



Great Lakes Inter-Tribal Epidemiology Center

BIA Partners in Action Conference
“New Horizons, Honored Past”



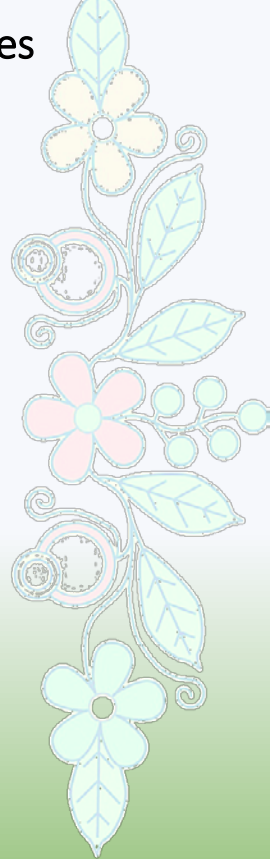
Contaminants, Tribal Exposure Pathways, Environmental Health, and Trust Resources

July 19, 2018

“Diagnosing Tribal Specific Exposures Pathways ”

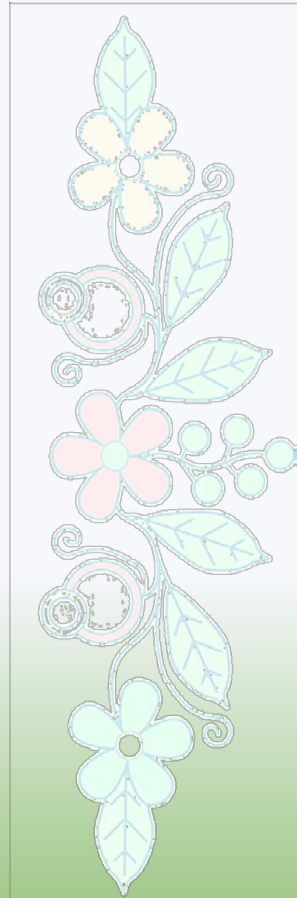
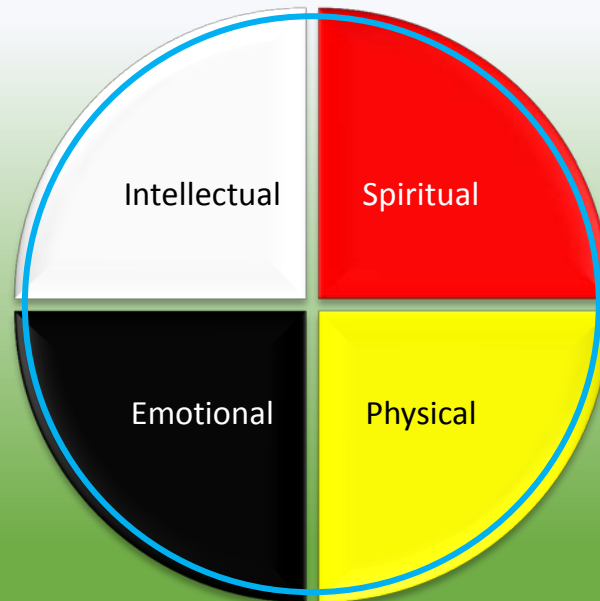
Dean Seneca, MPH, MCURP

Director, Great Lakes Inter-Tribal
Epidemiology Center,
Great Lakes Inter-Tribal Council, Inc.



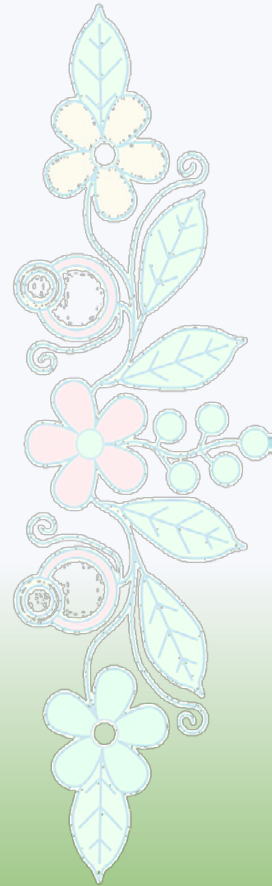
Indigenous Concept of Health

- Health is Holistic
- Balance between the physical, mental, spiritual, and emotional
- All connected through an “Environmental Component”



