history in school about built environments, and we learn a lot of history in school about ecological systems. But we don’t necessarily learn a lot about how humans and natural systems truly interact, and play off each other. Like what is it about the natural systems of Missouri that led the [Osage] to be the way they were when they were on the landscape?” (Sanders 2024)

Courses can increase the visibility of native architecture, ecological practices, and land management (Adams 2024; Blanchard 2024; Brown 2024; Kindscher 2024). There are numerous Indigenous examples relevant to ecological design and construction methods (Bolton 2024; Tatonetti 2024). Traditional Indigenous architecture can be explored regarding materials, spatial arrangement, and building techniques (Bitsie-Baldwin 2024; Blanchard 2024; Sanders 2024). Traditional Ecological Knowledge, regarding harvesting and land management practices, can be explored (Barden 2024; Brown 2024). Students can learn about the seasonal practices of a tribe and how that relates to where they are on the landscape (Sanders 2024). **Dr. Melinda Adams advocates “moving from Traditional Ecological Knowledge to Traditional Ecological Practices because practices invoke or move toward action... Now we need land back, water back, fire back to see these practices played out in the landscape for the betterment of our shared environment in all our communities”** (Adams 2024). Dr. Adams emphasizes that Traditional Ecological Practices were not just aesthetic or spiritual but functional activities for providing food, materials, and medicines (Adams 2024).

The Traditional Ecological Practices of Indigenous communities reflect their understanding of ecology (Blanchard 2024; Brown 2024; Sanders 2024). Students can learn ethnobotanical information of the local tribes they are working with (Kindscher 2024; Sanders 2024). Chris Sanders found on the Tower Grove project that many culturally

important species to the Osage were also recommended native species for high-performance landscapes. He recognized an overlap in the plant selection process, noting the “immense amount of overlap - because those powerful plants have been powerful throughout time. They’re powerful in their native ecosystems, they’re powerful in the tribe, they’re powerful in our modern-day interpretation, and they’re even powerful from a design aesthetic perspective.”

When recognizing the deep ecological knowledge and advanced stewardship practices of Indigenous communities, it should be recognized that colonialism disrupted this knowledge (Adams 2024; Kindscher 2024; Willing 2024). Additionally, it should be recognized that it is not the outside partner’s place to apply this knowledge (Leal 2024). Colonialism resulted in the continued upheaval of these communities through removal, relocation, and forced assimilation. This disrupted the transmission of traditional knowledge and practices, so Indigenous communities must constantly relearn their cultural ways. However, Dr. Adams shares, “My elders would tell me those knowledges aren’t gone; they’re not destroyed. Colonialism didn’t destroy us. They’re just scattered. These knowledge systems are finding their way back to us” (Adams 2024). However, discussions of Indigenous Knowledge in landscape architecture should not focus on applying this knowledge but on being aware of it. **José urges “that it’s not our knowledge to apply, and yes, we can learn it. It can help guide us. But when it comes down to it, we should be able to reach out to these individuals, to these tribes, these cultural keepers and make sure we bring them on and reconnect them, so they can apply this knowledge”** (Leal 2024).



HISTORY

When considering how to represent Indigenous narratives in landscape architecture history, one must begin by recognizing that the ideas related to landscape architecture are not new (Bolton 2024). People have been interacting and altering the landscape since time immemorial. One way this can be understood is by looking at the historical practices of Indigenous Peoples on the landscape (Adams 2024; Bolton 2024; Leal 2024). Courses can shine light on different Tribal Nations, where they lived before European settlement, what their traditional practices and landscapes were like, and how colonization uprooted their ways (Schulte 2024).

When discussing Indigenous Peoples’ history on the landscape, one must discuss what disrupted that story: colonization. Land consumption by colonizers had an irreversible effect on the American landscape and its Indigenous communities (Blanchard 2024; Fragua 2024). History books written from a colonial lens often dilute the truth about what happened to Indigenous peoples during colonization (Bolton 2024). Even basics like first contact are generalized. For example, various New World Indigenous Peoples had first contact with different European nations (i.e. French, Spanish, English, etc.), but first contact is often generalized to Columbus (Leal 2024). Students should “understand the histories of the diversity that exists within Indigenous People” (Leal 2024). Tertiary education needs to help mend the knowledge gap many students come in with from

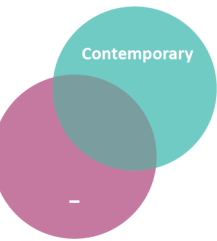
their K-12 curriculum. Students should be educated on the major events and injustices tied to Indigenous Peoples and the American landscape (Koepke 2024; Kindscher 2024). Interviewees mentioned the following as a starting point:

- o 1819 and 1830 Indian Civilization Acts (Bolton 2024)
- o 1851 Reservation Act (Bolton 2024)
- o 1887 The Dawes Act (Schulte 2024)
- o Missionaries and Boarding Schools (Adams 2024; Bolton 2024; Koepke 2024)

Students should be aware of author bias when reading historical sources. Some colonial anthropologists’ written interpretations of Indigenous Peoples were inaccurate, held racist assumptions, and led to the continued “minoritization” of Indigenous peoples (Bolton 2024). Dr. Bolton uses the verb “minoritize,” as opposed to the noun “minority,” to highlight the active oppression of other cultures by the dominant society. Courses should recognize this history (Bolton 2024).

Students should be made aware of the brutality and violence of these events (Fragua 2024), while also taking time to highlight “moments of joy” and the good Indigenous people are doing (Adams 2024). Indigenous histories should not be confined to damage-centric narratives (Adams 2024; Hayman 2024; Leal 2024). José mentions, “when I was young, taking my first landscape architecture history class, I was kind of blown away that no one mentioned any of the work my people had ever done in South America or even the Pueblos in the US. And I think it kind of made me feel invisible, made me feel like our accomplishments weren’t as great as those of Olmstead and others. And I think if we wish to diversify our profession, we need to start talking about things that make people like me feel welcomed [and] that make people like me feel proud about my cultures. And the history part really helps illustrate that,” (Leal 2024). (See Part I: Connections & Content for resources on Indigenous design and landscape stewardship.)

A noted constraint is that **Indigenous histories are too complex to fully cover as an add-on to any class.** Nathaniel Willing advocates that a dedicated Indigenous course should be required in landscape architecture programs (Willing 2024). When incorporated within an existing course, though, the presented histories could concentrate on a specific area or offer a broad overview to provide landscape architecture students with a basic understanding (Blanchard 2024; Schulte 2024).



CONTEMPORARY ISSUES

Narratives should not be limited to the past. Indigenous Peoples need to be discussed in the present (Adams 2024; Kindscher 2024; Ramey 2024). Students should gain a general understanding of Indigenous Nations and the overarching contemporary issues of these communities. Designers need to have a baseline of the issues that the communities they work with are facing (Brown 2024).

Teaching should begin by recognizing that Indigenous Nations are sovereign (Koepke 2024). Professors are responsible for acknowledging whose traditional lands students are

studying or working on (Tatonetti 2024). With this awareness established, courses can explore the following:

- o Tribal sovereignty and authority (Barden 2024)
 - » Leadership roles – Understand the difference between the tribal council, chairperson/principal chief, etc.
- o Tribal governance structures (Kaul 2024)
 - » Government funding structures – For example, Tribal Nations use for-profit enterprises instead of tax collection (Barden 2024)
 - » Politics – election of the tribal council and volatility of politics (Barden 2024)
- o The complexity of federal recognition (Adams 2024) - As a local example, Brett Ramey mentioned how the Kaw, Osage, Shawnee, and Delaware do not have a federally recognized presence in Kansas (Ramey 2024)
- o Laws related to Indigenous people’s rights and holdings (including treaty rights; Kaul 2024)
 - » The structural racism embedded in some of these laws and systems (Leal 2024)
- o What federal, state, and tribal agencies are doing to address contemporary issues (Kaul 2024)
 - » How historical events (including land loss, removal, genocidal trauma, etc.) have led to the contemporary issues in Indigenous communities today (i.e., loss of language, traditional foodways, access to traditional lands, etc.; Leal 2024)

Discussions can delve into points of tension between U.S. and Tribal governments (Barden 2024). John Koepke notes how a Western “greed-based economy” contrasts with an Indigenous “nature-based economy” (Koepke 2024). Dr. Paulette Blanchard mentions examining the design of the “settler-colonial system” and the faults of a “capitalist consumption society” (Blanchard 2024). Exploring these ideas broadly can give students an opportunity to reflect on the society they are coming from.

Bringing in speakers, attending local events, and visiting related project sites can organically introduce students to the contemporary issues of these communities (Bitsie Baldwin 2024; Tatonetti 2024; Schulte 2024). Scott Schulte says it boils down to “getting to know people as people” (Schulte 2024). Having an opportunity to work with and engage people from these communities provides an education in itself (Schulte 2024; Hayman 2024).

Courses can elevate and spread awareness of the work tribal programs and native scholars are doing (Blanchard 2024; Hayman 2024). Dr Jann Hayman mentioned the numerous efforts her department is making to address food sovereignty in Osage Nation. Her department engages students in these efforts. Oklahoma State University students from multiple disciplines have come to work on relevant capstone projects and to tour food-processing facilities (Hayman 2024). Opportunities to bring the classroom into the real world are important when understanding contemporary issues.

RECOMMENDED RESOURCES

TOPIC CATEGORIES	TYPE	AUTHOR	TRIBAL AFFILIATION	DATE	TITLE	LINK(S)	SUGGESTED BY
Education	Book	Champagne, Duane (Editor)	Turtle Mountain Band of Chippewa	2002	Native American Studies in Higher Education: Models for Collaboration between Universities and Indigenous Nations		Koepke
		Stauss, Jay (Editor)	Jamestown S’Klallam				
Education	Book	Deloria Jr., Vine	Standing Rock Sioux	2001	Power and Place: Indian Education in America		Koepke
		Wildcat, Daniel	Yuchi member of the Muscogee Nation of Oklahoma				
Education	Course example	University of Toronto	n/a	2021	Design Studio 2: Site, Matter, Ecology, and Indigenous Storywork	https://www.daniels.utoronto.ca/news/thu-feb-9-2023-all-day/architecture-course-highlighting-indigenous-storywork-recognized-acsa	Koepke
Education	Outreach program example	University of Toronto	n/a	n/a	Nikibii Dawadinna Giigwag	https://www.daniels.utoronto.ca/news/mon-sep-20-2021-12am/inside-nikibii-dawadinna-giigwag-program-connects-indigenous-youth	Koepke
Education	Lesson plans	Assembly of First Nations	n/a	n/a	The Assembly of First Nations (AFN) Education Toolkit	https://education.afn.ca/afntoolkit/	Koepke
Education	Course Example	Haskell Indian Nations University and Kansas University	n/a	n/a	Environmental Issues of the Wakarusa Wetlands		Kindscher
Education	Outreach program example	Haskell Indian Nations University and Kansas University	n/a	n/a	Haskell-KU Bridges to the baccalaureate Program	https://bridge.ku.edu/	Kindscher
Education	Professional Development, lesson plans	National Museum of the American Indian		n/a	Smithsonian Native Knowledge 360 program	https://americanindian.si.edu/nk360/	Tatonetti
Education	Book	Younging, Gregory	Opaskwayak Cree Nation	2018	Elements of Indigenous Style: A Guide for Writing By and About Indigenous Peoples		Tatonetti
Education	Book	Sandra Styres	Kanien’kehá:ka (Mohawk)	2017	Pathways for Remembering and Recognizing Indigenous Thought in Education: Philosophies of Iethi’nihstenha Ohwentsia’kekha (Land)		Ramey
Education	Course examples	University of New Mexico	n/a	n/a	Indigenous Design and Planning Institute (iD+Pi)		Schulte
Professional Development	Professional Society, Conference	n/a	n/a	n/a	Institute for Tribal Environmental Professionals	https://www7.nau.edu/itep/main/Home/	Schulte
Miscellaneous	Book	Treuer, Anton	Ojibwe	2012	Everything You Wanted to Know About Indians But Were Afraid to Ask Paperback		Koepke

RECOMMENDED RESOURCES (CONT.)

TOPIC CATEGORIES	TYPE	AUTHOR	TRIBAL AFFILIATION	DATE	TITLE	LINK(S)	SUGGESTED BY
Contemporary Issues	Newscast	n/a	n/a	n/a	Indian Country Today News	https://ictnews.org/	Bolton
Contemporary Issues	Website	Elkin, Rosetta S.	n/a		Landscapes of Retreat	https://landscapesofretreat.com/	Koepke
Contemporary Issues	Website	n/a	n/a	1944	National Congress of American Indians (NCAI)	https://www.ncai.org/	Fragua
Contemporary Issues, Design	Book	Joy Monice Malnar	n/a	2013	New Architecture on Indigenous Lands		West
		Frank Vodvarka	n/a				
Contemporary Issues, History	Museum, design precedent, educator trainings	N/A	N/A	N/A	First Americans Museum, Oklahoma City, OK	https://famok.org/	Bitsie-Baldwin, Tatonetti
History	Book	Catton, Theodore	n/a	2016	American Indians and the National Forests		Bolton
History	Book and Video	Diamonds, Jared	n/a	1999	Guns, Germs, and Steel: The Fates of Human Societies		Bolton
History	Book	Mann, Charles	n/a	2005	1491		Koepke
History	Book	Treuer, David	Ojibwe	2019	The Heartbeat of Wounded Knee: Native America from 1890 to the Present		Koepke
History	Book	Deloria Jr., Vine	Standing Rock Sioux	1969	Custer Died for Your Sins: An Indian Manifesto		Koepke
History	Book	Gwen Westerman	enrolled member of the Sisseton-Wahpeton Dakota Oyate	2012	Mni Sota Makoce: The Land of the Dakota		Koepke
		Bruce White	n/a				
History	Book	Oren Lyons (Editor)	Onondaga and Seneca Nations member of the Haudenosaunee (Iroquois) Confederacy	1998	Exiled in the Land of the Free: Democracy, Indian Nations & the U.S. Constitution		Fragua
		John Mohawk (Editor)	Turtle Clan of the Seneca Nation of the Haudenosaunee (Iroquois) Confederacy				
History	Book	Patricia Nelson Limerick	n/a	1987	The Legacy of Conquest: The Unbroken Past of the American West		Fragua
History, TEK	Book	Mark Dowie	n/a	2009	Conservation Refugees: The Hundred-Year Conflict Between Global Conservation and Native Peoples		Fragua

RECOMMENDED RESOURCES (CONT.)

TOPIC CATEGORIES	TYPE	AUTHOR	TRIBAL AFFILIATION	DATE	TITLE	LINK(S)	SUGGESTED BY
History, TEK	Book	Cronin, William	n/a	1983	Changes in the Land: Indians, Colonists, and the Ecology of New England		Koepke
TEK, Contemporary Issues	Book	Ferin Davis Anderson	enrolled citizen of the Turtle Mountain Band of Chippewa/Ojibwe/Anishinaabe/Mitchifs in North Dakota	2024	Wildfire: The Culture, Science, and Future of Fire		Fragua
		Stephanie Sammartino McPherson	n/a				
TEK, Worldviews	Book	Kimmerer, Robin Wall	Citizen Potawatomi Nation	2013	Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants		Koepke, Bolton, Kindscher
Worldviews	Book	Deloria Jr., Vine	Standing Rock Sioux	2003	God Is Red: A Native View of Religion		Koepke
Worldviews	Fiction Book	Silko, Leslie Marmon	Laguna Pueblo	2006	Ceremony		Koepke
Worldviews	Fiction Book	Orange, Tommy	nrolled member of the Cheyenne and Arapaho Tribes of Oklahoma	2018	There, There		Koepke
Worldviews, Contemporary Issues, History	Book	Champagne, Duane	Turtle Mountain Band of Chippewa	1994	Native America: Portrait of the Peoples		Koepke

Table 3.1 Reccomended Resources
A compilation of resources recommended in the interviews and survey responses.

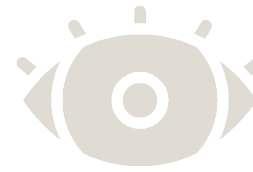
EFFECTIVE EDUCATIONAL APPROACHES AND STRATEGIES

It is important to set intentions before presenting Indigenous narratives. Dr. Lisa Tatonetti and Dr. Kelly Kindscher teach Indigenous Literatures and Ethnobotany, respectively. In the first class, each sets intentions to honor and understand the information presented. They recognize that they come from a non-native perspective and may not get everything right. Students are encouraged to correct them and share their own information (Kindscher 2024; Tatonetti 2024). It is not wise or right to approach the subject as if you have all the answers (Brown 2024). John Koepke, an Indigenous professor emeritus, began his design courses with a land acknowledgment and then outlined how the course would address injustices related to that land acknowledgment (Koepke 2024).

Create comfortable opportunities for people to reflect, learn, and share (Kindscher 2024). If a class includes Indigenous students or guests, make space for these individuals to share homeland histories if they would like. This practice should extend to other underrepresented communities as well (Adams 2024; Leal 2024). **Since the ideas presented may challenge some students' worldviews, John Koepke suggests using methods where you can "challenge somebody's way of thinking in a non-confrontational way"** (Koepke 2024). While students should feel that they are in a safe space, José de Jesús Leal notes that "being uncomfortable at times really does help us re-evaluate ourselves [and] where we're headed – especially when we're young in the profession" (Leal 2024). With readings, for example, **students "can choose whether to believe [the presented concepts] or not, accept it or not, but you've opened the door to a different way of thinking and seeing the world which broadens [their] perspective"** (Koepke 2024). In her human geography class, Dr. Blanchard asks her students what spaces they consider sacred in their hometown. This question helps students consider relationships to place and what makes a place worth saving (Blanchard 2024). Getting students to look inward first can prime them to look outward with an open mind.

The goal of incorporating Indigenous narratives into curriculum is to provide students with awareness of Indigenous communities. Dr. Blanchard notes that there is no way to neatly package or give someone cultural competency (Blanchard 2024). Instead, information should be presented to allow students to make connections and "plant the seed in their mind as they're going out in the world" (Ramey 2024). **As John Koepke says, "I think profound learning [comes when] you have to discover something yourself as opposed to me just lecturing and telling you this"** (Koepke 2024). Additionally, it is not just about the what but the how information is taught. Faculty should explore how Indigenous pedagogies could be applied when incorporating Indigenous narratives (Ramey 2024). Suggested formats are discussed in more detail below and grouped into the following categories: witnessing, absorbing, responding, and collaborating.

Witnessing strategies provide students with experiences of the Peoples or places being discussed (including guest lectures, community events, field experiences, and field trips). Absorbing strategies are focused on presenting new material or sources in the classroom (including dedicated lectures, readings, and research papers). Responding strategies allow students to reflect on and discuss the ideas presented (including class discussions, student presentations, and reflective essays). Collaborating strategies apply awareness to projects by actively working with Indigenous communities (via group projects, studio projects, and collaborative research).



WITNESSING

All interviewees underlined the importance of directly hearing from and interacting with people from the Indigenous communities being discussed (Adams 2024; Barden 2024; Bitsie-Baldwin 2024; Blanchard 2024; Bolton 2024; Brown 2024; Hayman 2024; Kaul 2024; Kindscher 2024; Koepke 2024; Leal 2024; Ramey 2024; Sanders 2024; Schulte 2024; Tatonetti 2024). **Dr. Hayman expressed that "seeing things on paper or in a presentation is a lot different that actually seeing a person; the opportunity to engage that person I think is meaningful"** (Hayman 2024). Chris Sanders said, "hearing it straight from the mouth of the people is the best way to understand" (Sanders 2024). Therefore, witnessing Peoples and place offers impactful learning.

By far, the most recommended educational strategy was guest lecturers (Adams 2024; Bitsie-Baldwin 2024; Blanchard 2024; Brown 2024; Hayman 2024; Kaul 2024; Kindscher 2024; Koepke 2024; Sanders 2024; Schulte 2024). For example, a University of Nebraska studio that José co-taught brought in Ted Hibbeler, Tribal Extension Educator Rosebud Sioux Nation (Sicangu Lakota Oyate) to offer an introduction to Tribal engagement over three class periods (Leal 2024). When choosing guests, reach out to do some research to find someone whose work connects with the class and is engaging (Kindscher 2024). Rethink what an expert is; a community member can be a valuable lecturer, regardless of degree level (Adams 2024). **Dr. Blanchard says to find "the people that are out there doing the work you're interested in and elevating them, elevating their knowledge, elevating their experience because they are the one that did the work that you're talking about"** (Blanchard 2024). José continues, "[in the real world,] we build these connections, and we need to bring in those cultural keepers, cultural liaisons. So why not start doing that as part of a class?" (Leal 2024)

It is important to be respectful when inviting guests. Prepare guest lecturers by informing them of the audience they will be speaking to (Hayman 2024). Compensate guest lecturers; their participation costs them time and effort (Adams 2024; Bitsie-Baldwin 2024; Bolton 2024; compensation is discussed further under "Important Considerations for Professors"). Be conscious that invited guests may be inundated with these requests, so instead of inviting them to you, look for opportunities to go to them (Bitsie-Baldwin 2024; Bolton 2024; Tatonetti 2024). Hearing talks hosted by Indigenous organizations on campus or attending community events open to the public can provide students with a direct experience without overworking Indigenous professionals (Bitsie-Baldwin 2024).

Suggestions were also made to witness place. Field trips could take students to sites designed for Indigenous communities and/or led by Indigenous practitioners (Tatonetti 2024). For example, LaVerne Bitsie-Baldwin is planning a field trip for engineering students to visit the First Americans Museum in Oklahoma City (Bitsie-Baldwin 2024). The class can read about the sites beforehand and connect it to principles they are learning in class (Bitsie-Baldwin 2024; Tatonetti 2024).

Beyond field trips to famous design works, witnessing places also entails field experiences. Getting students out on the land and experiencing the ecosystems around them provides lessons that cannot be learned in the classroom (Adams 2024; Barden

2024; Kindscher 2024; Ramey 2024; Wildcat 2023, p. 108). **Ramey challenges, “To what extent can the teaching of land be possible inside a building?”** (Ramey 2024). He says lessons “can be augmented by books, augmented by lectures, by videos, but it’s not real until you’re actually out on the ground and seeing a physical place with your own eyes and touching it and smelling it and feeling it” (Ramey 2024).

Dr. Adams says to take advantage of the natural areas around you, mentioning that Konza Prairie is a great teaching resource in Kansas State University’s backyard (Adams 2024). **Dr. Barden views fieldwork as a “great equalizer.”** Students from diverse backgrounds work together in the field, providing common experiences that bond the group (Barden 2024). If fieldwork is not possible, a field trip to a partnered Nation can be a beneficial experience. Students could have an opportunity “to visit the reservation and look at conservation projects and spend a day with [the community]” (Barden 2024). Dr. Kindscher points out that class times can constrain which sites are feasible to visit within the class period. However, longer class blocks or summer courses can offer more flexibility (Kindscher 2024). Regarding physical accessibility issues, think about how land could be brought to the student (i.e., looking at physical leaves or cuttings), as no one should be excluded from having these experiences (Ramey 2024).



ABSORBING

Many interviewees also mentioned connecting students to sources and information (Bitsie-Baldwin 2024; Blanchard 2024; Hayman 2024; Kindscher 2024; Koepke 2024; Schulte 2024). A dedicated lecture or module on relevant Indigenous work can help make students aware of the scholars and sources associated with the subject (Hayman 2024). Tatonetti mentions that case studies would be relevant for landscape architecture students and could examine local or regional examples like the Sacred Red Rock Project or the First Americans Museum (Tatonetti 2024).

One of the most straightforward strategies is assigning students readings by Indigenous scholars (Bitsie-Baldwin 2024; Schulte 2024). This ties back into Dr. Blanchard’s point of elevating Indigenous individuals that are doing the work (Blanchard 2024). A department could establish a common book, theme, or project that highlights Indigenous communities or scholarship to foster easy entry into this initiative. This method provides faculty with a resource that can be directly pulled into classes (Kindscher 2024).

In addition to readings, research papers are a wonderful way to get students to explore sources (Blanchard 2024; Kindscher 2024). Dr. Kindscher shares that giving students the freedom to select a topic under an umbrella theme can be helpful. This can give Indigenous students a chance to share personal insight if they would like (Kindscher 2024).



RESPONDING

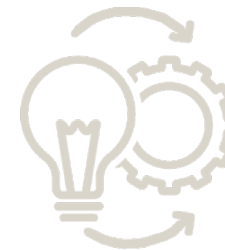
To cultivate profound learning, students should interact with and ponder the presented information (Koepke 2024). Brett Ramey says to “find ways within [learning] to not always just be unidirectional. How can people also contribute in addition to receiving?” (Ramey 2024) Self-reflection gives students an opportunity to build empathy (Leal 2024).

Responding strategies include having students write or speak on topics in private reflection or public discussion.

Private reflection helps students clarify their thoughts before sharing (Koepke 2024). José de Jesús Leal says self-evaluation can get students to “start rethinking where their values come from... And it also helps [students] understand that maybe [their] values don’t apply to everybody” (Leal 2024). Reflective listening and writing can be encouraged through reflective essays that correspond to a given lecture or reading (Blanchard 2024; Koepke 2024).

Class presentations can then give students a formal opportunity to share what they learned. A less formal format is a seminar discussion, pairing assigned readings with open dialogue (Koepke 2024). Having both large and small group discussions can encourage more students to share their thoughts (Kindscher 2024). This ties back to Brett Ramey’s reference to collective learning: Corn is planted in mounds, not rows. Similarly, learning in groups versus lectures fosters a different form of learning (Ramey 2024).

When using responding strategies, students should never be asked to share something about their culture on the spot. This can create an uncomfortable learning environment. Instead, students should be given ample time and space to prepare to share their thoughts so that they can reflect on what they feel comfortable sharing (Kindscher 2024).



COLLABORATING

Collaborating strategies can provide good capstones to learning involving Indigenous narratives. Collaborating strategies are project-based and challenge students to apply what they have learned to complex problems that give returns to the community partners. Collaborating strategies include group projects, studio projects, and collaborative research.

Group projects can place students in a different dynamic for sharing ideas. For Indigenous students, peer-to-peer group environments may be more comfortable for sharing personal experiences than in class settings with a professor-to-student dynamic. **The aim is always to “empower the students to speak or share” (Kindscher 2024).**

Dr. Kindscher references a crossover course that included Kansas University and Haskell Indian Nations University students. The course was titled *Environmental Issues of the Wakarusa Wetlands* and was co-taught by KU and Haskell faculty. In the course, KU and Haskell students paired up to complete a project. **Dr. Kindscher says, “If there are opportunities to pair, it’s a really wonderful thing. I think there’s much more comfort, then, in native students in the class and [their] learning, and its eye-opening for both sets of students”** (Kindscher 2024). Dr. Barden also uses group work to facilitate cultural exchange. When arranging groups for fieldwork, Dr. Barden cross-trains everyone on field techniques. Then, he mixes groups by every factor (i.e., age, race, education level, gender, etc.), rearranging groups each day. He finds this helps the cohort collectively bond throughout the process rather than self-organizing into cliques (Barden 2024).

In design programs, studio projects offer another format for applying knowledge to complex issues (Hayman 2024; Koepke 2024; Sanders 2024; Schulte 2024). Dr. Jann Hayman offers one studio project idea where Indigenous students and non-Indigenous students could partner up to create designs influenced by traditional designs (Hayman 2024). **She says to think of ways of “empowering the native - if there are native students - to build off what they know and collaborate with non-native students”** (Hayman 2024). Again, this goes back to crafting comfortable environments for embracing individual experiences (Kindscher 2024).

Relevant studio projects could also directly engage with Indigenous communities (Koepke 2024). José suggests working directly with an Indigenous organization on a project that is relevant to them (Leal 2024). Audrey West mentions, “Faculty should invite Native American architects and landscape architects to help identify potential studios that would introduce students to working with indigenous communities, similar to other international studios” (West 2024). Working directly with Indigenous communities will make the studio a more powerful learning experience (Sanders 2024). Engagement can entail students hearing directly from community members and/or getting critiques from Indigenous designers or mentors (Schulte 2024). When preparing to work with an Indigenous community, Koepke had his students read pieces on the history of U.S. federal and tribal relationships, legal documents (i.e., treaties, laws/policies), and cultural information pertaining to the tribe the studio is working with (Koepke 2024).

Tatonetti notes that any large project needs to include some consultation (Tatonetti 2024). Dr. Bolton summarizes this by saying, “Nothing for us, without us” (Bolton 2024). The Indigenous community should propose the problem, question, or project. Dr. Adams says to move “away from doing research on or in Indigenous communities to doing research with, by, or for our communities” (Adams 2024). Collaborative research and project work can then collect data and produce outcomes relevant to the community (Brown 2024). This ties back into relevancy and reciprocity, discussed in “Lessons for Successful Long-term Partnerships.”



LAYERING EDUCATIONAL STRATEGIES

“It’s about accretion, accumulation of knowledge. It’s not a one-and-done thing.” (Tatonetti 2024)

The complexity of Indigenous narratives cannot be authentically captured in a single assigned reading, lecture, or project. Assignments have compound effects when they build off each other. Sanders notes that everyone learns differently (Sanders 2024), so

Dr. Kindscher suggests presenting information in **“different formats for different ways of understanding”** (Kindscher 2024). As an example of layering educational strategies, Dr. Lisa Tatonetti outlines a sequence of assignments for her Indigenous Literatures and Film course:

8. Read a chapter of Ron Park’s *The Darkest Period* - The book, which focuses on a period of Kaw history, was chosen by Tatonetti because it educates students on the original inhabitants of K-State’s land (the Kaw Nation) and includes local place names that are recognizable to students.
9. Watch a video from the Sacred Red Rock project – The video includes Kaw elders discussing the significance of the Sacred Red Rock and showing Indigenous people in the present day. This is important for breaking assumptions that often relegate Indigenous Peoples to the past.
10. Complete a final project—The project includes a presentation and reflection on what was learned, with opportunities to review with the professor. Opportunities to apply knowledge and refine its expression help cement learning.

With Dr. Tatonetti’s example, she covers material that transcends historical and contemporary times while including both negative and positive periods of Indigenous Peoples’ stories. By layering assignments and strategies, a more representative narrative is presented. Templates like Dr. Tatonetti’s are helpful in creating a starting point for faculty. Over time, faculty will identify more sources and build a network of relationships that will inform their curriculum (Schulte 2024).



APPROACHES TO AVOID

Interviewees were also asked about what educational strategies should be avoided. Laverne Bitsie-Baldwin warns that a bit of knowledge can be dangerous. She explains, **“A good activity would be to watch a tepee being put up...But an inappropriate activity would be to try to make one yourself”** (Bitsie-Baldwin 2024). Indigenous practices have attached cultural significance that goes deeper than the surface level. When informing students of Indigenous practices, the cultural component may not be fully understood by outside parties (Bitsie-Baldwin; Kindscher 2024; Leal 2024). Therefore, designers should be cautious of abstracting Indigenous patterns or practices in their work as there is a substantial risk of misinterpretation. Instead, designers should understand “the nuances of what connects people to the land and really emphasize those” (Leal 2024). For example, José and his team emphasized sacred sightlines in a Master Plan for an Indigenous community that had a strong connection to a nearby mountain (Leal 2024). This design provided opportunities for the community to connect to something of cultural significance without attempting to interpret that significance for them.

Be careful to not romanticize Indigenous Knowledge (Blanchard 2024; Ramey 2024). Dr. Blanchard says, “Avoid fetishizing or romanticizing or letting people think that we have some kind of magic that is going to save the world. Because the reality is it’s just common sense” (Blanchard 2024). Instead, Indigenous Knowledge should be respected as a reputable knowledge source. This acknowledges the challenging work it took for these communities to gather and maintain their knowledge, recognizing their agency.

As mentioned under “Responding Strategies,” Dr. Kindscher advises against asking Indigenous students (or any student) to share something about their culture without giving them the space to prepare. It is important to make all students comfortable, and asking personal questions like that can make students feel as if they are under interrogation or an unwanted spotlight (Kindscher 2024). In general, it helps to have an Indigenous partner or consultant to help avoid mistakes (Koepke 2024).

IMPORTANT CONSIDERATIONS FOR PROFESSORS

Interviewees were asked what important factors faculty should consider when incorporating Indigenous narratives, especially if they come from a non-native background. Many responses overlap with points raised in “Lessons for Successful Long-term Partnerships,” the opening section of the interview synthesis. Faculty should refer to both that section and the following. Overarching themes regarding important considerations include educating and humbling oneself, ensuring reciprocal relations, amplifying native voices, negotiating and addressing mistakes, and being an ally.

EDUCATE AND HUMBLE YOURSELF

A theme in the responses was the importance of educating and humbling oneself as a non-native educator embarking on this effort. Dr. Debra Bolton says, “There is nothing minor about our identities.” Similarly, “We are not minorities” was a tenet laid out by the Indigenous Design and Planning Institute at the University of New Mexico. Both point out that Indigenous communities, their worldviews, and practices do not sit within the bubble of dominant Western culture. It inhabits its own realm. When working with Native Nations, non-native educators enter a realm where Indigenous views are the predominant view (ASLA 2020). **Audrey West writes, “It’s called Indian Country for a reason... You wouldn’t ask someone in France to run their government agencies the same way we do; you accept that things are different in another country, and it works for them. You figure out how to work with their system of doing things”** (West 2024). There is much to learn when navigating this as an outsider.

Professors should be humble in all they do not know (Kindscher 2024). **Dr. Debra Bolton points out that one who is not Indigenous should not “promote themselves as [an] expert in all things Native American... They may have studied it, but they never lived it”** (Bolton 2024). As John Koepke says, “The hard thing about working with Indigenous communities is [that] you have to understand their spirituality and maybe, as a landscape architect, learn from that and take some of that into your own approach” (Koepke 2024). The cultural context of practices can be challenging to grasp as an outsider, so be humble in all you do not know (Kindscher 2024). Non-native educators should embrace the fact that they are learning with their students.

With this acknowledgment of limited understanding, non-native educators should identify themselves as settler scholars. There have been problems of individuals, known as “pretendians,” falsely claiming an Indigenous heritage to legitimize or promote their work (Blanchard 2024; Bolton 2024; Koepke 2024). Others have appropriated knowledge to better their career or community without a return to the owners of that knowledge (Blanchard 2024). Instead, non-native faculty should educate themselves on the work already being done in these communities. As Dr. Blanchard says, “[Educate] yourself on what’s already out there... you’re not reinventing the wheel” (Blanchard 2024). Having an Indigenous person involved in all your teaching is important in this regard (Bolton 2024; Koepke 2024). An Indigenous collaborator or consultant can point you in the right direction (Adams 2024). When establishing these relationships, **“Be patient, be available, reach out” (Kindscher 2024)**. Not everyone will be willing to talk with you. Relationships take time to build, and with a lack of trust, it can take longer (Blanchard 2024; Kindscher 2024).

RECIPROCAL RELATIONS

Reciprocity should always be a core value when weaving Indigenous narratives into curriculum (Adams 2024; Bolton 2024; Blanchard 2024). **As Dr. Blanchard says, “You are asking the elder to share, to give something. Well, what are you giving in return?”** (Blanchard 2024) It always goes back to reciprocity. In an interview with John Koepke in the project *Landscapes of Retreat*, he goes back to this reflective sentiment: “Before our conversation, I thought to myself: I must make sure that I am representing an Indigenous viewpoint and doing so in a way that is not offensive to Native people, but that also hopefully brings insight for whoever our audience is going to be. In other words, how can I offer a little tobacco?” (Elkin 2022). Dr. Barden says to learn from the Nation you are working with and incorporate elements that the Nation values into the project (Barden 2024). Weaving Indigenous narratives into curriculum should be an act that moves towards reciprocity and building relationships.

Faculty should make sure to have meaningful and appropriate compensation when inviting people in to speak or collaborate “because [Indigenous partners] work really hard to educate the dominant population on what its leaders chose to exclude” (Bolton 2024). As Dr. Melinda Adams explains, “in our communities, we are about offerings; when I go visit elders, I never come empty handed” (Adams 2024). LaVerne Bitsie-Baldwin sponsors travel and honorariums for those she invites to contribute to her programs (Bitsie-Baldwin 2024). Honorariums can take many forms, including providing monetary compensation (i.e., ex-gratia payment, meal, gas card), producing a result that is helpful to the community, and/or amplifying the partner’s work in some way (i.e., an opportunity to publish, name included on syllabus, etc.; Adams 2024). In any case, non-native educators should **“seek to uplift and compensate faculty for their expertise and access to information... otherwise, it’s invisible labor” (Adams 2024).** Indigenous faculty are often inundated with requests to participate in projects or give presentations, but these efforts can go unnoticed regarding tenure or other promotions (Adams 2024). Non-native educators need to recognize collaborator’s efforts formally.

AMPLIFY NATIVE VOICES

Indigenous narratives are best told by Indigenous Peoples themselves. Therefore, incorporating Indigenous narratives into curriculum should be about amplifying Native voices (Adams 2024; Blanchard 2024; Koepke 2024) “as opposed to trying to speak for them” (Koepke 2024).

“You better be citing native scholars,” says Dr. Paulette Blanchard (2024). Faculty should do their research to find Native scholars, organizations, and programs to reference (Bitsie-Baldwin 2024; Blanchard 2024; Hayman 2024). While Dr. Blanchard mentioned there is not a clearinghouse for native scholarship, there is a lot of work out there (Blanchard 2024). LaVerne Bitsie-Baldwin suggests thinking beyond journals too. Subscribe to newsletters from Indigenous organizations or cultural centers. These sources can then lead you to journal articles (Bitsie-Baldwin 2024). Because of the conflict between individualism in academia and collectivism in Indigenous cultures, Native scholars are sometimes not elevated (Blanchard 2024). Faculty looking to incorporate Indigenous narratives have an opportunity and responsibility to amplify Native voices.

NEGOTIATING AND ADDRESS MISTAKES

When working on projects with Indigenous partners, be ready to negotiate with Tribal and non-Tribal partners. Politics goes both ways. Dr. Barden mentioned how, when discussing a stream bank stabilization project with the tribal council, the Nation wanted all Indigenous students hired, while the university system was set up to hire only Kansas State University students. Dr. Barden advocated for the team to consist of Indigenous students from Haskell and non-Indigenous students from K-State. The council agreed and the university system adjusted. The project benefitted from students’ diverse backgrounds and skills, and the students benefitted from the cultural exchange experience.

In relationships, mistakes are made. It is how those mistakes are reconciled that determines the long-term relationship. **Lisa Tatonetti shares, “as a non-native person, especially doing this work, you have to be ready to be wrong because you will.”** She advises walking carefully, doing your best, and reconciling after a misstep (Tatonetti 2024).

When reconciling, own up to the mistake, apologize profusely, and most importantly, seek to make up for it. Understand that the process is uncomfortable and that there may be anger or harsh words. When promises are made but not met, it can impact the Indigenous party’s sense of your integrity (Tatonetti 2024). Reconciling takes time, and the collaboration may be paused while the relationship is healed (Barden 2024). Sometimes, it may be necessary to ask a Native consultant who is “culturally connected,” to help make amends. Keeping promises and reconciling are important to build caring and resilient relationships with communities (Tatonetti 2024).

BE AN ALLY

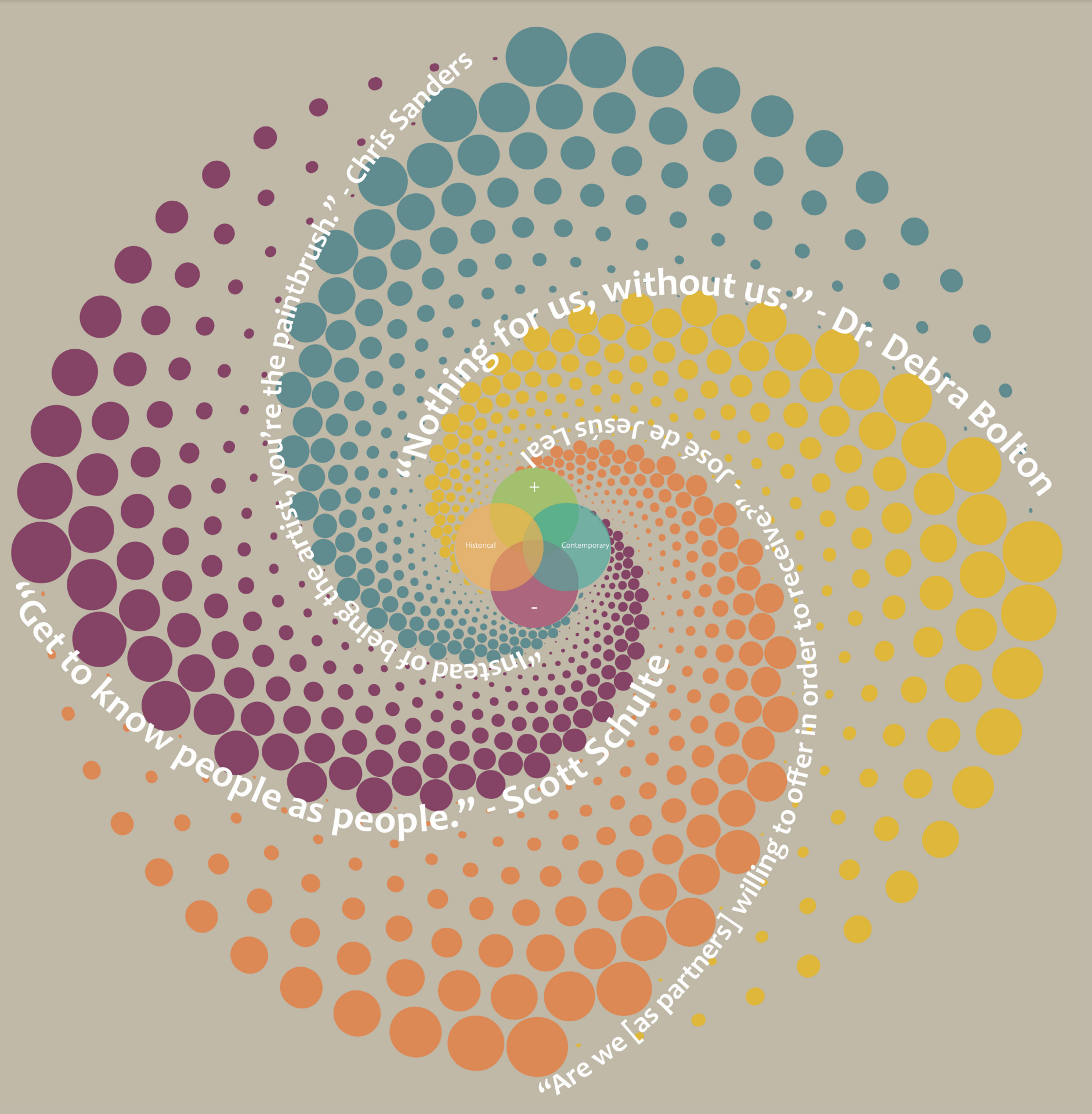
Finally, be an ally. Know what allyship means (Blanchard 2024). As John Koepke said about relationships, Dr. Blanchard said about allyship: It is a long journey, not confined to a single project (Blanchard 2024; Koepke 2024). Allyship is not a checkbox. Dr. Blanchard (2024) says, “you just can’t throw confetti and expect the party to be perfect. It really is a balance of educating yourself first and foremost, learning what allyship means, and how that looks for you.” Dr. Kindscher says to advocate for Indigenous representation in the department and university (Kindscher 2024). Diversity, equity, and inclusion need to be addressed beyond the bounds of a singular classroom. **Dr. Adams (2024) says, “We’re big fans of people that keep coming back, building that relationship.”**

CONCLUDING THOUGHTS

While there is much to consider when looking to incorporate Indigenous narratives into landscape architecture curriculum, there is room for programs to embrace Indigenous narratives without appropriation (Blanchard 2024). Dr. Blanchard (2024) says, “There [are] all kinds of [ecologically friendly practices] that can be done that are [not] just native thinking, not necessarily culturally specific. So **there [is] plenty of room for the industry or the discipline to grow and to learn.**” Chris Sanders (2024) says, “I think as a profession we are positioned in a very unique spot to leverage a lot of different elements into our designs that can actually help communities collectively elevate...**Our designs don’t have to just be pretty, they can be meaningful and they should be meaningful...** and help us be better as a community and help our youth grow and learn. There’s a lot of opportunity there.” Faculty should be cognizant of the journey before them, though that path will become clearer along the way. Overall, be conscientious, be sensitive, and come to learn (Schulte 2024).

Fig. 3.12 Absorbing the Considerations

The considerations brought up in interviews are important to consider throughout the development of a curriculum framework.



SUMMARY GUIDELINES

PARTNERSHIPS



Partnerships are based in relationship – invest time in building trust and working towards right relations; relationships do not end at the conclusion of a project.

- a) Genuine intentions
- b) Humility and humbleness
- c) Consent and transparency
- d) Desire-based over damage-centric approach
- e) Do the work – lessen mental and work load for Tribal partners.



Consult – find a trusted individual that can help guide you.



Maintain open dialogue.



Address mistakes.



Follow the 7 R's of Indigenous Research: Respect, Relevance, Reciprocity, Responsibility, Relatedness, Relationship, and Redistribution.



Be an ally – long journey; advocate for Indigenous representation inside and outside of partnerships.

EDUCATION



Identify yourself (i.e. native, non-native, settler-scholar, etc.).



Layer educational strategies for accretion - The complexity of Indigenous narratives cannot be authentically captured in a single assigned reading, lecture, or project. Assignments have compound effects when they build off each other.

Educational Strategy Categories:



Witnessing – students directly experience the peoples or places being discussed.

- a) Compensate consultants – recognize the invisible labor of guest speakers, research collaborators, and community participants by compensating them for their time (i.e. money, gift card, meal, etc.).



Absorbing – students learn material that broadens awareness.

- a) Talk about Indigenous Peoples in the present.
- b) Elevate Native voices.
- c) Embrace nuance.
- d) Recognize the damage caused by colonialism.
- e) Respect Indigenous Knowledge as a valid knowledge system and Indigenous pedagogies as a way of learning.
- f) Be conscious of what you may not know.



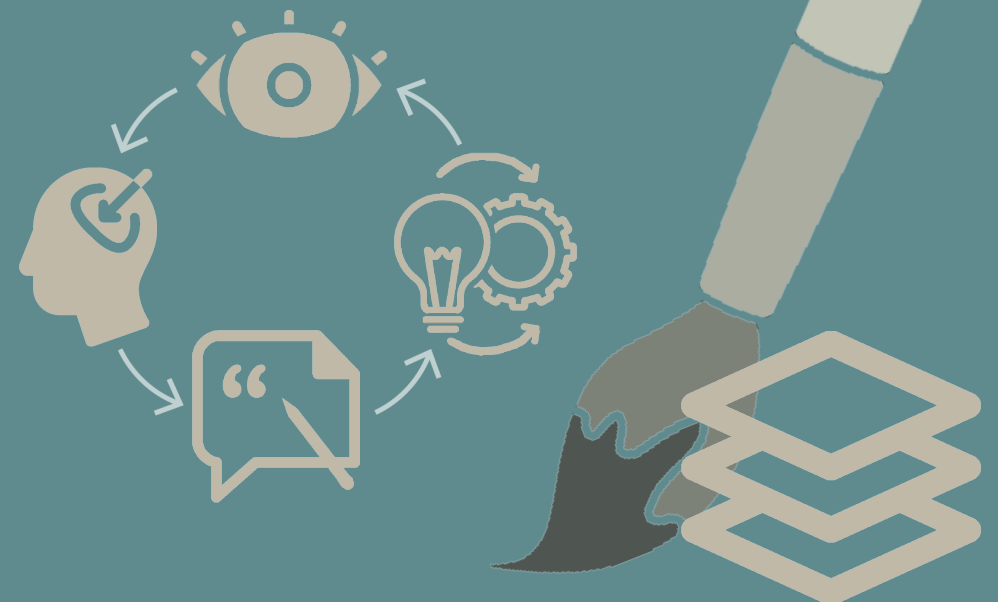
Responding – students have opportunities to reflect on and discuss the ideas presented.

- a) Create comfortable environments – empower Indigenous youth through optional opportunities to share homeland histories, giving ample space and time for students to decide if/what they would like to share.
- b) Prime students to look outward with open minds – use non-confrontational strategies (i.e. reading and writing) when presenting ideas in class that may challenge some student's worldview.



Collaborating – students apply lessons to projects, engaging with Indigenous partners.

- a) Know the land's history.
- b) Be the paintbrush - design as a facilitator of the community's vision.





PART III:

FRAMEWORKS & ACTION

The intention of this chapter is to show the process of how Indigenous narratives can be woven into landscape architecture curriculum. First, the Landscape Architecture Accreditation Board standards are reviewed to see what requirements may be met with Indigenous narratives. Then, Kansas State University's program is examined as an example before identifying course opportunities, potential partnerships, and example modules.

LANDSCAPE ARCHITECTURE ACCREDITATION BOARD STANDARD ANALYSIS

The Landscape Architecture Accreditation Board (LAAB) under the American Society for Landscape Architects (ASLA) evaluates American university programs on minimum standards in first professional degrees in Landscape Architecture. Accreditation is important for the reputation of a American landscape architecture program, so programs ensure that they are adhering to LAAB standards. The LAAB standards and core values were analyzed to see which, if any, could be supported through the incorporation of Indigenous narratives into curriculum (see Tables 4.1 and 4.2). Indigenous narratives were found to meet numerous standards and initiatives related to cultural competency, local community engagement, and recruitment of a diverse student body. These initiatives would be supported through the incorporation of Indigenous narratives into curriculum, yet another reason to support this effort.

LAAB STANDARD	APPLICABLE	APPLICABLE COMPONENTS
Standard 1: Program Mission and Objectives - The professional program shall have a clearly defined mission supported by goals and objectives appropriate to the profession of landscape architecture and shall demonstrate progress toward their attainment.	X	C. Commitment to Diversity, Equity and Inclusion- “specific goals for increasing the representation and retention of under-represented population(s) among students, faculty, and staff” and “I demonstrate its commitment to advance diversity and cultural competency” (p. 8).
Standard 2: Program Autonomy, Governance, and Administration - The professional program shall have the authority and resources to achieve its mission, goals and objectives.		
Standard 3: Professional Curriculum- The professional degree curriculum shall include the core knowledge, skills, and applications of landscape architecture.	X	B.1.b Histories and Theories of the Art and Science of Landscape Architecture- “ framed by diverse social, cultural, economic, political, and scientific forces in North America and globally” (p. 12); B.2.a Skills and Competencies, Assessment- “analysis of the physical, biotic, climatic, and cultural context of a project” (LAAB 2021, 13).
Standard 4: Student and Program Outcomes - The professional program shall prepare students to pursue careers in landscape architecture.	X	C. Student Experiences- “build cultural competence during their educational career” (p. 17).
Standard 5: Faculty - The professional program shall advance its academic mission and objectives by means of promoting the qualifications, academic position, professional activities, and individual professional development of its faculty and instructional personnel.	X	B. Faculty Development- “professional development opportunities, such as: career development; emerging issues in the profession; diversity, equity, inclusion, and cultural competency” (p. 19).
Standard 6: Outreach to the Institution, Communities, Alumni, and Practitioners - The professional program shall have a plan for and a record of interaction with its alumni, the larger institution, the professional community, the local community, and the public at large.	X	A. Interaction with the Institution and Public- “interact with both local, diverse, and historically underserved communities” (p. 21); B. Interaction with Alumni and Practitioners- “in a way that ... assists in the recruitment of students with diverse backgrounds, and provides students with experiences that expand their cultural competence for interacting with diverse communities.” (p. 21).
Standard 7: Facilities, Equipment, and Technology - The professional program shall provide faculty, students, and staff access to facilities, equipment, libraries, and other resources necessary for achieving the program’s mission and objectives.		

Table 4.1 Applicable LAAB Standards

LAAB Standards include initiatives for building cultural competency and community outreach in programs. These initiatives would be supported by the incorporation of Indigenous narratives.

CORE VALUE	APPLICABLE
Environmental Health, Sustainability, Resilience, and Stewardship	X
Diversity, Equity, and Inclusion	X
Human and Community Health and Safety	
Professional Ethics and Responsibility	X
Leadership and Innovation	
Application of the Sciences to the Design of Natural and Built Landscapes	X

Table 4.2 Applicable LAAB Core Values

Indigenous narratives provide lessons relevant to LAAB Core Values including environmental stewardship, diversity, equity, and inclusion, professional ethics and responsibility, and application of the sciences.

KSU CURRICULUM INVENTORY & ANALYSIS

PROGRAM OVERVIEW

The Landscape Architecture program at Kansas State University is housed in the College of Architecture, Planning and Design. The program awards master’s degrees with two student pathways: the 5-year non-baccalaureate program and the 3-year post-baccalaureate program (Kansas State University 2024).

For the 5-year non-baccalaureate program, the 1st year consists of the Environmental Design Studies program (ENVD) taken by all non-baccalaureate students who enter the college. In ENVD, students are introduced to basic design principles that span across architecture, interior architecture, and landscape architecture before declaring which major to pursue. After declaring landscape architecture, students complete landscape architecture undergraduate courses in the second and third year with a required summer session. Graduate courses begin the 4th year with an off-campus internship or study abroad experience in the spring semester. In the 5th and final year, students complete a yearlong Master’s project or thesis (Kansas State University 2024).

For the 3-year post-baccalaureate program, post-baccalaureates start in the same course sequence as the non-baccalaureate 2nd year. Through the post-baccalaureate’s 2nd year, post-baccalaureate and non-baccalaureate course sequences match, with some exemptions. Post-baccalaureates are exempt from taking Ethics and Environmental Dilemmas (LAR 298), Intro to Regional and Community Planning (PLAN 115), and Career and Academic Planning (LAR 444). Post-baccalaureates start graduate courses in spring of the 2nd year. The post-baccalaureates take an advanced studio and seminar (LAR 740 and 750) instead of the Community Engagement Studio (LAR 646) though sometimes these studios are merged. Currently, the 3rd and final year, post-baccalaureates are required to complete a year-long Master’s project or thesis (Kansas State University 2024).

The two pathways in Kansas State’s landscape architecture program consist of many overlapping courses. However, post-baccalaureates are exempt from some classes, and course sequencing for each pathway diverges halfway into the program. For this reason, it is important to weave in Indigenous narratives into core courses required for both pathways in the first half of the program. Although, there are some unique opportunities for including narratives in non-baccalaureate only courses such as Environmental Ethics and Dilemmas (LAR 298) and the Community Engagement Studio (LAR 646). Luckily, many course topics have the flexibility to incorporate Indigenous narratives and some faculty have already begun this effort.

CURRENT AND PAST EFFORTS

Through informal outreach to the Kansas State Landscape Architecture faculty, previous efforts to incorporate Indigenous narratives have been identified. The information provides a general baseline of where the program is at concerning Indigenous narratives. Efforts to incorporate Indigenous narratives have been identified in the following courses: Environmental Ethics and Dilemmas (LAR 298), Socio-Ecological Studio (LAR 420), History Studio (LAR 433), Plants course sequence (LAR 350-354), and various past studio projects (LAR 705, 2019 and 2022; LAR 433).

In current and past renditions of Environmental Ethics and Dilemmas (LAR 298), aspects of Indigenous narratives have been touched on. Before 2019, the course included discussions about worldviews and ecological practices. Students looked at an excerpt from *Gathering Moss* by Robin Wall Kimmerer, a video on cultural burns in California, and a Yale periodical on Traditional Ecological Knowledge’s impact on Western science (Assoc. Dean Katie Kingery-Page, personal communication, January 19, 2024). Since 2019, the course includes some information focused on Indigenous contemporary issues and ecological practices. Oil sands mining in Canada is discussed in relation to environmental justice concerns of Indigenous communities. Throughout lectures, some Indigenous perspectives and traditional land management practices, like cultural burning, are mentioned (Prof. Lee Skabelund, personal communication, January 29, 2024).

In the Socio-Ecological Studio, assignments related to Indigenous histories and contemporary issues are included. In relation to the studio’s project area, students learn whose traditional lands they are working on and how that land was dispossessed from those nations through treaties. Land acknowledgements are discussed, including their issues (i.e. statement vs. action), and students practice writing a land acknowledgement for an assignment (Prof. Leslie Wren, personal communication, January 22, 2024).

In current and past renditions of the History Studio (LAR433), connections to Indigenous histories and contemporary issues have been made. A previous project site for the studio in Council Grove, Kansas included site analysis that connected to the Kaw Nation’s historical and current presence in the area. While the studio project has since shifted, in the current course, students learn about and incorporate land acknowledgements (Dr. Anne Beamish, personal communication January 22, 2024; Prof. Jessica Canfield, personal communication January 24, 2024).

In the Plants course sequence, efforts are made to include information on Indigenous ecological knowledge and practices. In the first course of the sequence, Introduction to Plants (LAR 350), an effort is made to mention ethnobotanical uses of each plant that is covered, though the professor plans to delve deeper into this aspect in the future. The course also includes a 1-week ethnobotany module in relation to the Chickasaw nation and their connection to the land (Prof. Leslie Wren, personal communication,



Fig. 4.1 Word Cloud of Mentioned Topics
The word cloud represents general topics mentioned by faculty on the information they have included in landscape architecture courses. Font size is relevant to the number of faculty that mentioned the topic.

January 22, 2024). In the last course of the sequence, Landscape Restoration (LAR 354), native scholars including Dr. Daniel Wildcat and Robin Wall Kimmerer are cited, and Indigenous land management practices are highlighted (Prof. Lee Skabelund, personal communication, January 29, 2024).

Past Master Project Studios (LAR 705) have also incorporated elements concerning Indigenous histories. In a 2019 Master Project Studio on public lands in the American West, Euro-American settlement of the West was studied and what happened to the Native Peoples who were living there. In a 2022 Master Project Studio, guest lecturers in anthropology and ecology were brought in regarding land history of the site in Manhattan, KS. Lecturers included information on the historical connection of Indigenous People’s to the Kansas River and Manhattan landscapes (Prof. Lee Skabelund, personal communication, January 29, 2024). While these were one-time studio topics, they offer examples of how connections have previously been made in the studio environment.

Efforts have been made throughout the program that touched on various Indigenous narrative components. Current and past efforts in the Kansas State Landscape Architecture program should be recognized and built upon in the future. These efforts provide examples of what formats have worked in the past and will be used to inform the development of the example modules.

PROGRAM CONSIDERATIONS & OPPORTUNITIES

Faculty have the freedom to design their own course content as long as LAAB standards are met throughout the curriculum (Prof. Blake Belanger, personal communication, January 26, 2024). As faculty retire or teach different courses, the course content may change, and narratives can be lost or gained. Because of this, faculty must buy in and work together to achieve a holistic incorporation of Indigenous narratives throughout the program.

There are some natural obstacles to this. One is the limited time within a program or course. A landscape architecture degree is centered on design but introduces students to many broad fields and skills (art, construction, ethics, planning, ecology, technical drafting and rendering software) (Prof. Anne Beamish, personal communication, January 24, 2024; Prof. Blake Belanger, personal communication, January 26, 2024). Along with developing other necessary skills for practice, the goal is to introduce students to aspects of Indigenous narratives so that they enter the profession with a basic level of cultural competency and are aware of how to explore related areas further on their own (Blanchard 2024; Koepke 2024).

Faculty must also feel confident enough to incorporate Indigenous content and engagement opportunities. Professional development opportunities can provide resources and networking opportunities to interested faculty. A critical component is

connecting faculty to Indigenous consultants that can help guide partnerships. Currently, there are no Indigenous faculty within the Landscape Architecture program at K-State. There are a few Indigenous faculty and staff currently employed at K-State, but these individuals already receive a large demand of requests on top of their personal research and responsibilities. When consulting, it is always important to think about reciprocity in the relationship and be mindful of the consultant’s other commitments. To help with this issue, the department (or wider university) could seek to hire tribal liaison(s) or Indigenous scholar(s) who are interested in doing this work. Additionally, recognizing and encouraging outreach efforts in the faculty is important. Service and consulting work may not always be adequately considered for tenure, but it is an important aspect when building relationships with communities (Adams 2024; Prof. Lee Skabelund, personal communication, January 22, 2024).

Across campus and the wider region there are numerous public events open to faculty and students. Attending public events can be a great way to start learning without increasing demands put on local Indigenous faculty and organizations. Faculty can advertise these events to students and even include them as assignments or extra credit (Bitsie-Baldwin 2024).

Within the current course program, there are numerous opportunities for Indigenous narratives to be woven in. For example, the LAR 442: Site Research and Design Studio currently works on projects in partnership with K-State’s Technical Assistance to Brownfields (TAB) program. This program includes a Tribal division (Tribal TAB) that works directly with Indigenous Nations on brownfield projects (Prof. Blake Belanger, personal communication, January 26, 2024). While the studio course has not worked on a Tribal TAB project in the past, there could be potential to do so in the future (discussed further in the framework). However, it will take multiple courses working together to incorporate a fuller Indigenous narrative into curriculum. The following courses have been identified as opportunities:

- Introduction to Landscape Architecture
- Socio-Ecological studio
- History Studio
- Ethics and Environmental Dilemmas
- Plants course (becoming a 3-cr. course instead of a sequence)
- Narrative and Placemaking Studio (4-week summer session)
- Landscape Restoration (becoming a 3-cr. elective)
- Site Research and Design Studio (Technical Assistance to Brownfields project)
- Various field trips and travel

COURSE OPPORTUNITIES

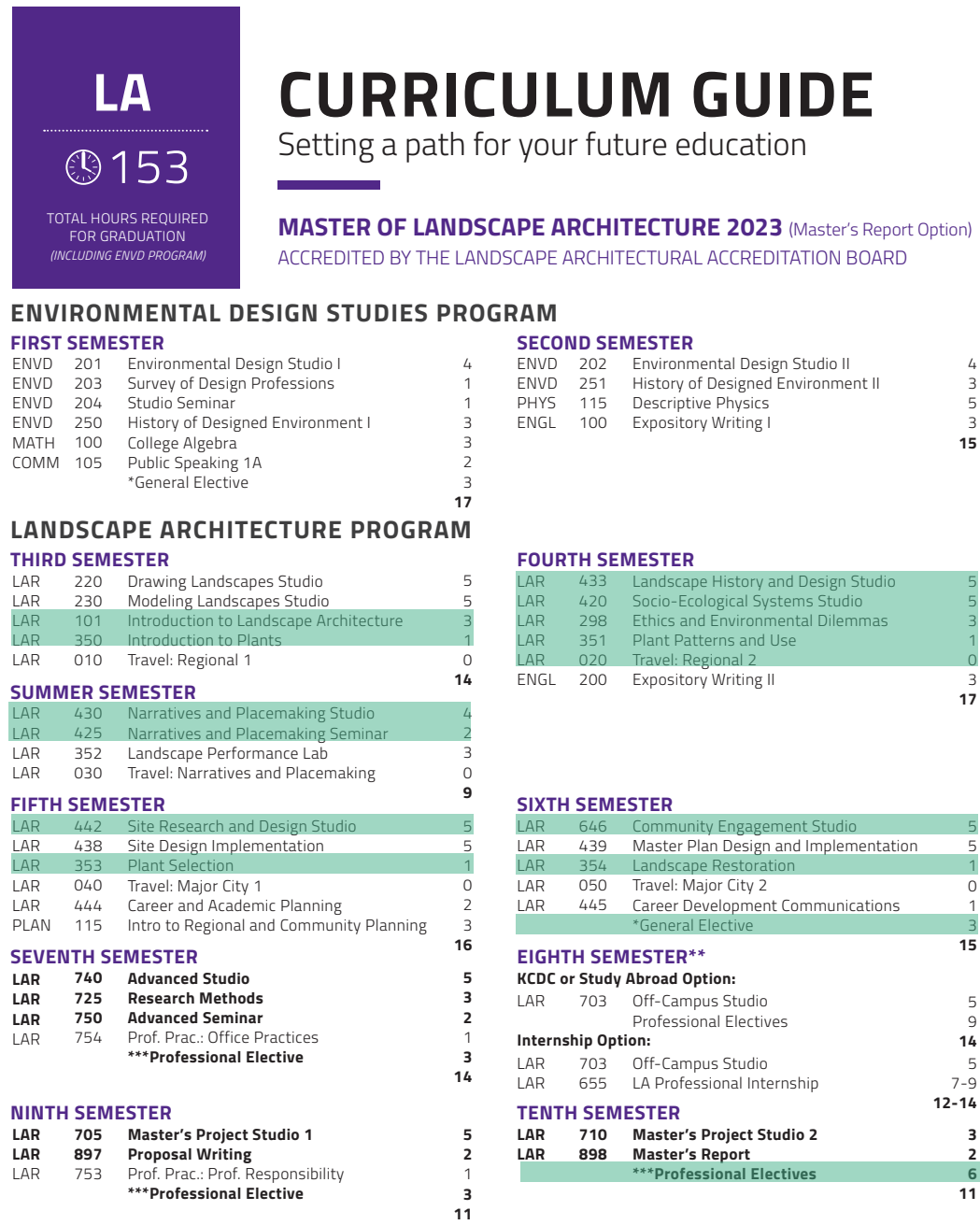


Fig. 4.2 Opportunities in Non-Baccalaureate program

Identified courses for incorporating Indigenous narratives are concentrated in the 2nd and 3rd year of the 5-year Non-Baccalaureate program.

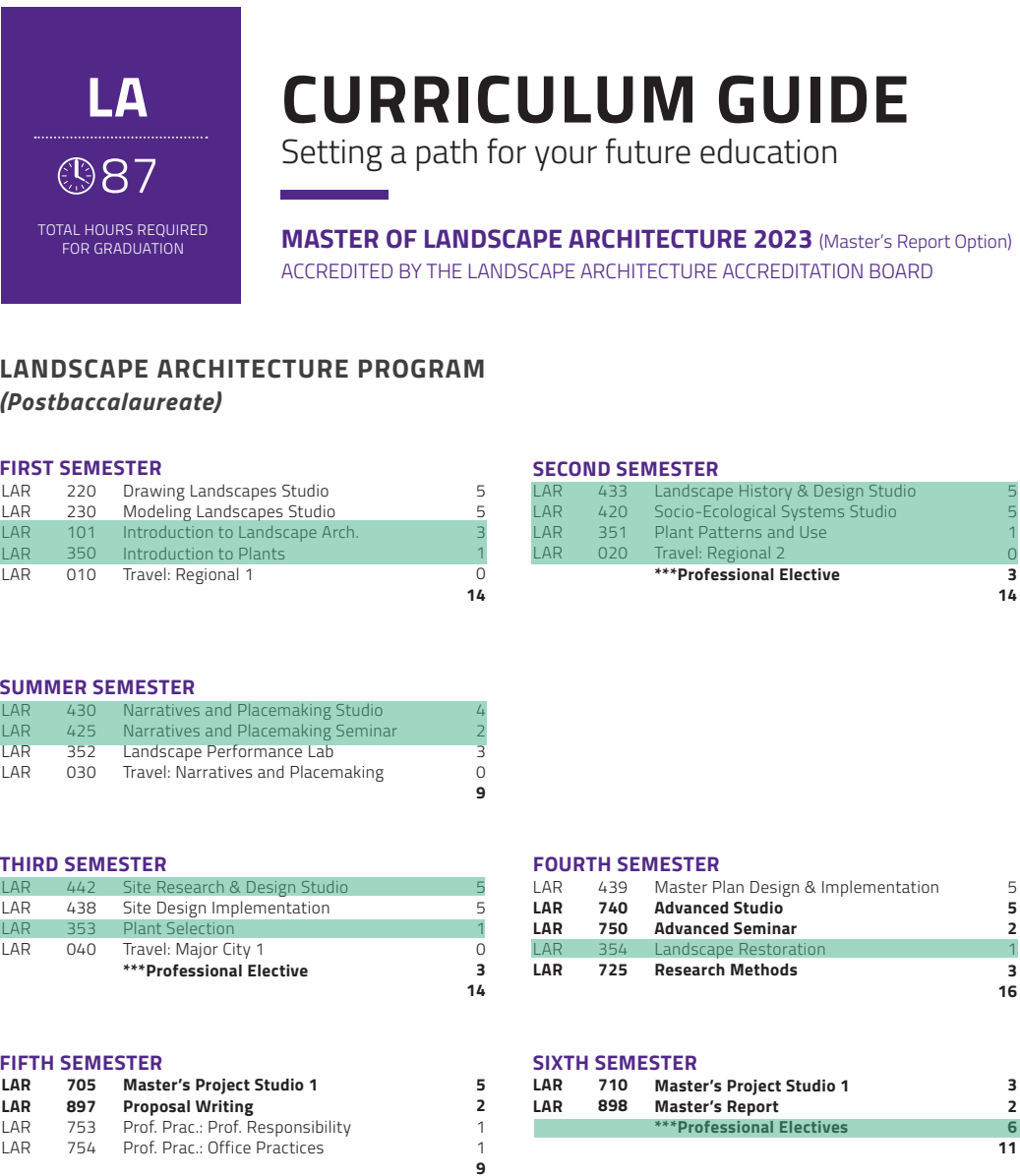


Fig. 4.3 Opportunities in Post-Baccalaureate program

For the 3-year Post-Baccalaureate program, identified courses for incorporating Indigenous narratives are concentrated in the 1st year of the program. Incorporating Indigenous narratives early in the program also gives students opportunities to apply lessons to later projects and research.



CURRICULUM FRAMEWORK

The curriculum framework pulls together sources, considerations, and first steps for integrating Indigenous narratives into curriculum. It begins with a summary diagram visualizing factors that feed into the effort of incorporating Indigenous narratives into landscape architecture curriculum. Then, an overview of resources, potential partnerships, and example modules are provided. While the framework is geared towards Kansas State University, the approach could generally be applied to other landscape architecture programs around the country. The most important step for landscape architecture programs lies in building relations with the Indigenous communities around them and seeking advice from Indigenous consultants.

OVERARCHING PRINCIPLES

Many important considerations were raised in Part II: Conversations. To ensure that raised points are considered when incorporating Indigenous narratives, they must be integrated into a curriculum framework. A framework diagram can help direct priorities when determining the knowledge, understanding, and competency that this effort works to build. Faculty can refer to this framework when developing modules and intended student outcomes. To broadly summarize considerations raised in Part II, the following framework diagram spans four main categories: Native Voices, Balance + Breadth, Indigenous Pedagogies, and Layering Strategies. While this framework provides an example, it was outside the scope of this report for the framework to undergo repeated reviews with Indigenous consultants. Review processes are important for ensuring all voices are heard and accurately incorporated. Departments should work closely with local Indigenous consultants when developing and revising their own guiding structures.

NATIVE VOICES

Incorporating Indigenous narratives should center around amplifying Native voices. Native voices can include having students read, listen to, or otherwise directly engage with Native-scholars, Indigenous practitioners, and/or Indigenous communities. Indigenous narratives should be told by Indigenous Peoples whenever possible. The role of non-native faculty is to connect students to Native sources.

BALANCE + BREADTH

Departments must be intentional about the balance and breadth of the information provided. Indigenous narratives in American education have repeatedly relegated Indigenous Peoples to narrow, past-tense, and damage-centric narratives. This is not an accurate portrayal. Information provided should transcend historical and contemporary timelines, including Indigenous Peoples in the present. It should inform the broad audience of the injustices that have occurred while uplifting the accomplishments of Indigenous Peoples. In landscape architecture, there is much we could learn from Indigenous approaches to stewardship and worldviews regarding land. However, programs are constrained by time on the depth of content that can be included. Programs should aim for a broad introduction while highlighting specific examples from local Indigenous Nations. Students can then be connected to related electives or opportunities for deeper learning.

INDIGENOUS PEDAGOGIES

“...[It’s] not just the what but the how.” (Brett Ramey 2024). Indigenous narratives should be taught using Indigenous pedagogies. Indigenous pedagogies break away from the typical strategies of the dominant education system and provide lessons in themselves. Departments should reference published work on Indigenous pedagogies, but they can broadly include learning from the land, collective (vs. individual) learning, and ensuring reciprocity and respect in all relationships involved.

LAYERING STRATEGIES

Indigenous narratives must extend deeper than one assignment, one module, or one class. It will take repeated interactions in various formats to mend the knowledge gaps in American education regarding Indigenous Peoples. Curriculums should incorporate opportunities to witness (direct experiences of Peoples or places being discussed), absorb (provide sources that widen the narrative), respond (in both private reflection and public discussion), and collaborate (work with others on projects with Indigenous communities).

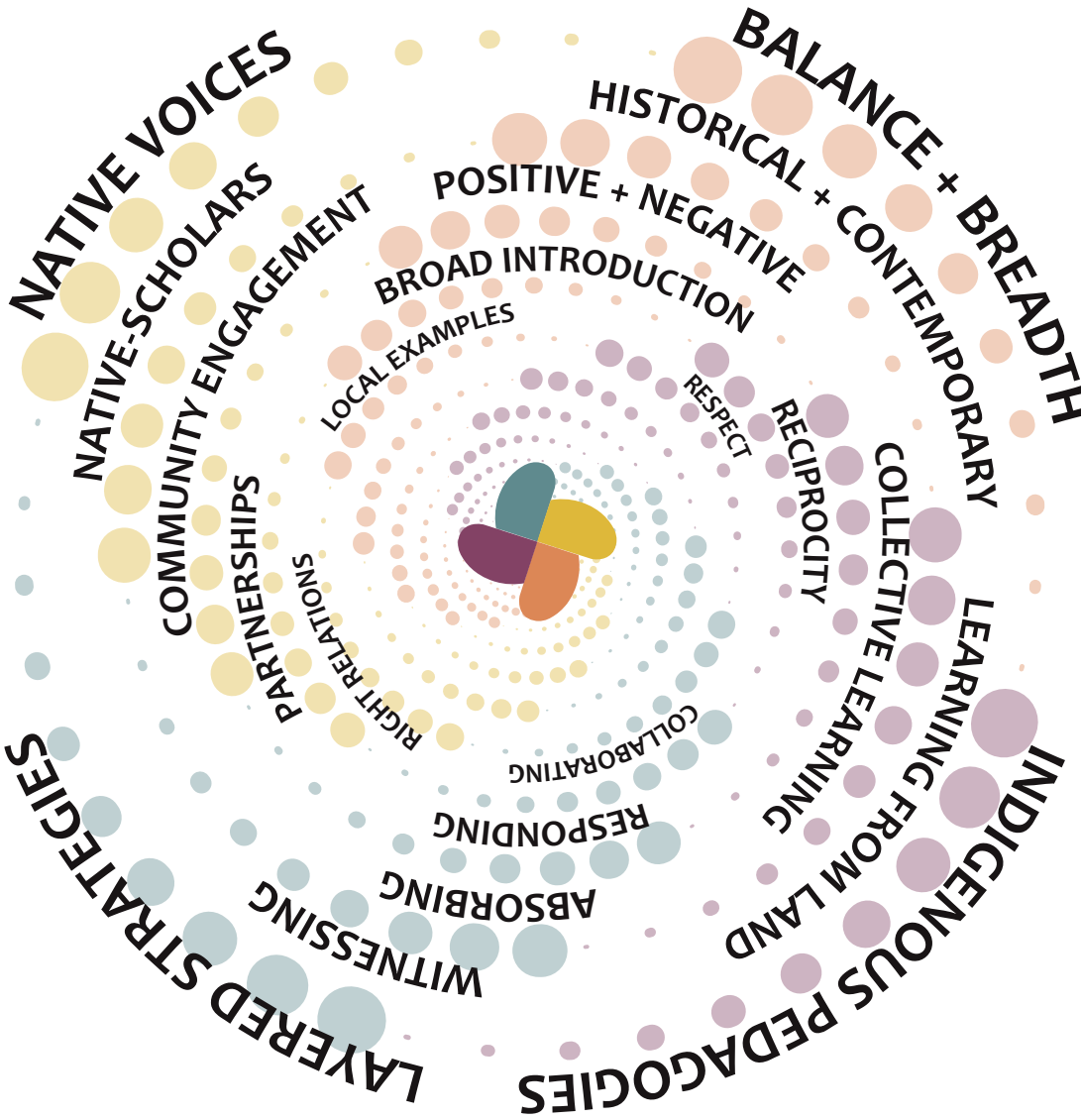


Fig. 4.4 Framework Diagram
The curriculum framework diagram visualizes overarching concepts that should be considered when working towards essential understandings in the classroom.

ESSENTIAL UNDERSTANDINGS

The framework should feed into communicating essential understandings to all students in the landscape architecture program. **These essential understandings, or big ideas, should be decided on in collaboration with Tribal representatives.** Essential understandings regarding Indigenous narratives should prepare all students to engage in informed dialogue with Indigenous communities in their careers. An example list of essential understandings is included below:

SOVEREIGNTY + SELF-DETERMINATION

- Indigenous Nations are sovereign and can self-determine their future.

ENVIRONMENTAL JUSTICE

- Indigenous Nations in the United States (and throughout much of the New World) were wrongfully removed from their traditional homelands and suffered targeted cultural dismemberment by colonizers.
 - Indigenous cultures provide inherently valuable diversity to humankind and are protected by the United Nations Declaration on the Rights of Indigenous Peoples.

ENVIRONMENTAL STEWARDSHIP

- Indigenous groups actively stewarded the land.
 - Indigenous environmental stewardship is ecological design.
 - The right to implement Traditional Ecological Practices and stewardship systems lies with the community that authored them.

PEDAGOGY + EPISTEMOLOGY

- Indigenous knowledge and practices stem from different epistemologies, pedagogies, and worldviews than Western practice.

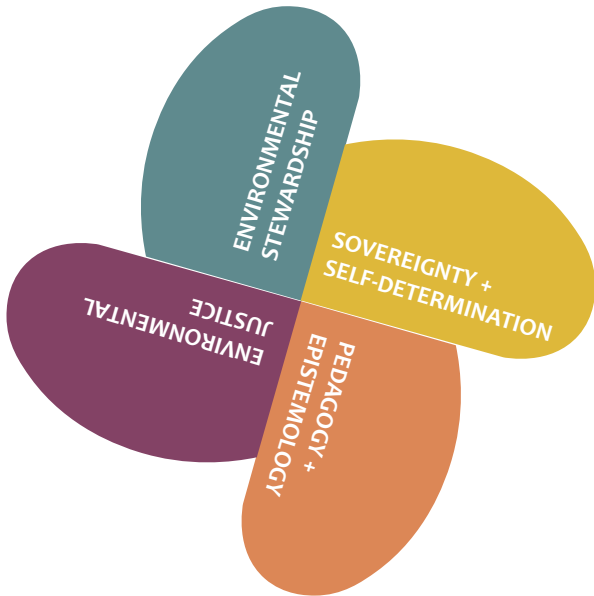


Fig. 4.5 Essential Understandings
Essential understandings encapsulate the big ideas that programs and Indigenous partners want to imbue in students.

EDUCATION PROGRAM	LINK
Native Knowledge 360	https://americanindian.si.edu/nk360/about/understandings
WoLakota Project South Dakota	https://www.wolakotaproject.org/
Essential Understandings Regarding Montana Indians	https://opi.mt.gov/Portals/182/Page%20Files/Indian%20Education/Indian%20Education%20101/essentialunderstandings.pdf
Minnesota Native American Essential Understandings for Educators	https://www.understandnativemn.org/wp-content/uploads/2024/01/2024_MN_Native_American_Essential_Understandings.pdf
Michigan Department of Education Indigenous Education	https://www.michigan.gov/mde/resources/indigenous-education

Table 4.3 Essential Understanding Precedents
Numerous Native Nations and state educational systems have developed essential understandings for students to learn about Indigenous Peoples. The above table lists a few.

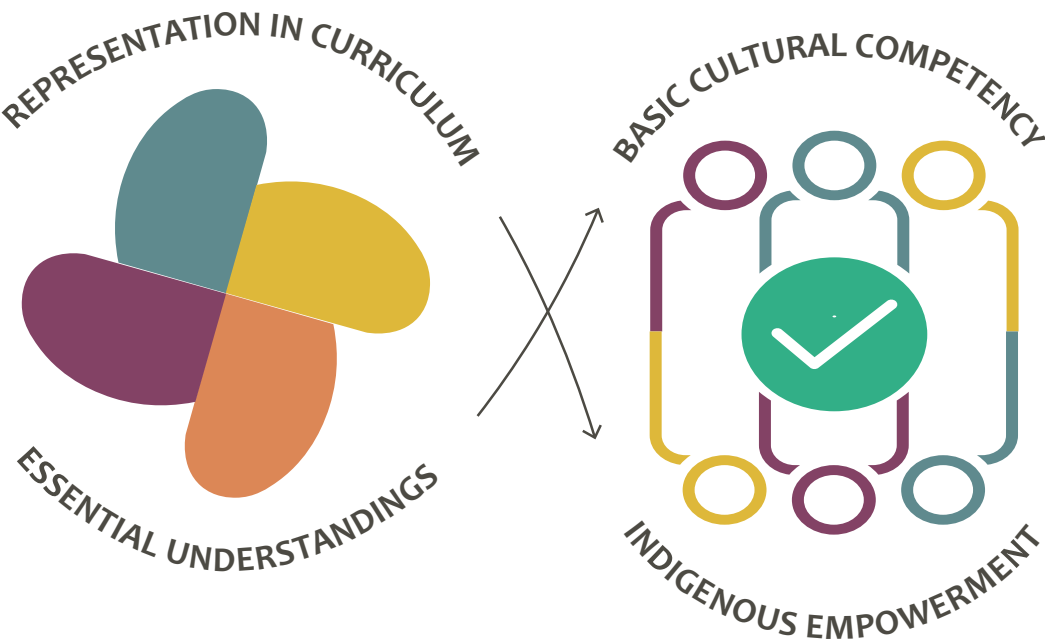


Fig. 4.6 Goal of Cultural Competency
The purpose of developing essential understandings in students is to develop basic cultural competency in all students, while empowering Indigenous youth through representation in landscape architecture curriculum.

PARTNERSHIP OPPORTUNITIES

Many Tribal Nations were forced onto reservations in the Great Plains. As a result, the Great Plains is home to a diverse Indigenous population today. Surrounding Kansas State University, there are forty-five federally recognized tribes in Kansas (4), Nebraska (4), and Oklahoma (37; U.S. Department of the Interior n.d.). In addition to federally recognized tribes, Kansas and surrounding states are home to Tribal universities, university Indigenous Studies programs, and other Indigenous communities not yet federally recognized (i.e. the Kansas Delaware Tribe). Kansas State University and the landscape architecture program can begin to establish relationships with these Indigenous communities.

YOU'RE IN INDIAN COUNTRY

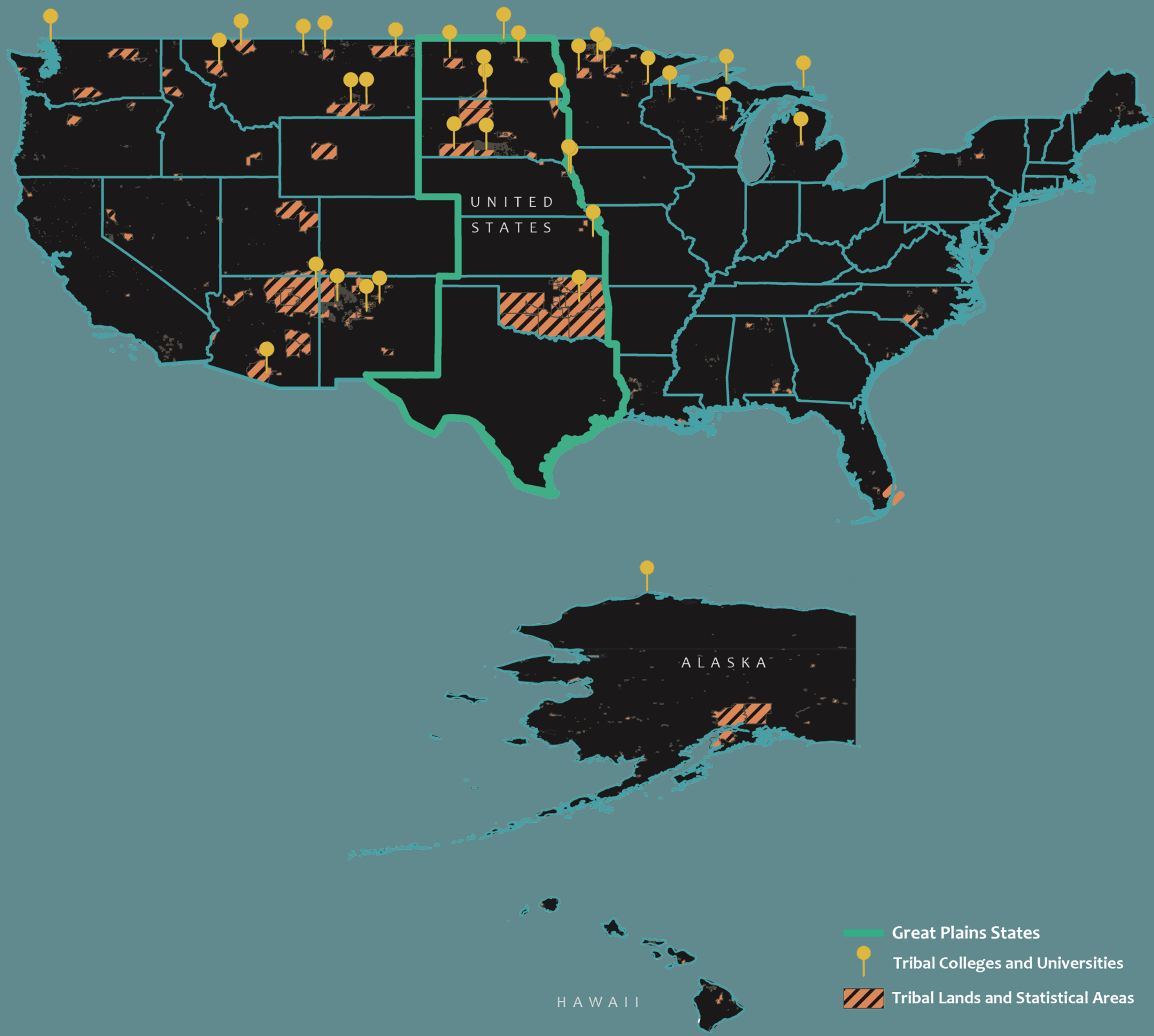
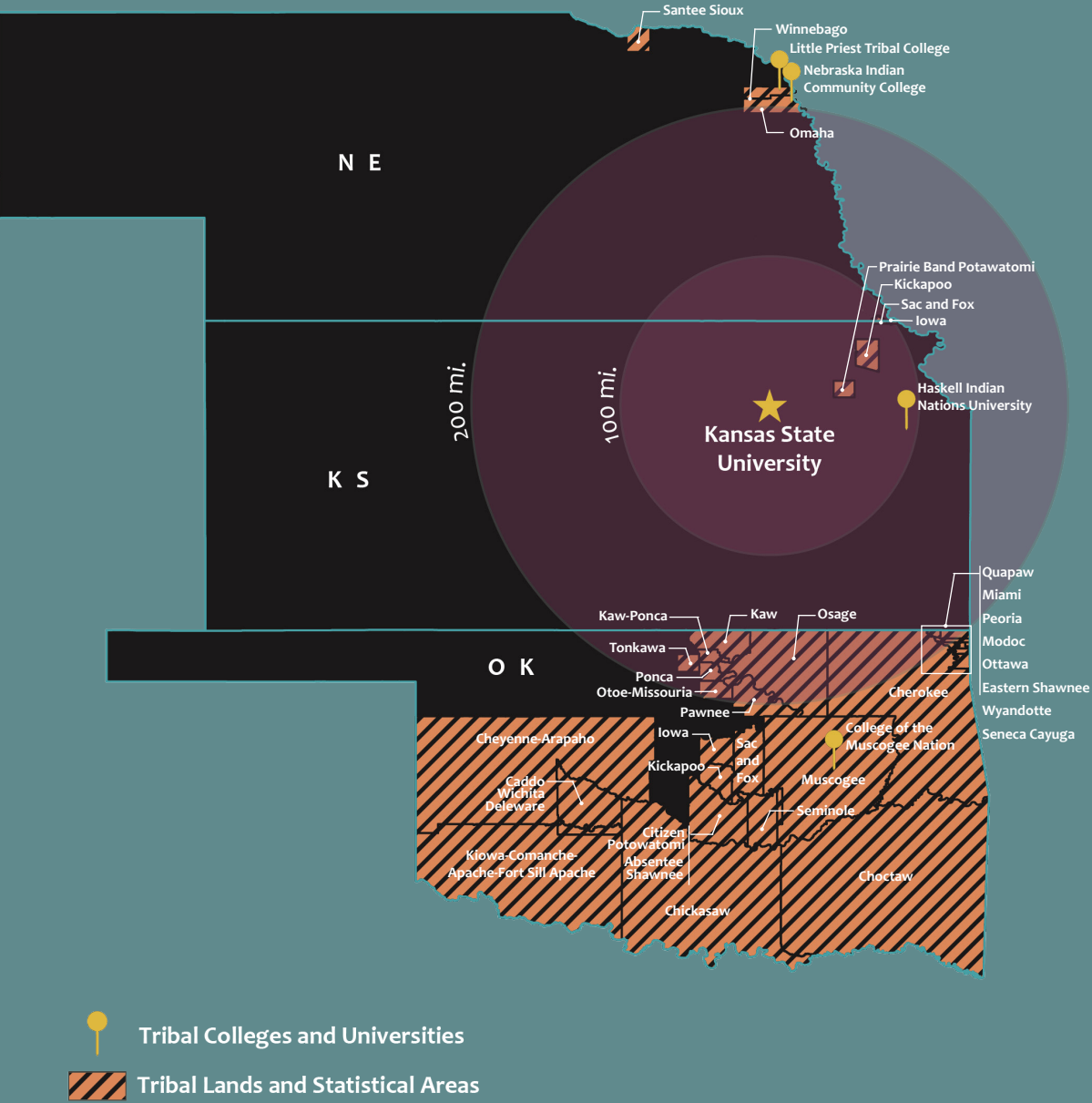


Fig. 4.7 (Right) Tribal Lands and Tribal Colleges

There are over 574 federally recognized tribes and 35 tribal colleges in the U.S. Note that the map depicts Tribal Reservations and Tribal Statistical Areas. Tribal Statistical Areas are defined by the Bureau of Indian Affairs as jurisdiction areas in which Tribal governments provide services.

LOOK AROUND YOU



REGIONAL PARTNERSHIP OPPORTUNITIES

Fig. 4.8 (Left) Regional Partnership Opportunities

Federally-recognized Indigenous Nations and Tribal Colleges are depicted within 100 and 200 mile ranges from Kansas State University.

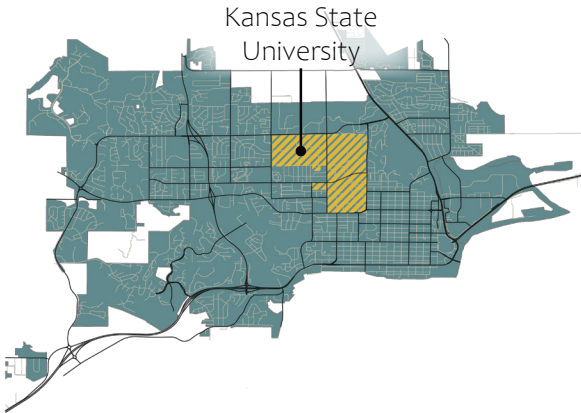
TRIBAL NATION OR COLLEGE	WEBSITE
Prairie Band Potawatomi Nation	https://www.pbpindiantribe.com/
Kickapoo Tribe in Kansas	https://www.ktik-nsn.gov/
Iowa Tribe in Kansas and Nebraska	https://iowatribeofkansasandnebraska.com/
Sac and Fox Nation of Missouri in Kansas and Nebraska	https://www.sacandfoxks.com/
Haskell Indian Nations University	https://haskell.edu/
Kaw Nation	https://www.kawnation.gov/
Osage Nation	https://www.osagenation-nsn.gov/
Tonkawa Tribe of Oklahoma	https://tonkawatribe.com/
Ponca Tribe of Indians of Oklahoma	https://www.ponca-nsn.gov/
Otoe-Missouria Tribe	https://www.omtribe.org/
Pawnee Nation	https://pawneenation.org/
Quapaw Nation	https://www.quapawtribe.com/
The Miami Tribe of Oklahoma	https://miamination.com/
Peoria Tribe of Indians of Oklahoma	https://peoriatribes.com/
Modoc Nation	https://modocnation.com/
Ottawa Tribe of Oklahoma	https://www.ottawatribe.org/
Eastern Shawnee Tribe of Oklahoma	https://estoo-nsn.gov/
Wyandotte Nation	https://wyandotte-nation.org/
Seneca Cayuga Nation	https://sctribe.com/
Cherokee Nation	https://cherokee.org/
Omaha Tribe of Nebraska	https://www.omahatribe.com/

Table 4.4 Tribal Partnership Opportunities

Kansas State University sits in an area of the country with a high Indigenous presence. In the region, there are numerous Indigenous communities that relationships could be built with. The table depicts those within 200 miles of the Manhattan campus.

CAMPUS PARTNERSHIP OPPORTUNITIES

While there are many Native Nations in the region, the department does not have to look far for opportunities to connect with Indigenous communities. The Kansas State University campus is home to multiple Indigenous organizations including the Indigenous Faculty and Staff Alliance and the Native American Student Body. These organizations, among others, host events and talks featuring Native-scholars and discussions about Native-led efforts. The wider campus community can attend and learn from these events (see “Local Resources” for further details). Additionally, Kansas State is home to the Technical Assistance to Brownfields program (TAB) which is funded by the U.S. EPA and assists communities across the country in redeveloping brownfields. Within this program, there is a tribal division that works specifically with Native Nations, the Tribal Technical Assistance to Brownfields program (Tribal TAB). These K-State organizations and programs are great starting points for building local relationships.



ORGANIZATION	LINK
Tribal Technical Assistance to Brownfields (Tribal TAB) Program, Kansas State University	https://www.ksutab.org/tribal-tab
Indigenous Faculty and Staff Alliance	https://www.k-state.edu/indigenous-alliance/
Native American Student Body	https://orgcentral.k-state.edu/feeds?type=club&type_id=35689&tab=about
National Organization of Minority Architects (NOMA) student chapter	https://orgcentral.k-state.edu/feeds?type=club&type_id=35957&tab=about
American Indian Science and Engineering Society (AISES) student chapter	https://orgcentral.k-state.edu/feeds?type=club&type_id=35474&tab=about

Table 4.5 Campus Partnership Opportunities
 The Kansas State University community includes Indigenous organizations and programs that work closely with Indigenous communities. The landscape architecture program and faculty can collaborate with these organizations on projects and connect Indigenous students to relevant student organizations.



TRIBAL TECHNICAL ASSISTANCE TO BROWNFIELDS (TRIBAL TAB) PROGRAM



Fig. 4.9 Cochiti Pueblo Brownfield Project

The Tribal Technical Assistance to Brownfields program (Tribal TAB) “supports Indigenous communities in protecting and restoring sacred lands and accomplishing revitalization goals through the reuse, restoration, or redevelopment of brownfields” (Tribal Technical Assistance to Brownfields, 2023). Funded by the U.S. Environmental Protection Agency, the program offers free assistance to Tribal communities.

Kansas State University’s landscape architecture program currently includes a studio that works with the general Technical Assistance to Brownfields program (TAB). LAR 442: Site Design and Research Studio has focused on brownfield sites, working with municipalities, including the City of Des Moines, Iowa, and the City of Norfolk, Nebraska (Kansas State University 2022). However, the studio has not yet worked directly with Tribal TAB (Prof. Blake Belanger, personal communication, January 26, 2024). The already established studio and Tribal TAB program offers a great opportunity for engaging K-State students with Indigenous communities. For example, Tribal TAB has partnered with the University of New Mexico’s Indigenous Design and Planning Institute on brownfield projects. One project included the conceptual redevelopment of a gravel mine pit with the Cochiti Pueblo (pictured above). An architecture studio researched relevant case studies, while a planning studio focused on community engagement efforts (University of New Mexico n.d.).

ESTABLISHING RELATIONSHIPS AND PARTNERSHIPS

When building relationships with Indigenous communities, partners must understand that Tribal Nations are sovereign. Sovereignty and its legal implications factor into the formation of Institutional-Tribal relationships, like university partnerships. There are formal protocols for how Tribal consultation is initiated and carried out. On an individual level, partners must understand that relationships are best established through a contact who already has a relationship with the community.

Some universities have a dedicated Tribal Liaison or University Tribal Advisory Committee tasked with establishing and building relationships with Indigenous communities. These individuals then connect individual departments and courses to contacts based on community needs. If the university does not have a Tribal Liaison or University Tribal Advisory Committee, as is the case with Kansas State University , then faculty should reach

out to campus Indigenous organizations or local tribal educational committees for guidance (see Table 4.12; Dr. Alex Redcorn, personal communication, February 20, 2024).

If interested in working with Indigenous communities, reflect on considerations mentioned by interviewees in Part II. Indigenous partnerships should be approached with an understanding that outside partners are there to learn, rather than to “help” or “donate” expertise. Instead of focusing on establishing a project, focus on establishing a relationship. Introduce yourself, get to know one another, and express interest in working with the community. Then, the community can contact you if they have a need or question that you could collaborate on in the future. This leads to a more organic formation of projects based on community needs and reciprocity (Dr. Alex Redcorn, personal communication, February 20, 2024).

ORGANIZATION	LINK
National Indian Education Association (NIEA)	https://www.niea.org/
National Congress of American Indians (NCAI)	https://www.ncai.org/
Kansas Advisory Council for Indigenous Education Working Group (KACIE-WG)	n/a
Kansas Association for Native American Education (KANAE)	https://coe.k-state.edu/collaborations/partnerships/kanae/
Nebraska Indian Education Association (NeIEA)	https://www.facebook.com/NebraskaIndianEducationAssociation/
Oklahoma Council for Indian Education (OCIE)	https://oklahoma-ocie.org/
Oklahoma Advisory Council on Indian Education (OACIE)	https://sde.ok.gov/oacie
United Indian Nations of Oklahoma (UINO)	https://www.uinoklahoma.com/advocacy
United Indian Nations of Oklahoma, Kansas, and Texas (UINOKT)	n/a

Table 4.6 Tribal Education Advisory Boards

Since Kansas State University does not currently have a Tribal Liasion or Tribal Advisory Committee (at the time of this publication), faculty, program directors, and departments could reach out to state or regional boards for guidance on educational initiatives.

ON TERMINOLOGY

When working across cultural boundaries, it is important to be mindful of terminology (Kaul 2024). For example, the terms “management” and “stewardship” may be considered synonyms from a Western standpoint but can imply different worldviews from an Indigenous perspective. Indigenous worldviews typically view humans within the jurisdiction of the natural world, meaning that the natural world cannot be fully controlled or “managed” by humans. Instead, the term stewardship is used which implies an ongoing relationship rather than authoritative control (Bolton 2024). In a similar vein, Indigenous worldviews typically view other species and ecological processes as members of the community of which humans are part. Species and other natural entities (streams, landforms, etc.) possess a life and spirit that is respected as a community member (Blanchard 2024), which is why certain rituals are followed when harvesting or hunting (Kimmerer 2013; Koepke 2024). Members of the natural world are thought of as relatives. Therefore, the term, natural resource, is not commonly used (Bolton 2024; Wildcat 2024). For example, Dr. Melinda Adams uses the term “Relatives” in substitution of “species” in her article on Indigenous ecologies (Adams 2023).

Understanding the appropriate terminology can be confusing, and there can be discrepancies in how various terms are used when reading across disciplines and between works by native authors or settler scholars. Adding to this complexity, some terms are tied to legal definitions within certain contexts. For example in legal agreements entered between the U.S. federal government and Tribal Nations, a “co-management agreement” is distinct from a “Tribally-led stewardship agreement”. Each is tied to a legal definition that indicates the type and extent of power and resources shared. To make it more confusing, both agreement types fall under the umbrella term “co-stewardship” (U.S. Federal News Service 2022). Using correct terminology will not likely be intuitive to outside parties.

For this reason, Lisa Tatonetti (2024) suggests referring to the book *Elements of Indigenous Style* by Gregory Young (2018). It is helpful to be aware of the author’s background and the context of the literature being read. The author’s native status and educational discipline can influence what terms are used. For this report, the author is non-native and a student in landscape architecture. In the writing of the report, attempts were made to align terminology with what is generally used in native-authored literature, but faculty should perform their own due diligence on this matter.

LOCAL RESOURCES

There are numerous opportunities and resources currently available to Kansas State University faculty and students. These sources include elective courses, local events, and professional development that can help increase faculty and student awareness of Indigenous communities and pedagogies. Students can take elective courses offered in numerous departments to fulfill K-State and MLA elective requirements (see Table 4.13). Faculty can seek out professional development opportunities for preparing them to incorporate relevant sources (see Table 4.14). Additionally, faculty can advertise local events held throughout the year and incorporate them into relevant readings and assignments in their classes (see Table 4.15).

CODE	COURSE TITLE
HIST 537	History of Indigenous Peoples of North America
ENGL 285	Introduction to American Ethnic Literatures
ENGL 385	Selected American Ethnic Literatures
CDPLN 612	Indian Country Agriculture and Natural Resources*
CDPLN 613	Youth Development in Native Communities*
CDPLN 614	Wellness in Native Communities: Challenges and Opportunities*
CDPLN 615	Role of Tribal Colleges in Economic Development
CDPLN 714	Introduction to Native Community Development
CDPLN 716	Building Native Communities and Economic Capacity*
EDLEA 710	Fundamental Histories and Philosophies in Indigenous Education
EDLEA 720	Self-Determination, Sovereignty, and Systems of Indigenous Education
EDLEA 730	Leadership, Advocacy, and Action in Indigenous Education
ANTH 365	Exploring Kansas Archaeology
ANTH 506	Central America: Its Peoples and Problems*
ANTH 565	North American Archaeology*
ANTH 605	North American Indians*

*Prerequisite required

Table 4.7 Relevant Kansas State University Electives

The Kansas State University course catalog was searched for courses that focused on issues or understanding related to Indigenous Peoples. These courses are currently available to students who wish to pursue a deeper understanding in their electives.

PROFESSIONAL DEVELOPMENT	LINK
SAFE ZONE Courses, Kansas State University	https://www.k-state.edu/safezone/about/index.html
Institute for Tribal Environmental Professionals	https://www7.nau.edu/itep/main/Home/

Table 4.8 Professional Development Sources

Professional development opportunities can help prepare faculty to incorporate sources and information that would otherwise be outside of their expertise.

EVENT	DATE	LINK(S)
KSU Indigenous People’s Day	2nd Monday in October (annually)	https://www.k-state.edu/indigenous-alliance/index.html
SAFE Zone courses	see website	https://www.k-state.edu/safezone/about/index.html
Kaw Nation Intertribal Powwow, Washunga Days, Council Grove, KS	3rd weekend of June	https://www.councilgrove.com/the-kaw-nation
Kansas University FNSA Powwow and Indigenous Cultures Festival	Spring (annually)	https://fnsapowwow.ku.edu/
Public events hosted by local Indigenous Nations		see “Regional Partnership Opportunities”
Public events and talks hosted by Haskell Indian Nations University, Lawrence, KS		https://www.facebook.com/HaskellUniversity/events/
Public events and talks hosted by the KSU Native American Student Body or Indigenous Faculty and Staff Alliance		https://orgcentral.k-state.edu/feeds?type=club&type_id=35689&tab=about

Table 4.9 Local Events

Local events should be attended by faculty and students. Local events hosted by Indigenous organizations or communities can be great opportunities to hear directly from Native speakers without increasing the work load placed on Indigenous partners (i.e. through requesting an in-class presentation).

LEARNING FROM LAND

Landscape architecture education often includes some level of education outdoors. However, Indigenous pedagogies can teach us how to embrace this learning more deeply. It is not just about learning out on the land but learning from the land itself. Many Indigenous cultures respect the entities of the natural world as elders –rocks, water, plants, and animals (Blanchard 2024; Kimmerer 2013; Koepke 2024; Ramey 2024). Therefore, these entities can offer students numerous teachings. However, students must acquaint themselves with these entities to learn from them. By providing students the time to be on land and familiarize themselves with the ecosystem, students do not just gain knowledge about it; they learn lessons from it – novel lessons not always found in books. Educators in landscape architecture should reflect on this concept. As the profession has digitized (computer technologies, remote sensing, etc.), further tethering students to their studio desks and computers, how can landscape architecture education more deeply connect and familiarize students with the land as a living entity?



Fig. 4.10 Natural Landscape Field Experience
Natural landscapes introduce students to ecological processes and patterns.

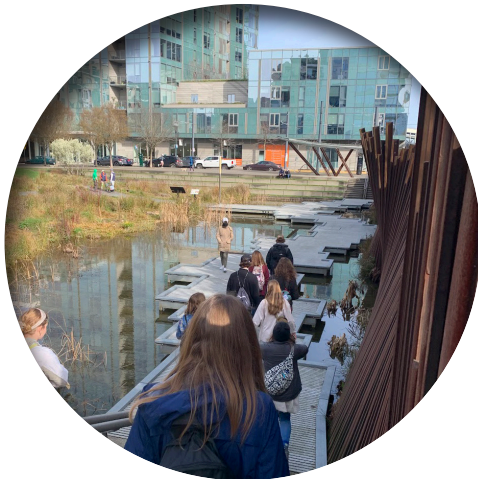


Fig. 4.11 Urban Landscape Field Experience
Urban landscapes introduce students to how ecological processes and patterns were altered during development.

SITE	PLANT COMMUNITIES
Konza Prairie Biological Station	Tallgrass prairie, gallery forest
Washington Marlatt Memorial Park	Tallgrass prairie, gallery forest
Wakarusa Wetlands (Lawrence, KS)	Wetland prairie
Campus Creek (Kansas State University Campus)	Riparian
Big Blue River and Kansas River corridors	Riparian
Wildcat Creek (Frank Anneberg Park)	Riparian

Table 4.10 Local Natural Landscapes

Visiting a variety of local natural sites in class introduces students to landscapes they can return to and learn from (i.e. plant and wildlife identification, plant composition, erosion/drainage patterns, seasonal change etc.).



KONZA PRAIRIE BIOLOGICAL STATION



Fig. 4.12 View of Konza Prairie Biological Station

Konza Prairie Biological Station includes over 8,500 acres of remnant tallgrass prairie. The station bears the name of the Kaw (Konza) Nation, the traditional stewards of the region. However, today, the station is jointly owned by the Nature Conservancy and Kansas State University. It is dedicated to long-term research, education, and prairie conservation. The proximity to the Manhattan campus gives faculty and students a valuable opportunity to learn directly from the land (Adams 2024).

Many students from K-State’s landscape architecture program informally visit the site through personal outings or guided walks with professors. The landscape architecture program should consider how this resource could facilitate deeper learning and connections to local ecosystems, especially in collaboration with Native partners. Hosting guided walks with Native professionals, for example, could offer new perspectives.

EXAMPLE MODULES

Example modules incorporate educational strategies and considerations outlined by interviewees in Part II (see Fig. 4.34). Example modules are provided to inspire how Indigenous narratives could be incorporated into the following topics: environmental ethics, landscape architecture history, and ecological design. In addition to the example modules, sources are included in Table 4.17 for information on existing courses and programs that incorporate Indigenous narratives.

COURSE OR PROGRAM	UNIVERSITY	LINK
Indigenous Design + Planning Institute (iD+Pi)	University of New Mexico	https://idpi.unm.edu/ https://idpi.unm.edu/projects/index.html
The Doris Duke Conservation Scholars Program	University of Washington	https://static.showit.co/file/s9ahLnGnQH2ZBd1HiKPUMg/181741/reflections_from_the_field_by_brett_ramey.pdf
Faculty of Architecture	University of Manitoba	https://www.canadianarchitect.com/decolonizing-the-design-process-with-five-indigenous-land-based-paradigms/ https://umanitoba.ca/architecture/sites/architecture/files/2021-02/21-02-17-voices-of-the-land_final-for-digital-view.pdf
Design Studio 2: Site, Matter, Ecology, and Indigenous Storywork	University of Toronto, John H. Daniels Faculty of Architecture, Landscape, and Design	https://www.acsa-arch.org/wp-content/uploads/2023/01/AP-CA-2023Awards-7.pdf https://www.daniels.utoronto.ca/work/reviews-crits/arc1012-site-matter-ecology-and-indigenous-storywork-design-studio-2
Nikibii Dawadinna Giigwag (Indigenous Youth program)	University of Toronto, John H. Daniels Faculty of Architecture, Landscape, and Design	https://spacing.ca/toronto/2021/09/17/indigenous-youth-help-redefine-landscape-architecture/ https://www.instagram.com/nikibii_dawadinna_giigwag/
Bandalang Studio (Indigenous Engineering Design)	Australian National University	https://eng.anu.edu.au/bandalang/

Table 4.11 Course and Program Examples

Other universities in the United States, Canada, and Australia are making efforts to incorporate Indigenous narratives into courses and programs. The above table lists a few examples.



Fig. 4.13 Layering Educational Strategies

Referring to suggestions by interviewees in Part II, educational strategies must be layered to provide deeper learning and understanding. The following example modules include strategies spanning the four main categories: witnessing, absorbing, responding, and collaborating.



Witnessing – students directly experience the peoples or places being discussed (i.e. guest lecturer, field experiences, field trips)



Absorbing – students learn material that broadens awareness (i.e. readings, dedicated lecture(s))



Responding – students have opportunities to reflect on and discuss the ideas presented in both public and private settings



Collaborating– students work together to apply lessons, engaging with Indigenous partners on projects that give direct returns to the community (i.e. group projects, studio projects, and collaborative research).



WORLDVIEWS (ETHICS COURSE)

Learning Objectives:

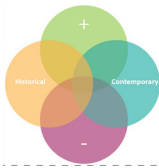
- Compare Western and Indigenous worldviews related to humans’ relationship to nature.
- Recognize personal worldviews and assumptions.
- Discuss contemporary issues related to the environment.

	STRATEGY	DESCRIPTION
	Readings	Western designer or environmentalist on environmental ethics [i.e. <i>Nature of Design</i> by David W. Orr, <i>A Sand County Almanac</i> by Aldo Leopold] Native-scholar on Indigenous environmental worldviews [i.e. <i>On Indigenuity</i> by Daniel Wildcat, <i>Braiding Sweetgrass</i> by Robin Wall Kimmerer]
	Personal Written Reflection	How do the ethics of [Orr or Leopold] and worldviews of [Wildcat or Kimmerer] mentioned relate and differ from your personal views of nature? How do these views relate to the typical views/approaches of your hometown?
	Class / Small Group Discussion	How could Indigenous worldviews and approaches mentioned by [Wildcat or Kimmerer] inform the environmental ethical dilemmas brought up by [Orr or Leopold]?

Table 4.12 Ethics Module

THE IMPORTANCE OF INDIGENOUS PERSPECTIVES

While texts like *Sacred Ecology* by Fikret Berkes offer a useful introduction to common Indigenous worldviews tied to ecology and place, writings by Indigenous scholars, like Robin Wall Kimmer in *Braiding Sweetgrass*, place students in that worldview. Each work provides valuable information, but information is communicated from different points of view – 3rd person versus 1st person. In terms of a designer, these writings communicate like a plan versus a perspective. While a plan communicates an overview of design intentions, perspective drawings allow clients to picture themselves in that place. The same is true of reading Native voices. When introducing students to worldviews, it is beneficial for students to try to place themselves in that mindset which is just one more reason why native voices should always be included.



TEP STEWARDSHIP SYSTEMS

(LANDSCAPE ARCHITECTURE HISTORY OR ECOLOGICAL DESIGN COURSE)

Learning Objectives:

- Understand that Indigenous Peoples were active stewards of their landscape.
- Learn about how TEP Stewardship Systems exhibit ecological design thinking.
- Be aware of intellectual sovereignty issues regarding TEK and TEP.
- Learn about contemporary efforts of Native Nations to reclaim their TEP.

	STRATEGY	DESCRIPTION
	Listen to a speaker or watch a video	Attend a public talk by a Native-scholar related to Indigenous stewardship, or host a Native-scholar in the class (with proper compensation). If speakers are unavailable, watch a video in class highlighting a Traditional Ecological Practice (TEP) or TEP Stewardship System (ensuring the video depicts Indigenous Peoples in the present; see Table 4.19 for examples).
	Lecture module	Module series on Indigenous ecological design mentioning each Indigenous Nation’s contemporary efforts to reclaim these practices and the injustices that led to these practices needing to be reclaimed in the first place.
	Research Presentation	Students identify a TEP stewardship system to learn more about, carefully vetting sources and producing visual diagrams for use in a class presentation. Each presentation will: • Provide a basic overview of the system (understanding that some cultural contexts may not be understood). • Express the system’s ecological design through diagrams. • Answer: What is the contemporary Indigneous community working on now regarding their stewardship system? Students then present their explorations to the class.
	Class Discussion	What are some similarities and differences between all the examples presented? How do these Indigenous precedents differ from Western ecological design precedents you have studied?

Table 4.13 Traditional Ecological Practices Module

VIDEO TITLE	LINK
Native Hawaiians Reclaim their Watershed Andrew Millison	https://www.nationofhawaii.org/articles/video-native-hawaiians-reclaim-their-watershed/
Cultural Burning Tending the Wild Season 1, Episode 1 KCET	https://www.youtube.com/watch?v=Z-EXQ9be8mE&list=PLWu5ajp6Zk8csrND9JvtUorL85NvmfFve&index=1
Learn How the Iowa Tribe of Kansas and Nebraska is Returning to their Native Agriculture Practices	https://www.youtube.com/watch?v=KZUIXxMU7WQ
The Clam Garden Restoration Project	https://www.youtube.com/watch?v=j2wPVx4sCN0 https://youtu.be/22Nytmxw2Z8?si=UjIPs7G1_2Sis-cc

Table 4.14 Traditional Ecological Practice Videos

A few examples of videos completed by or with Indigenous Peoples showcasing Traditional Ecological Practices and reclamation efforts of the Nation.

FIELD TRIP OPPORTUNITIES

Kansas State’s landscape architecture program includes travel components in its course requirements to expose students to various landscapes and design work. Travel destinations progress from local to national scales. First-year students visit local sites, and as they progress through the program, classes visit further destinations at regional, national, and international scales. Interviewees recommended that the program takes advantage of travel experiences to visit projects designed by Indigenous practitioners or with Indigenous communities (Bitsie-Baldwin 2024; Tatonetti 2024). The following maps highlight a few possibilities.

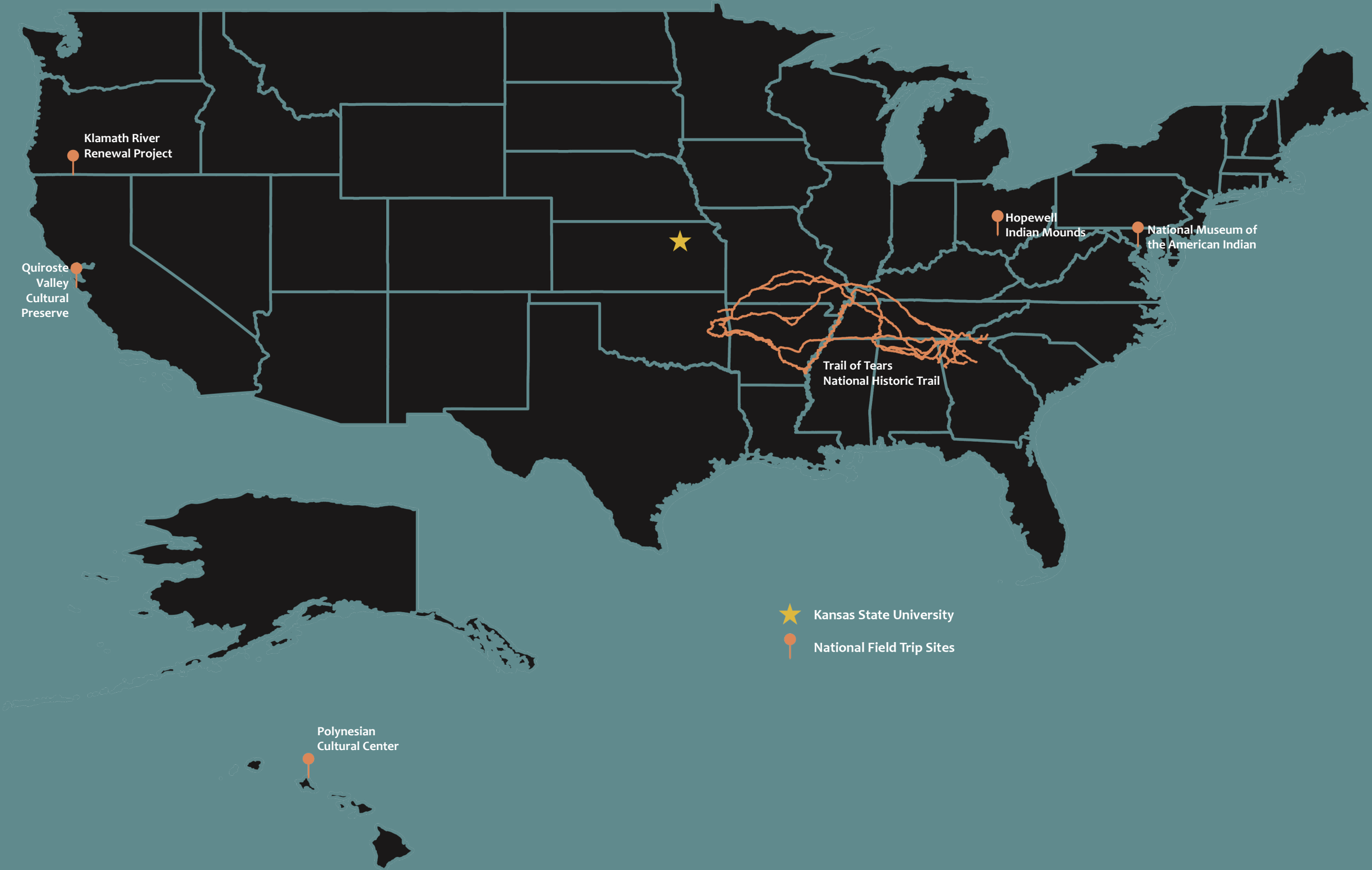
Fig. 4.14 (Bottom) Local Field Trip Opportunities
Local field trip opportunities can be incorporated in the 1st through 3rd years of the non-baccalaureate program.

Fig. 4.15 (Right) Regional Field Trip Opportunities
Regional sites could be visited in the 3rd through 5th years of the non-baccalaureate program.

Fig. 4.16 (Next Page) National Field Trip Opportunities
National sites could be visited in the 4th and 5th years of the non-baccalaureate program.



NATIONAL



- ★ Kansas State University
- National Field Trip Sites

CONCLUSION

There is much to consider when incorporating Indigenous narratives into curriculum. However, this information can offer students numerous lessons regarding community engagement, ecological design, ethics, and history. It can empower Indigenous students and build cultural competency in non-native students. There is much the profession could learn from Indigenous Peoples, and there is much the profession could gain from increased recruitment of Indigenous youth. By incorporating Indigenous narratives, the profession can begin to recognize the design knowledge of Indigenous Nations, broaden the often narrow narrative told in American public education, and engage in informed dialogue with Indigenous communities. While this report focuses on highlighting an Indigenous narrative, the framework can act as a guide for embracing multicultural perspectives in landscape architecture curricula.

Incorporating Indigenous narratives into landscape architecture curriculum is one step in a much longer journey for the profession. Professional societies must work on their own professional development and reconciliation efforts. We must think critically about our work in the past and its effect on Indigenous Peoples, their removal from their lands, and the ecological decline of their Relatives. And we must think critically about our work today. Are we respecting Relatives? Are we working towards right relations? Landscape architecture is tied to the land. And so are Indigenous Peoples. How are we approaching this relationship?

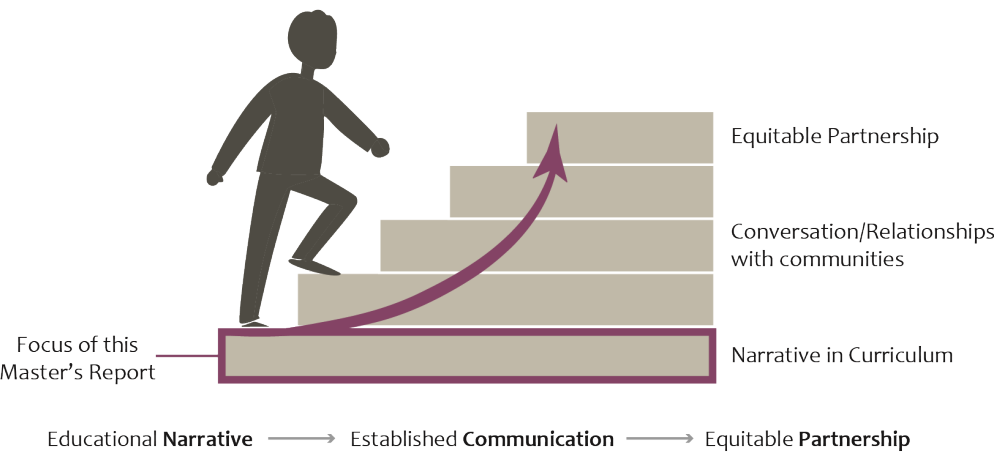


Fig. 4.17 The First Step

While this report focuses on how information related to Indigenous Peoples could be incorporated into curriculum, this is one step towards better conversations and relationships between the landscape architecture profession and Indigenous Peoples.



INITIAL ACTION ITEMS

KSU LANDSCAPE ARCHITECTURE

- 1) Send students and faculty to KSU’s Indigenous People’s Day.
- 2) While faculty are already making efforts in these areas, review how Indigenous Peoples could be more fully represented in History, Ethics, Plants, and Intro to Landscape Architecture.
 - a) Review:
 - i) Are Indigenous Peoples being discussed in contemporary contexts?
 - ii) Are the skills, strengths, and accomplishments of Indigenous People’s discussed in addition to educating students on injustices?
 - iii) Are Native voices included?
 - iv) Ensure that information does not simplify, romanticize, or relegate (to past-tense or damage-centric narratives).
 - b) Establish a common book written by a native-scholar to spark this effort:
 - i) *On Indigenuity* by Dr. Daniel Wildcat (local native-scholar)
 - ii) *Braiding Sweetgrass* by Robin Wall Kimmerer
- 3) LAR 442: Site Design and Research Studio — See if there is a need/opportunity to work on a Tribal Technical Assistance to Brownfields (Tribal TAB) project with a local Indigenous Nation.
- 4) Make students aware of related electives (see Table 4.13).
- 5) Review field trips to include projects by Indigenous practitioners and work completed by or with Indigenous communities (see Fig. 4.34-4.36).





Fig. 5.1 Hawaiian Valley



Fig. 5.2 Taro Patch



Fig. 5.3 Aerial of Taro Patches



Fig. 5.4 Loko Kuapa Sea Wall

AHUPUA'A | NATION OF HAWAII

Ahupua'a are watershed management systems. This TEP stewardship system was applied at the watershed-scale, encompassing valleys from mountain to sea that were each managed by a chief under the king. Similar models included the tabinau in the Yapese islands, the vanua in Fiji, and the puava in the Solomon islands, but the Ahupua'a system in Hawaii is noted as having reached the greatest complexity (Berkes 1999; Falanruw 1989).

A Hawaiian Ahupua'a encompassed all realms of resource-use from integrated farming in the coastal plain to forest management in the upland mountain. However, its most identifiable feature was a series of man-made ponds which held a range of salinity conditions (Costa-Pierce 1987; Gadgil et al. 1993). There were four main pond types: loko wai, general freshwater ponds; loko i'a kalo, freshwater taro root ponds; loko pu'uone, brackish water ponds; and loko kuapa, seawater ponds (see Fig. 5.9; Costa-Pierce 1987).

All four of these pond types were harvested for fish and other aquatic life. Loko wai were upland, natural or excavated ponds managed for the production of fish and prawns. Loko i'a kalo consisted of earth berms for taro root production surrounded by water channels where fish fed on insects as a form of integrated pest management. Loko pu'uone were ponds created by building earth berms that separated water from the ocean and created a unique brackish environment. Loko kuapa were areas of coastal waters separated from the ocean by a sea wall. The diversity in salinity levels supported a diverse array of aquatic life, increasing the resilience of the ancient Hawaiian's foodways.

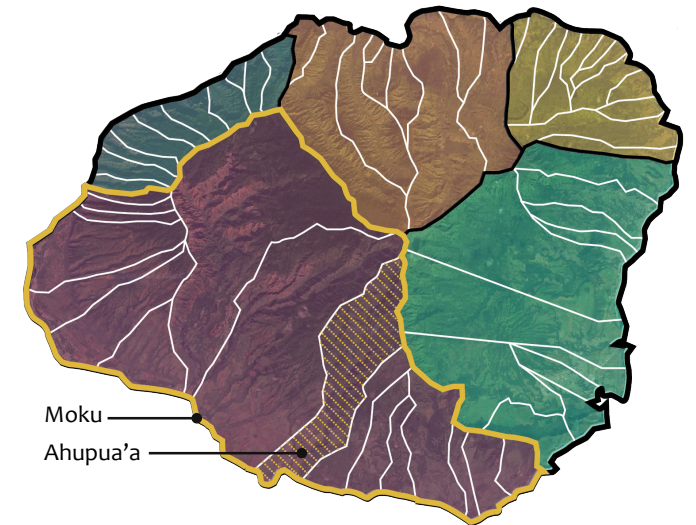


Fig. 5.5 Ahupua'a Land Tenure System

Loko kuapas utilized a fixed gate to trap fish within man-made lagoons. These man-made lagoons consisted of large sea walls with semi-permeable woven grates (Costa-Pierce 1987). The weave of the grate allowed younger fish to enter but prevented adult fish from leaving. When fish within the lagoon attempted to migrate out to sea, they concentrated by the grate where they were easily netted by fishermen (Costa-Pierce 1987).

The sea walls were massive structures spanning 366-610 meters on average that enclosed a portion of coastal waters from the open ocean during all tide levels. The scale of the loko kuapas was an engineering feat not accomplished in other parts of Polynesia. The walls were constructed of large pieces of lava rock and coral, sometimes cemented with coralline algae. Over time, the wall established a reef-like environment for marine life (Costa-Pierce 1987).

Fig. 5.7 Ahupua'a Plan
 Ahupua'as are delineated according to watershed, with land stretching on either side of a stream's valley.

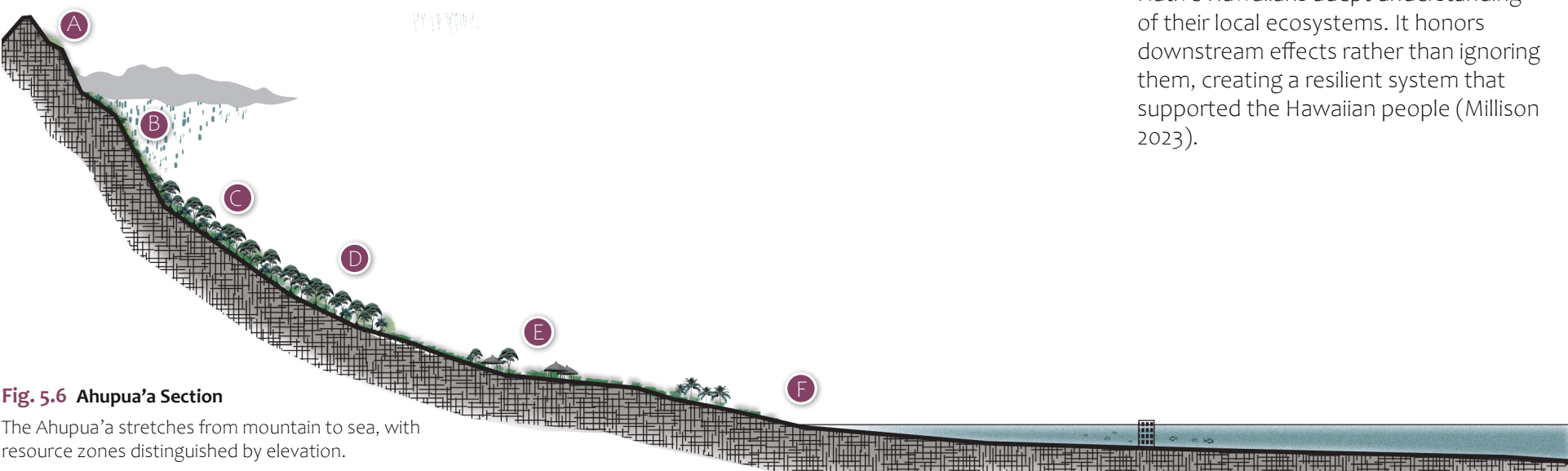
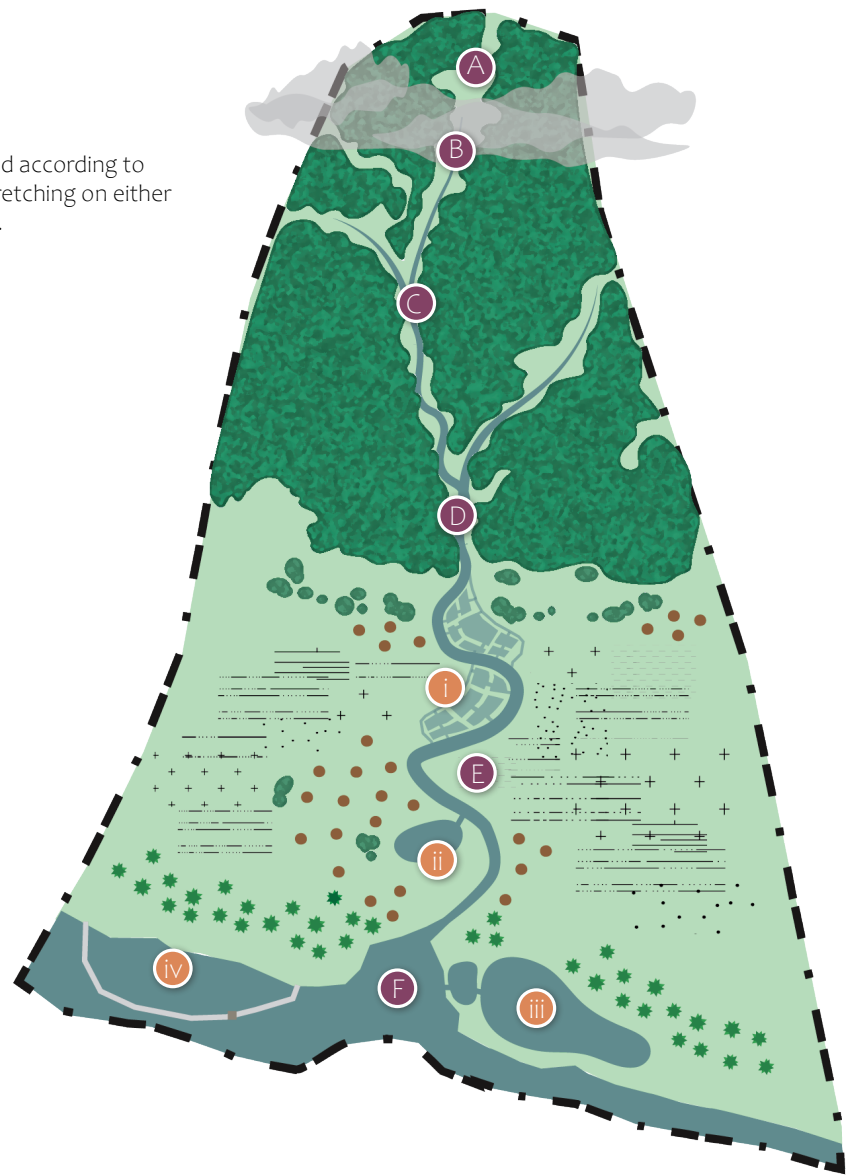


Fig. 5.6 Ahupua'a Section
 The Ahupua'a stretches from mountain to sea, with resource zones distinguished by elevation.

Loko 'ume iki consisted of low semi-circular walls that were immersed at high tide (see Figure D). Fish would swim over the walls during high tide but would become trapped as the tide receded. Nets were placed according to the tide to either catch fish as they traveled towards shore or out to sea. The walls contained varied openings that guided fish into the trap (Costa-Pierce 1987). Similar intertidal fish traps were used around the Salish Sea (Langdon 2006).

The management of Ahupua'a was critical to the system's success. Within the Ahupua'a, sections of land were designated for each family to cultivate food individually, while fish pond harvests were distributed by the chiefdom (Costa-Pierce 1987, 323-4). Initially, Ahupua'a require significant labor to build infrastructure, like the Loko kuapa sea wall. However, once established, the TEP system incorporates natural processes (Costa-Pierce 1987, 321). For example, seawater ponds were replenished by wild fisheries. Waste from vegetation and mollusk activities were used as nutrient inputs for other pond types (Costa-Pierce 1987). The Ahupua'a system demonstrates Native Hawaiians adept understanding of their local ecosystems. It honors downstream effects rather than ignoring them, creating a resilient system that supported the Hawaiian people (Millison 2023).





Fig. 5.9 Fishpond system
 The Hawaiians developed advanced aquaculture systems through a series of manmade ponds that ranged in salinity. Loko Kuapa consisted of a sea wall with an opening covered by a woven grate.



Fig. 5.8 Taro Planting to Harvest

AHUPUA'A TODAY

The Nation of Hawaii is working to re-establish the ahupua'a system around their village in Pu'u'honua O Waimanalo. After mounting pressure in the 1990s, forty-five acres of land was returned to the Nation by the state in what is today the village of Pu'u'honua O Waimanalo. With little help from the state, the Hawaiian Peoples have worked together to restore the ahupua'a to what it is today (Millison 2023).

As the Nation moves towards healing the watershed, they must deal with polluted runoff and erosion have decreased

water quality in the area. Disruptions include a military base, road systems, and recreation pressures near the waterways. Additionally, the tropical forests, including the traditionally conserved forest, must be restored. Invasive species like eucalyptus are being removed and repurposed into building materials. This effort aims to reconnect Hawaiian Peoples to their cultural ways and work towards food sovereignty via culturally relevant food sources (Millison 2023)

FORMAT	TITLE	LINK
Video	Native Hawaiians Reclaim their Watershed Andrew Millison	https://www.nationofhawaii.org/articles/video-native-hawaiians-reclaim-their-watershed/
Website	Ahupua'a System Nation of Hawaii	https://www.nationofhawaii.org/ahupuaa/
Journal	Aquaculture in Ancient Hawaii Costa-Pierce (1987)	DOI: 10.2307/1310688
Symposium Proceeding	The Hawaiian Ahupua'a Land Use System: Its Biological Resource Zones and the Challenge for Silvicultural Restoration Mueller-Dombois	https://citeseerx.ist.psu.edu/

Table 5.1 Selected Ahupua'a Sources
 The above sources provide deeper introductions to the Nation of Hawaii's Ahupua'a system.

GLOSSARY

Traditional Ecological Knowledge (TEK)

Synonyms: Indigenous Ecological Knowledge (IEK, ITEK, IK, TK; Berkes 1999, 8)

- “Traditional ecological knowledge is the term used to describe the knowledge and beliefs that Indigenous peoples hold of their environments that is handed down through the generations” (Menzies and Butler 2006, 6).
- “a cumulative body of knowledge and beliefs handed down through generations by cultural transmission about the relationship of living beings, (including humans) with one another and with their environment” (Gadgil et al. 1993, 151).
- “As described in a recent White House press release (<https://bit.ly/3dUNqPa>), TEK can be viewed as ‘a body of observations, oral and written knowledge, practices, and beliefs that promotes environmental sustainability and the responsible stewardship of natural resources through relationships between humans and environmental systems. It is applied to phenomena across biological, physical, cultural, and spiritual systems’” (Rattling Leaf Sr, 2022, p. 3).

Traditional Ecological Practices (TEP)

Synonyms: Indigenous Environmental Stewardship, Traditional Resource & Environmental Management, Traditional Cultural Practices

- “Indigenous knowledges activated as land and water care,” (Adams 2023)
- “TREM is defined as the application of traditional ecological knowledge to maintain or enhance the abundance, diversity, and/or availability of natural resources or ecosystems” (Fowler and Lepofsky, 2011, p. 286).
- “the various activities and knowledge employed to enhance the abundance, diversity, and/or availability of local resources” (Lightfoot et al. 2013, 285).

TEP Stewardship Systems

- Individual Traditional Ecological Practices (TEP) form the elements of TEP stewardship systems, painting the larger picture of how TEP affected the surrounding ecosystem. At this scale, the ecological design of the system can be more holistically examined.

Settled Cultures

- “Long-term human prospect in particular places... The history of settled people in many places reveals the fact that culture and the ecology of particular places have often been joined together with great intelligence and skill. The results, however imperfect, are habitats in which culture and nature have flourished together over many generations. They offer clues about how the human enterprise has, under some conditions, been sustained and what might be required to extend the life of our own” (Orr 2002, 7-8).

Traditional conservation ethic

- “A group of people is said to possess a traditional conservation ethic if they have an ‘awareness that they can deplete or otherwise damage their natural resources, coupled with a commitment to reduce or eliminate the problem.’ (Johannes 1994, 85)” (Berkes 1999, 72).

Ecological Design

- “We define ecological design as ‘any form of design that minimizes environmentally destructive impacts by integrating itself with living processes.’ This integration implies that the design respects species diversity, minimizes resource depletion, preserves nutrient and water cycles, maintains habitat quality, and attends to all the other preconditions of human and ecosystem health... It is not a style. It is a form of engagement and partnership with nature that is not bound to a particular design profession... Ecological design is simply the effective adaptation to and integration with nature’s processes” (Van der Ryn and Cowan 1996, 18).

Ecological Engineering

- “A simple definition of ecological engineering is “to use ecological processes within natural or constructed imitations of natural systems to achieve engineering goals. Thus, ecosystems are designed, constructed, and operated to solve environmental problems otherwise addressed by conventional technology” (Kangas 2004).
- “Ecological engineering has been defined as ‘designing human society with its natural environment for the benefit of both’ (Mitch and Jorgenson, 2004). H.T. Odum described the practice of ecological engineering as ‘Management that joins human design and environmental self-design, so that they are mutually symbiotic’ (Odum 1988)” (Matlock and Morgan 2011, 1).

Resilience

- “Holling (1973) proposed... the concept of ecosystem resilience as the ability of a system to absorb change and still persist” (Berkes 1999, 61).

MASTER RESOURCE LIST

PRIMARY TOPIC CATEGORIES	TYPE	AUTHOR	TRIBAL AFFILIATION	DATE	TITLE	LOCATION	LINK(S)
	Museum, webinars, lesson plans	N/A	Founder, Cherokee	N/A	Museum of Native American History	202 SW O Street Bentonville, AR 72712	http://www.youtube.com/@monah.org/lesson-plans
	Museum, design precedent, educator trainings	N/A	N/A	N/A	First Americans Museum Oklahoma	659 First Americans Blvd. Oklahoma City, OK 73129	https://famok.org/
TEK, Worldviews, Contemporary Issues	Book	Wildcat, Daniel	Yuchi member of the Muscogee Nation of Oklahoma	2009	Red Alert! Saving the Planet with Indigenous Knowledge	n/a	
TEK, Worldviews	Book	Kimmerer, Robin Wall	Citizen Potawatomi Nation	2003	Gathering Moss: A Natural and Cultural History of Mosses	n/a	
TEK, Worldviews	Book	Kimmerer, Robin Wall	Citizen Potawatomi Nation	2013	Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants	n/a	
History, Worldviews	Book	N. Scott Momaday	Kiowa	1969	The Way to Rainy Mountain	n/a	
	Website, Map	n/a	n/a	n/a	Native Land Digital	n/a	https://native-land.ca/
	Book	Catton, Theodore	n/a	2016	American Indians and the National Forests		
History	Book and Video	Diamonds, Jared	n/a	1999	Guns, Germs, and Steel: The Fates of Human Societies		
History	Book	Mann, Charles	n/a	2005	1491		
History	Book	Pekka Hämäläinen	n/a	2022	Indigenous Continent: The Epic Contest for North America		
TEK	Book	Fikret Berkes	n/a	2018	Sacred Ecology (4th Edition)		
Contemporary Issues	Newscast	n/a	n/a	n/a	Indian Country Today News		https://ictnews.org/
					Lisa Tattonetti’s QR code page		http://www.youtube.com/@IndianCountryToday
History, Ecology	Book	Cronin, William	n/a	1983	Changes in the Land: Indians, Colonists, and the Ecology of New England		
	Book	Treuer, Anton	Ojibwe	2012	Everything You Wanted to Know About Indians But Were Afraid to Ask Paperback		
	Book	Treuer, David	Ojibwe	2019	The Heartbeat of Wounded Knee: Native America from 1890 to the Present		

MASTER RESOURCE LIST (CONT.)

PRIMARY TOPIC CATEGORIES	TYPE	AUTHOR	TRIBAL AFFILIATION	DATE	TITLE	LOCATION	LINK(S)
	Book	Gwen Westerman	enrolled member of the Sisseton-Wahpeton Dakota Oyate	2012	Mni Sota Makoce: The Land of the Dakota		
	Book	Bruce White	n/a	2001	Power and Place: Indian Education in America		
		Deloria Jr., Vine	Standing Rock Sioux				
		Wildcat, Daniel	Yuchi member of the Muscogee Nation of Oklahoma				
	Book	Deloria Jr., Vine	Standing Rock Sioux	1969	Custer Died for Your Sins: An Indian Manifesto		
Worldviews	Book	Deloria Jr., Vine	Standing Rock Sioux	2003	God Is Red: A Native View of Religion		
Worldviews, Contemporary Issues, History	Book	Champagne, Duane (Editor)	Turtle Mountain Band of Chippewa	2002	Native American Studies in Higher Education: Models for Collaboration between Universities and Indigenous Nations		
	Book	Stauss, Jay (Editor)	Jamestown S'Klallam	1994	Native America: Portrait of the Peoples		
		Champagne, Duane	Turtle Mountain Band of Chippewa				
	Website	Elkin, Rosetta S.	n/a		Landscapes of Retreat		
	Course example	University of Toronto	n/a	2021	Design Studio 2: Site, Matter, Ecology, and Indigenous Storywork		https://www.daniels.utoronto.ca/news/thu-feb-9-2023-all-day/architecture-course-highlighting-indigenous-storywork-recognized-acsa
	Recruitment program example	University of Toronto	n/a	n/a	Nikibii Dawadinna Giigwag		https://www.daniels.utoronto.ca/news/mon-sep-20-2021-12am/inside-nikibii-dawadinna-giigwag-program-connects-indigenous-youth
	Lesson plans	Assembly of First Nations	n/a	n/a	The Assembly of First Nations (AFN) Education Toolkit		https://education.afn.ca/afntoolkit/
	Fiction Book	Silko, Leslie Marmon	Laguna Pueblo	2006	Ceremony		

MASTER RESOURCE LIST (CONT.)

PRIMARY TOPIC CATEGORIES	TYPE	AUTHOR	TRIBAL AFFILIATION	DATE	TITLE	LOCATION	LINK(S)
	Fiction Book	Orange, Tommy	nrolled member of the Cheyenne and Arapaho Tribes of Oklahoma	2018	There, There		
	Course Example	Haskell Indian Nations University and Kansas University	n/a	n/a	Environmental Issues of the Wakarusa Wetlands		
	Recruitment program example	Haskell Indian Nations University and Kansas University	n/a	n/a	Haskell-KU Bridges to the baccalaureate Program		https://bridge.ku.edu/
	Professional Development, lesson plans	National Museum of the American Indian		n/a	Smithsonian Native Knowledge 360 program		https://americanindian.si.edu/nk360/
Education	Book	Younging, Gregory	Opaskwayak Cree Nation	2018	Elements of Indigenous Style: A Guide for Writing By and About Indigenous Peoples		
	Course examples	University of New Mexico					
Professional Development	Professional Society, Conference	n/a	n/a	n/a	Institute for Tribal Environmental Professionals		https://www7.nau.edu/itep/main/Home/
Design	Library Research Guide	University of Indiana-Bloomington	n/a	n/a	Indigenous Design Library Research Guide		https://guides.libraries.indiana.edu/indigenous-design
Design, Contemporary Issues	Book	Elizabeth Grant		2018	The Handbook of Contemporary Indigenous Architecture		
		Kelly Greenop					
		Albert L. Refiti					
		Daniel J. Glenn					

Table 5.2 Master Resources List

REFERENCES

- Adams, Melinda. 2023. “Indigenous Ecologies: Cultivating Fire, Plants, and Climate Futurity.” California Native Plant Society (blog). November 28, 2023. <https://www.cnps.org/artemisia-journal/indigenous-ecologies-cultivating-fire-plants-and-climate-futurity-36553>.
- Adams, Melinda. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Advisory Council on Historic Preservation (ACHP). 2021. “Consultation with Indian Tribes in the Section 106 Review Process: The Handbook.”
- American Society of Landscape Architects. 2022. “Climate Action Plan Executive Summary.”
- Apfelbaum, Steven I., and Alan W. Haney. 2012. *The Restoring Ecological Health to Your Land Workbook*. Washington, DC: Island Press.
- Armatas, Christopher A., Tyron J. Venn, Brooke B. McBride, Alan E. Watson, and Steve J. Carver. 2016. “Opportunities to Utilize Traditional Phenological Knowledge to Support Adaptive Management of Social-Ecological Systems Vulnerable to Changes in Climate and Fire Regimes.” *Ecology and Society* 21 (1). <http://www.jstor.org.er.lib.k-state.edu/stable/26270350>.
- Balick, Michael, and Darrell Posey. 2006. *Human Impacts on Amazonia : The Role of Traditional Ecological Knowledge in Conservation and Development*. Biology and Resource Management Series. New York, NY: Columbia University Press,. <https://doi.org/10.7312/pose10588>.
- Barden, Charles. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Beck, Travis. 2013. *Principles of Ecological Landscape Design*. Washington, DC: Island Press.
- Berkes, Fikret. 1999. *Sacred Ecology : Traditional Ecological Knowledge and Resource Management*. Philadelphia, PA: Taylor & Francis.
- Bitsie-Baldwin, LaVerne. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Blackburn, Thomas C., and Kat Anderson, eds. 1993. *Before the Wilderness: Environmental Management by Native Californians*. BPAP, no. 40. Menlo Park, CA: Ballena Press.
- Blanchard, Paulette. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Bolton, Debra. 2023. “Indigenous 101.” Virtual presentation at SAFE Zone, Kansas State University, October.
- Bolton, Debra. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Brown, Laurie. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Brown, Mark T. 2004. “A Picture Is Worth a Thousand Words: Energy Systems Language and Simulation.” *Ecological Modelling* 178 (1): 83–100. <https://doi.org/10.1016/j.ecolmodel.2003.12.008>.
- Caldwell, Megan E., Dana Lepofsky, Georgia Combes, Michelle Washington, John R. Welch, and John R. Harper. 2012. “A Bird’s Eye View of Northern Coast Salish Intertidal Resource Management Features, Southern British Columbia, Canada.” *Journal of Island and Coastal Archaeology* 7 (2): 219–33. <https://doi.org/10.1080/15564894.2011.586089>.
- Chapman, Ann E. 2020. “Nineteenth Century Trends in American Conservation (U.S. National Park Service).” 2020. <https://www.nps.gov/articles/000/nineteenth-century-trends-in-american-conservation.htm>.
- Corner, James, ed. 1999. *Recovering Landscape: Essays in Contemporary Landscape Architecture*. New York: Princeton Architectural Press.
- Costa-Pierce, Barry A. 1987. “Aquaculture in Ancient Hawaii.” *BioScience* 37 (5): 320–31. <https://doi.org/10.2307/1310688>.
- Dawson, Davin. 2024. Survey Response for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum.
- Deur, Douglas, Adam Dick, Kim Recalma-Clutesi, and Nancy J. Turner. 2015. “Kwakwaka’wakw ‘Clam Gardens’: Motive and Agency in Traditional Northwest Coast Mariculture.” *Human Ecology* 43 (2): 201–12. <http://www.jstor.org.er.lib.k-state.edu/stable/24762795>.
- Elkin, Rosetta S. 2022. “Landscapes of Retreat.” 2022. <https://landscapesofretreat.com/>.
- Fowler, Catherine S., and Dana Lepofsky. 2011. “Traditional Resource and Environmental Management.” In *Ethnobiology*, edited by E. N. Anderson, D. Pearsall, E. Hunn, and N. Turner, 1st ed., 285–304. Wiley. <https://doi.org/10.1002/9781118015872.ch17>.
- Fragua, Paul. 2024. Survey Response for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum.
- Gadgil, M. (Indian Inst. of Science, Bangalore (India). Centre for Ecological Sciences), F. Berkes, and C. Folke. 1993. “Indigenous Knowledge for Biodiversity Conservation.” *Ambio* 22 (2–3): 151–56.
- Gehler, J., M. Cantz, J. F. O’Brien, M. Tolksdorf, and J. Spranger. 1975. “Mannosidosis: Clinical and Biochemical Findings.” *Birth Defects Original Article Series* 11 (6): 269–72.
- Ghisla, S., and S. G. Mayhew. 1976. “Identification and Properties of 8-Hydroxyflavin-Adenine Dinucleotide in Electron-Transferring Flavoprotein from *Peptostreptococcus Elsdenii*.” *European Journal of Biochemistry* 63 (2): 373–90. <https://doi.org/10.1111/j.1432-1033.1976.tb10239.x>.

REFERENCES (CONT.)

- Gordon (Iñupiaq), Heather Sauyaq Jean, J. Ashleigh Ross, Cheryl Bauer-Armstrong, Maria Moreno, Rachel Byington (Choctaw), and Nicole Bowman (Lunaape/Mohican). 2023. “Integrating Indigenous Traditional Ecological Knowledge of Land into Land Management through Indigenous-Academic Partnerships.” *Land Use Policy* 125 (February): 106469. <https://doi.org/10.1016/j.landusepol.2022.106469>.
- Haaland, Deb, and Thomas J. Vilsack. 2021. Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters. <https://www.doi.gov/sites/doi.gov/files/elips/documents/so-3403-joint-secretarial-order-on-fulfilling-the-trust-responsibility-to-indian-tribes-in-the-stewardship-of-federal-lands-and-waters.pdf>.
- Hayman, Jann. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Hester, Randolph T. 2006. *Design for Ecological Democracy*. Cambridge, Mass.: MIT Press.
- Iowa Tribe of Kansas and Nebraska. 2023. “Ioway Climate Resilience: Náwo Wapánagun Hinmányi.” <https://publuu.com/flip-book/199107/482028/page/1>.
- Johannes, R. E. (Robert Earle). 1989. *Traditional Ecological Knowledge : A Collection of Essays*. Gland, Switzerland: IUCN, World Conservation Union.
- Johnson, Bart R., and Kristina Hill, eds. 2002. *Ecology and Design: Frameworks for Learning ; [Developed from The Shire Conference of 1998]*. The Shire Papers 1. Washington, DC: Island Press.
- Jones, David S., ed. 2021. *Learning Country in Landscape Architecture: Indigenous Knowledge Systems, Respect and Appreciation*. Singapore: Springer Singapore. <https://doi.org/10.1007/978-981-15-8876-1>.
- Kangas, Patrick C. 2004. *Ecological Engineering: Principles and Practice*. Boca Raton, Fla.: Lewis.
- Kansas Delaware Tribe. n.d. “Kansas Delaware History.” Accessed March 24, 2024. <https://www.kansasdelaware.org/history.html>.
- Kansas State University. 2024. “Landscape Architecture.” 2024. <https://apdesign.k-state.edu/larcp/la/>.
- Kansas State University. 2022. “Student Projects.” 2022. https://apdesign.k-state.edu/larcp/why_larcp/real_world_engagement/student_projects.html.
- Kaplan, Rachel, Stephen Kaplan, and Robert L. Ryan. 1998. *With People in Mind: Design and Management of Everyday Nature*. Washington, D.C: Island Press.
- Kaul, Manisha, Jenny Davis, and Lauren Leighty. 2023. “Repositioning Campus Landscapes: Can Engaging Native Nations Promote Social and Environmental Resilience?” Presented at the ASLA National Conference.
- Kaul, Manisha. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Kimmerer, Robin Wall. 2013. *Braiding Sweetgrass : Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*. First edition. Minneapolis, Minnesota: Milkweed Editions.
- Kindscher, Kelly. 1987. *Edible Wild Plants of the Prairie: An Ethnobotanical Guide*. Lawrence, Kansas: University Press of Kansas.
- Kindscher, Kelly. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Koepke, John. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Konza Prairie Biological Station. 2024. “Konza Prairie Biological Station | Kansas State University.” 2024. <https://kpbs.konza.k-state.edu/>.
- LaGro, James A. 2007. *Site Analysis: A Contextual Approach to Sustainable Land Planning and Site Design*. 2nd ed. Hoboken, N.J: John Wiley & Sons.
- Langdon, Steve J. 2006. “Tidal Pulse Fishing.” In *Traditional Ecological Knowledge and Natural Resource Management*, edited by Charles R. Menzies, 21–47. Lincoln: University of Nebraska Press.
- Latulippe, Nicole. 2015. “Situating the Work: A Typology of Traditional Knowledge Literature.” *AlterNative : An International Journal of Indigenous Peoples* 11 (2): 118–31. <https://doi.org/10.1177/117718011501100203>.
- Leal, Jose de Jesus. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Leal, Jose de Jesus. 2023. “Indigenous Traditional Ecological Knowledge and Our Obligations to Truth and Healing.” Presented at the ASLA National Conference, Minneapolis, Minnesota.
- Leopold, Aldo. 1989. *A Sand County Almanac and Sketches Here and There*. Special commemorative ed. Oxford University Press Paperback. New York, NY: Oxford Univ. Pr.
- Lewis, Martin W. 1992. “Primal Purity and Natural Balance.” In *Green Delusions: An Environmentalist Critique of Radical Environmentalism*, 43–81. Durham: Duke University Press.
- Lewis, Philip H. 1996. *Tomorrow by Design: A Regional Design Process for Sustainability*. The Wiley Series in Sustainable Design. New York: Wiley.
- Lightfoot, Kent G., Rob Q. Cuthrell, Chuck J. Striplen, and Mark G. Hylkema. 2013. “Rethinking the Study of Landscape Management Practices Among Hunter-Gatherers in North America.” *American Antiquity* 78 (2): 285–301. <http://www.jstor.org/stable/23486319>.

REFERENCES (CONT.)

- Lyle, John Tillman. 1985. *Design for Human Ecosystems: Landscape, Land Use, and Natural Resources*. Washington, D.C: Island Press.
- Marsh, William M. 2005. *Landscape Planning: Environmental Applications*. 4th ed. Hoboken, NJ: Wiley.
- Martin, Jay F., Eric D. Roy, Stewart A.W. Diemont, and Bruce G. Ferguson. 2010. “Traditional Ecological Knowledge (TEK): Ideas, Inspiration, and Designs for Ecological Engineering.” *Ecological Engineering* 36 (7): 839–49. <https://doi.org/10.1016/j.ecoleng.2010.04.001>.
- Maswood, Fatema. 2019. “Harvesting Stormwater: Traditional Ecological Knowledge and Drylands Stormwater Infrastructure in Tunis, Tunisia.” Master’s, Seattle: University of Washington. UW Research Works. <http://hdl.handle.net/1773/44839>.
- Matlock, Marty D., and Robert A. Morgan. 2011. *Ecological Engineering Design: Restoring and Conserving Ecosystem Services*. Hoboken, NJ: Wiley.
- McHarg, Ian L. 1969. *Design with Nature*. New York Chichester Brisbane Toronto Singapore: John Wiley & Sons, Inc.
- Menzies, Charles R. 2006. *Traditional Ecological Knowledge and Natural Resource Management*. Lincoln: University of Nebraska Press.
- Menzies, Charles R., and Caroline Butler. 2006. “Introduction.” In *Traditional Ecological Knowledge and Natural Resource Management*, edited by Charles R. Menzies, 1–21. Lincoln: University of Nebraska Press.
- Millison, Andrew. 2023. Ahupua’a: Native Hawaiians Taking Back Their Watersheds. <https://www.youtube.com/watch?v=q7q8friw1p8>.
- Millison, Andrew. 2022. Chinampas of Mexico: Most Productive Agriculture EVER? <https://www.youtube.com/watch?v=86gyWovUmVs>.
- Montgomery, Michelle, and Paulette Blanchard. 2021. “Testing Justice: New Ways to Address Environmental Inequalities - The Solutions Journal.” June 23, 2021. <https://web.archive.org/web/20210623014420/https://thesolutionsjournal.com/2021/03/01/testing-justice-new-ways-to-address-environmental-inequalities/>.
- Mueller-Dombois, Dieter. 2007. *The Hawaiian Ahupua’a Land Use System: Its Biological Resource Zones and the Challenge for Silvicultural Restoration*. Edited by N. L. Evenhuis and J. Michael Fitzsimmons. Bishop Museum Bulletin in Cultural and Environmental Studies 3. Honolulu: Bishop Museum Press.
- Natural Resources Conservation Service. n.d. “Conservation Practice Standards Information.” Natural Resources Conservation Service. Accessed December 2, 2022. <http://www.nrcs.usda.gov/getting-assistance/conservation-practices>.
- Ndubisi, Forster O. 2014. *The Ecological Design and Planning Reader*. Washington, DC, UNITED STATES: Island Press. <http://ebookcentral.proquest.com/lib/ksu/detail.action?docID=4509450>.
- Nelson, Amy. 2018. “Lessons from Indigenous Traditions and Innovation: Cultivating Connection: Restoring Clam Gardens.” *Biohabitats*. 2018. <https://www.biohabitats.com/newsletter/ecology-culture-and-economy-lessons-from-indigenous-traditions-and-innovation/cultivating-connection-restoring-clam-gardens/>.
- Nelson, Melissa K., and Dan Shilling, eds. 2018. *Traditional Ecological Knowledge: Learning from Indigenous Practices for Environmental Sustainability*. [First edition]. Cambridge, UK: Cambridge University Press.
- Orr, David W. 2002. *The Nature of Design: Ecology, Culture, and Human Intention*. New York: Oxford University Press.
- PBS Terra, dir. 2023. Can Ancient Wisdom Save the Forests? <https://www.youtube.com/watch?v=YPvIGnYZQDY>.
- Perlman, Dan L., and Jeffrey C. Milder. 2005. *Practical Ecology for Planners, Developers, and Citizens*. Washington, DC : [Cambridge, Mass.]: Island Press : Lincoln Institute of land policy.
- Pierotti, Raymond, and Daniel Wildcat. 2000. “TRADITIONAL ECOLOGICAL KNOWLEDGE: THE THIRD ALTERNATIVE (COMMENTARY).” *Ecological Applications* 10 (5).
- Ramey, Brett. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Rattling Leaf Sr, James. 2022. “What Is Traditional Ecological Knowledge and Why Does It Matter?” *Frontiers in Ecology and the Environment* 20 (1): 3–3. <https://doi.org/10.1002/fee.2465>.
- Reichel-Dolmatoff, G. 1976. “Cosmology as Ecological Analysis: A View from the Rain Forest.” *Man* 11 (3): 307–18. <https://doi.org/10.2307/2800273>.
- Robbins, Jim. 2018. “Native Knowledge: What Ecologists Are Learning from Indigenous People.” *Yale E360*. 2018. <https://e360.yale.edu/features/native-knowledge-what-ecologists-are-learning-from-indigenous-people>.
- Rottle, Nancy, and Ken Yocom, eds. 2010. *Ecological Design. Basics Landscape Architecture* 02. Lausanne: AVA Acad.
- Sams, Charles F. 2022. “Tribal Co-Management of Federal Lands.” Office of Congressional and Legislative Affairs. March 10, 2022. <https://www.doi.gov/ocl/tribal-co-management-federal-lands>.
- Sanders, Chris, and Neil Eisenberger. 2023. “If This Stream Could Talk.” Presented at the ASLA National Conference.
- Sanders, Chris. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.

REFERENCES (CONT.)

- Schulte, Scott. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- Scott, Aaron, and Berly McCoy. n.d. “Working With Tribes To Co-Steward National Parks.” Short Wave from NPR. <https://www.npr.org/2022/09/20/1124112118/working-with-tribes-to-co-steward-national-parks>.
- Smith, Linda Tuhiwai. 1999. *Decolonizing Methodologies: Research and Indigenous Peoples*. Second edition. London: Zed Books.
- Steiner, Frederick R. 2000. *The Living Landscape: An Ecological Approach to Landscape Planning*. 2nd ed. New York: McGraw Hill.
- Styres, Sandra D. 2017. *Pathways for Remembering and Recognizing Indigenous Thought in Education: Philosophies of Iethi’nihsténha Ohwentsia’kékha (Land)*. Toronto ; Buffalo: University of Toronto Press.
- Tahmahkera, Dustin. 2023. “Indigenous People’s Day Keynote.” Kansas State University, Manhattan, KS.
- Tatonetti, Lisa. 2024. Research Interview for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum Interview by Sabreena Leach.
- The White House. 2022. “Readout: Engagement on Development of White House Indigenous Knowledge Effort | OSTP.” The White House. June 27, 2022. <https://www.whitehouse.gov/ostp/news-updates/2022/06/27/readout-ostp-and-ceq-initial-engagement-on-white-house-indigenous-knowledge-effort/>.
- Tom, Erica, Melinda M. Adams, and Ron W. Goode. 2023. “Solastalgia to Soliphilia: Cultural Fire, Climate Change, and Indigenous Healing.” *Ecopsychology* 15 (4): 322–30. <https://doi.org/10.1089/eco.2022.0085>.
- Tribal Technical Assistance to Brownfields. 2023. “Tribal TAB | KSU TAB - Technical Assistance to Brownfields.” 2023. <https://www.ksutab.org/tribal-tab>.
- UNESCO. 2024. “UNESCO - Yaokwa, the Enawene Nawe People’s Ritual for the Maintenance of Social and Cosmic Order.” 2024. <https://ich.unesco.org/en/USL/yaokwa-the-enawene-nawe-people-s-ritual-for-the-maintenance-of-social-and-cosmic-order-00521>.
- University of New Mexico. 2020. “Decentering the Euro-centric Design Process: Indigenous Landscape Architecture at the University of New Mexico.” ASLA. Webinar. <https://vimeo.com/492584907>.
- University of New Mexico. n.d. “Cochiti Pueblo Brownfield Project :: Indigenous Design + Planning Institute | The University of New Mexico.” Accessed March 24, 2024. <https://idpi.unm.edu/projects/cochiti-pueblo-brownfield-project.html>.
- U.S. Department of the Interior. n.d. “Search Federally Recognized Tribes | Indian Affairs.” Accessed March 11, 2024. <https://www.bia.gov/service/tribal-leaders-directory/federally-recognized-tribes>.
- U.S. Federal News Service. 2022. “BLM PUBLISHES TRIBAL CO-STEWARDSHIP POLICY, REAFFIRMS COMMITMENT TO WORK WITH TRIBES TO MANAGE PUBLIC LANDS - ProQuest.” September 13, 2022. <https://www.proquest.com/docview/2714087359?parentSessionId=NHwfdE4oVcMYOOpSzgAQdqCQtLFFn8CmZlm41N7fUhl%3D&pq-origsite=primo&accountid=11789>.
- Van der Ryn, Sim, and Stuart Cowan. 1996. *Ecological Design*. Washington, D.C: Island Press.
- W̱SÁNEĆ Leadership Council. 2020. “The Clam Garden Restoration Project.” W̱SÁNEĆ Leadership Council. March 10, 2020. <https://wsanec.com/the-clam-garden-restoration-project/>.
- Watson, Julia, and Wade Davis. 2019. *Lo-TEK: Design by Radical Indigenism*. Cologne: Taschen.
- West, Audrey. 2024. Survey Response for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum.
- Whyte, Kyle Powys. 2013. “On the Role of Traditional Ecological Knowledge as a Collaborative Concept: A Philosophical Study.” *Ecological Processes* 2 (1): 7. <https://doi.org/10.1186/2192-1709-2-7>.
- Wildcat, Daniel. 2024. “Indigenuity and Sustainability: Acknowledging Ancient Wisdom to Solve Modern Problems.” Kansas State University.
- Willing, Nathaniel. 2024. Survey Response for Recognizing the First Ecological Designers: Weaving Indigenous Narratives into Landscape Architecture Curriculum.

FIGURES

Fig. 1.1 Leach, Sabreena. Traditional Homeland of the Kaw Nation. Digital Image. 2024.

- o Native Land Digital. Territories - Washtáge MoꞤzháꞤ (Kaw / Kansa). Digital Image. 2024. <https://native-land.ca/maps/territories/kaw-kansa/>

Fig. 1.2 Leach, Sabreena. Recognizing the Overlap. Digital Image. 2024.

Fig. 1.3 Leach, Sabreena. Setting a Foundation. Digital Image. 2024.

Fig. 1.4 Leach, Sabreena. Indigenous Narrative Components. Digital Image. 2024.

Fig. 1.5 Leach, Sabreena. Methods. Digital Image. 2024.

Fig. 1.6 Leach, Sabreena. Communication Timeline. Digital Image. 2024.

Fig. 1.7 Leach, Sabreena. Literature Review Map. Digital Image. 2024.

Fig. 2.1 Leach, Sabreena. Part I: Literature Review Map. Digital Image. 2024.

Fig. 2.2 Tracy. Prairie Fire. Digital Image. 2008. Flickr. <https://www.flickr.com/photos/31417716@N00/2605843539/in/photolist-4YgCuT-28o2qk4-2kRWZjF-28mVxfb-2ktHe1h-Rd6B1u-7X61JP-2p5BjxV-2jE75ng-27U8Ex7-3byMBn-FyAHjp-2gyv2vu-9AXgt-Htv5Hr-49ZxFE-2hckJD3-Ywp493-2oDCVLC-31RP9f-5R54KR-qkuYcz-FXcazX-2kz1mJY-2bg5BzQ-CTBij>

Fig. 2.3 Leach, Sabreena. Socio-ecological Context of Traditional Ecological Practices. Digital Image. 2024.

- o Adapted from Berkes, Fikret. 2018. Sacred Ecology. Fourth Edition. New York, NY: Routledge, 11, 1.1

Fig. 2.4 K-State Research and Extension. 4-08-2010_282. Digital Image. 2016. <https://www.flickr.com/photos/ksrecomm/25791683393/in/album-72157664778226554/>

Fig. 2.5 Huang, Jay. Sunset at Rolling Hills. Digital Image. 2018. Flickr. <https://www.flickr.com/photos/jayhuangphotos/24776255597/in/photolist-DKoMAD-2db7QGw-dNNSc7-ELd54B-2eiCaqy-DZWf5p-EtX5YZ-Rn4iYr-LF5Ycm-2dKNsqj-XjgZD1-DQodX9-UMSnnQ-255Tp48-24a7YTD-xypc3F-Dg2HcX-ipqrsW-czMVgq-ipqoE3-ipqjKB-iprpup-e7xyH3-XB9dws-XB9duh-7JYc8v-JE>

Fig. 2.6 Leach, Sabreena. Scales of Understanding. Digital Image. 2024

Fig. 2.7 Leach, Sabreena. Ahupua’a Land Tenure System. Digital Image. 2024.

Fig. 2.8 Leach, Sabreena. Ahupua’a Section. Digital Image. 2024.

Fig. 2.9 Leach, Sabreena. Ahupua’a Plan. Digital Image. 2024.

Fig. 2.10 Leach, Sabreena. Clam Garden. Digital Image. 2024.

- o Adapted from Simon Fraser University. “Clam garden terrace.” 2015. Digital Image. Flickr. <https://www.flickr.com/photos/sfupamr/17227218471/in/faves-193407955@No8/>

Fig. 2.11 Leach, Sabreena. Clam Garden Construction. Digital Image. 2024.

Fig. 2.12 Leach, Sabreena. Collage of Traditional Ecological Practices. Digital Image. 2024.

- o Leautaud, Pablo. “Xochimilco desde el aire.” 2016. Digital Image. Flickr. <https://www.flickr.com/photos/pleautaud/29621536163/in/faves-193407955@No8/>

- o Haugen, Christian. “The floating islands of Uros.” 2009. Digital Image. Flickr. <https://www.flickr.com/photos/christianhaugen/3656385971/in/faves-193407955@No8/>
- o Pacific Southwest Forest Service. “Prescribed Burning Fall 2017.” 2017. Digital Image. Flickr. <https://www.flickr.com/photos/usfsregion5/38142162644/in/faves-193407955@No8/>
- o Bezaire, Dave. “The Custer Bison Herd.” 2011. Digital Image. Flickr. <https://www.flickr.com/photos/dlbezaire/6038386270/in/faves-193407955@No8/>
- o Fernando. “Salineras de Maras.” 2015. Digital Image. Flickr. <https://www.flickr.com/photos/fdecastrob/23392979781/in/faves-193407955@No8/>
- o Bk. “Farming Terraces at Machu Picchu.” 2022. Digital Image. Flickr. <https://www.flickr.com/photos/joiseyshowaa/52067149028/in/photolist-2njZKq1-2jhxH9o-pWeSZ3-29Ka2YL-7wJqqg-7wJAsn-7wNkhL-7wJmqk-6woCpj-7wJyvX-7wJsDe-7wNr41-pWnZDp-7mNDz3-7wNib1-2n2Wq5R-5TExeu-5TatXH-24hnmw3c-9o87L-FZyh3Y-5TFbPo-LGHKTE-7u2VGi-5w8nm-5w46GD-5w46D4-5w46zk-Qsc7Fb-5w8rKm-5w8rSA-2cxHb7W-cYXNZq-4CGkn3-5w8rqu-MbkkRW-2xJneP-4o1Juo-4Unmno-2jPfobi-bahWyV-bNWSJD-7VUDvx-7VU7T8-6jAJAN-2brCpDc-KpwewJ-bahUJR-4o1JhG-7w1PYF>
- o Simon Fraser University. “Clam garden terrace.” 2015. Digital Image. Flickr. <https://www.flickr.com/photos/sfupamr/17227218471/in/faves-193407955@No8/>
- o Jeff. “Limahuli Garden & Preserve - Kauai, Hawaii.” 2014. Digital Image. Flickr. <https://www.flickr.com/photos/37276114@N02/14156743037/in/photolist-NYZ1UV-PW1dNq-QZGGF-RUUMMo-FFMLGH-NPXGMV-E7m8B4-E7m5Hz-FF51AN-PW1e8J-rwFAMU-NMAPC9-FFmHKS-RQYAG9-PThExD-E7RSHQ-PGPO4P-QZKMD-R95S4A-924ABU-PDZCWA-R96Q2J-RUUO6Q-oMzHAT-rpCHU6-2iTEJZA-2iTEfSA-2iTHSKN-FFJfKY-PW1e19-QAF9uX-E4PASR-MX5H7-R96ODQ-MX2ZS-NRsjNR-oMiNGT-NRjIPS-R95SKY-NRJUWY-RPVHJ6-nTfEV6-MX2KB-E7M75P-E7MBHR-oKxPCA-JSBKA2-4pZH36-E7MDA8-9vTiXh>

Fig. 2.13 Leach, Sabreena. Collage of Traditional Ecological Practitioners. Digital Image. 2024.

- o The International Maize and Wheat Improvement Center. María Isabel Pérez González, Toluca, Chiapas. Digital Image. 2018. <https://www.flickr.com/photos/cimmyt/45015084694/in/faves-193407955@No8/>
- o McCullough, Michael. Klamath Tribe - Making Traditional Dugout Canoes - Lake of the Woods, Oregon. Digital Image. 2012. https://www.flickr.com/photos/ex_magician/7823565642/in/faves-193407955@No8/
- o Crespo, Hernán García. Xochimilco 2011. Digital Image. 2012. <https://www.flickr.com/photos/subzonica/>
- o Alterna, Natalia. Uros. Digital Image. 2011. https://www.flickr.com/photos/alter_nati_va/6591234757/in/faves-193407955@No8/
- o Millison, Andrew. Ahupua’a: Native Hawaiians Taking Back Their Watersheds. Video. 2023. <https://www.youtube.com/watch?v=q7q8friw1p8>
- o City of Adelaide. Allan Sumner, Kaurna Ngarrindjeri Cultural Bearer. Digital Image. 2021. <https://www.cityofadelaide.com.au/blog/cultural-burn-park-lands/>

FIGURES (CONT.)

Fig. 2.14 Leach, Sabreena. Extending the Conversation. Digital Image. 2024.

Fig. 3.1 Leach, Sabreena. Part II: Literature Review Map. Digital Image. 2024.

Fig. 3.2 Leach, Sabreena. Interviewee Sample. Digital Image. 2024.

Fig. 3.3 Leach, Sabreena. Synthesis Process. Digital Image. 2024.

Fig. 3.4 Sterling College. “People gathering in a circle.” Digital Image. n.d.

Fig. 3.5 Lamar Johnson Collaborative. “Tower Grove East Stream Restoration. Digital Image. 2023. <https://theljc.com/projects/tower-grove-park-east-stream-renovation>

Fig. 3.6 Vireo. “Creek in Prairie Band Potawatomi Nation.” Digital Image. n.d. <https://www.bevireo.com/prairie-band-potawatomi-watershed-assessment>

Fig. 3.7 Osage Nation. “Bison herd.” Digital Image. n.d. <https://www.osagenation-nsn.gov/services/vision-strategic-planning/natural-resources>

Fig. 3.8 Iowa Tribe of Kansas and Nebraska. “Outdoor Community gathering Spaces.” Digital Image. 2023. <https://publuu.com/flip-book/199107/482028/page/42>

Fig. 3.9 Schmidt, Christopher. “UIUC in Spring.” Digital Image. 2008.

Fig. 3.10 MIG. “Render of Cultural Center.” Digital Image. n.d. <https://www.migcom.com/work/jilkaat-kwaan-cultural-center-and-observatory>

Fig. 3.11 Leach, Sabreena. Circles of Engagement. Digital Image. 2024.

- o Inspired by ideas mentioned by José de Jesús Leal and Brett Ramey

Fig. 4.1 Leach, Sabreena. Word Cloud of Mentioned Topics. Digital Image. 2024.

Fig. 4.2 Leach, Sabreena. Opportunities in Non-Baccalaureate program. Digital Image. 2024.

- o Adapted from Kansas State University. 2024. “Landscape Architecture.” 2024. <https://apdesign.k-state.edu/larcp/la/>.

Fig. 4.3 Leach, Sabreena. Opportunities in Post-Baccalaureate program. Digital Image. 2024.

- o Adapted from Kansas State University. 2024. “Landscape Architecture.” 2024. <https://apdesign.k-state.edu/larcp/la/>.

Fig. 4.4 Leach, Sabreena. Framework Diagram. Digital Image. 2024.

Fig. 4.5 Leach, Sabreena. Essential Understandings. Digital Image. 2024.

Fig. 4.6 Leach, Sabreena. Goal of Cultural Competency. Digital Image. 2024.

Fig. 4.7 Leach, Sabreena. Tribal Lands and Tribal Colleges. Digital Image. 2024.

Fig. 4.8 Leach, Sabreena. Regional Partnership Opportunities. Digital Image. 2024.

Fig. 4.9 University of New Mexico. “Cochiti Pueblo Brownfield Project.” Digital Image. 2019. <https://ldpi.unm.edu/projects/cochiti-pueblo-brownfield-project.html>

Fig. 4.10 Leach, Sabreena. Natural Landscape Field Experience. Digital Image. 2018.

Fig. 4.11 Leach, Sabreena. Urban Landscape Field Experience. Digital Image. 2022.

Fig. 4.12 Leach, Sabreena. View of Konza Prairie Biological Station. Digital Image. 2022.

Fig. 4.13 Leach, Sabreena. Layering Educational Strategies. Digital Image. 2024.

Fig. 4.14 Leach, Sabreena. Local Field Trip Opportunities. Digital Image. 2024.

Fig. 4.15 Leach, Sabreena. Regional Field Trip Opportunities. Digital Image. 2024.

Fig. 4.16 Leach, Sabreena. National Field Trip Opportunities. Digital Image. 2024.

Fig. 4.17 Leach, Sabreena. The First Step. Digital Image. 2024.

Fig. 5.1 Millison, Andrew. Ahupua’a: Native Hawaiians Taking Back Their Watersheds. Video. 2023. <https://www.youtube.com/watch?v=q7q8friw1p8> 172

Fig. 5.2 Millison, Andrew. Ahupua’a: Native Hawaiians Taking Back Their Watersheds. Video. 2023. <https://www.youtube.com/watch?v=q7q8friw1p8>

Fig. 5.4 Millison, Andrew. Ahupua’a: Native Hawaiians Taking Back Their Watersheds. Video. 2023. <https://www.youtube.com/watch?v=q7q8friw1p8>

Fig. 5.3 Millison, Andrew. Ahupua’a: Native Hawaiians Taking Back Their Watersheds. Video. 2023. <https://www.youtube.com/watch?v=q7q8friw1p8>

Fig. 5.5 Leach, Sabreena. Ahupua’a Land Tenure System. Digital Image. 2024.

Fig. 5.7 Leach, Sabreena. Ahupua’a Plan. Digital Image. 2024.

- o Costa-Pierce, Barry A. 1987. “Aquaculture in Ancient Hawaii.” *BioScience* 37 (5): 320–31. <https://doi.org/10.2307/1310688>.
- o Mueller-Dombois, Dieter. 2007. *The Hawaiian Ahupua’a Land Use System: Its Biological Resource Zones and the Challenge for Silvicultural Restoration*. Edited by N. L. Evenhuis and J. Michael Fitzsimmons. Bishop Museum Bulletin in Cultural and Environmental Studies 3. Honolulu: Bishop Museum Press.

Fig. 5.6 Leach, Sabreena. Ahupua’a Section. Digital Image. 2024.

Fig. 5.9 Leach, Sabreena. Fishpond system. Digital Image. 2024.

- o Costa-Pierce, Barry A. 1987. “Aquaculture in Ancient Hawaii.” *BioScience* 37 (5): 320–31. <https://doi.org/10.2307/1310688>.
- o Millison, Andrew. Ahupua’a: Native Hawaiians Taking Back Their Watersheds. Video. 2023. <https://www.youtube.com/watch?v=q7q8friw1p8>

Fig. 5.8 Leach, Sabreena. Taro Planting to Harvest. Digital Image. 2024.

- o Millison, Andrew. Ahupua’a: Native Hawaiians Taking Back Their Watersheds. Video. 2023. <https://www.youtube.com/watch?v=q7q8friw1p8>