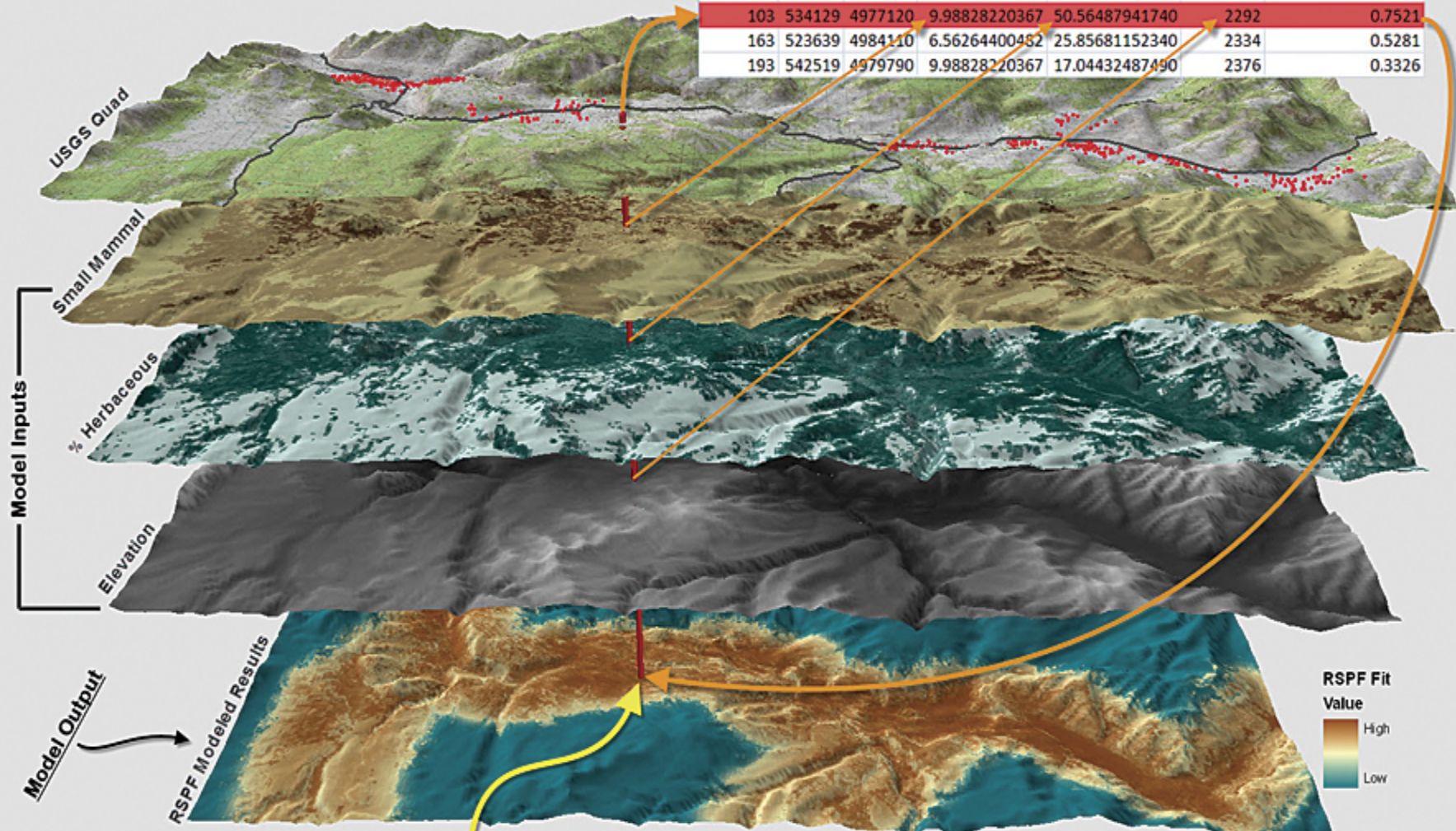
Principles of Native Land Management

- Native's traditional relationships with the land provides a multi-dimensional understanding of the world.
- Interconnections are everywhere: between soil, water, sun, species, people and places.
- Technology offers a way to incorporate and synthesize those layers of understanding
- Traditionally Natives have always viewed the values of life and the environment holistically



Merged Data Array

Collar_ID	UTM_X	UTM_Y	small_mammal	%herbaceous	elevation	RSPF Model Result
103	534959	4978150	5.22745370865	38.52713823319	2296	0.4323
103	534129	4977120	9.98828220367	50.56487941740	2292	0.7521
163	523639	4984110	6.56264400452	25.85681152340	2334	0.5281
193	542519	4979790	9.98828220367	17.04432487490	2376	0.3326



Model Inputs

Model Output

RSPF Fit Value
High
Low

Single Points "Drilling Down" Through Data Layers To Collect Covariate Values: The Basis For All Modeling Approaches

Habitat



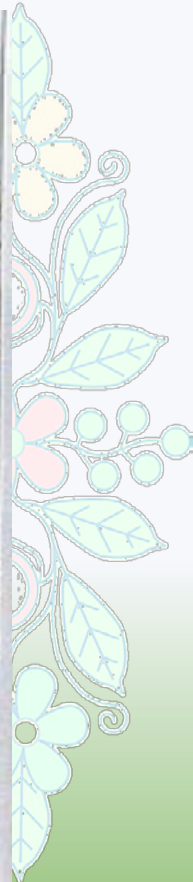
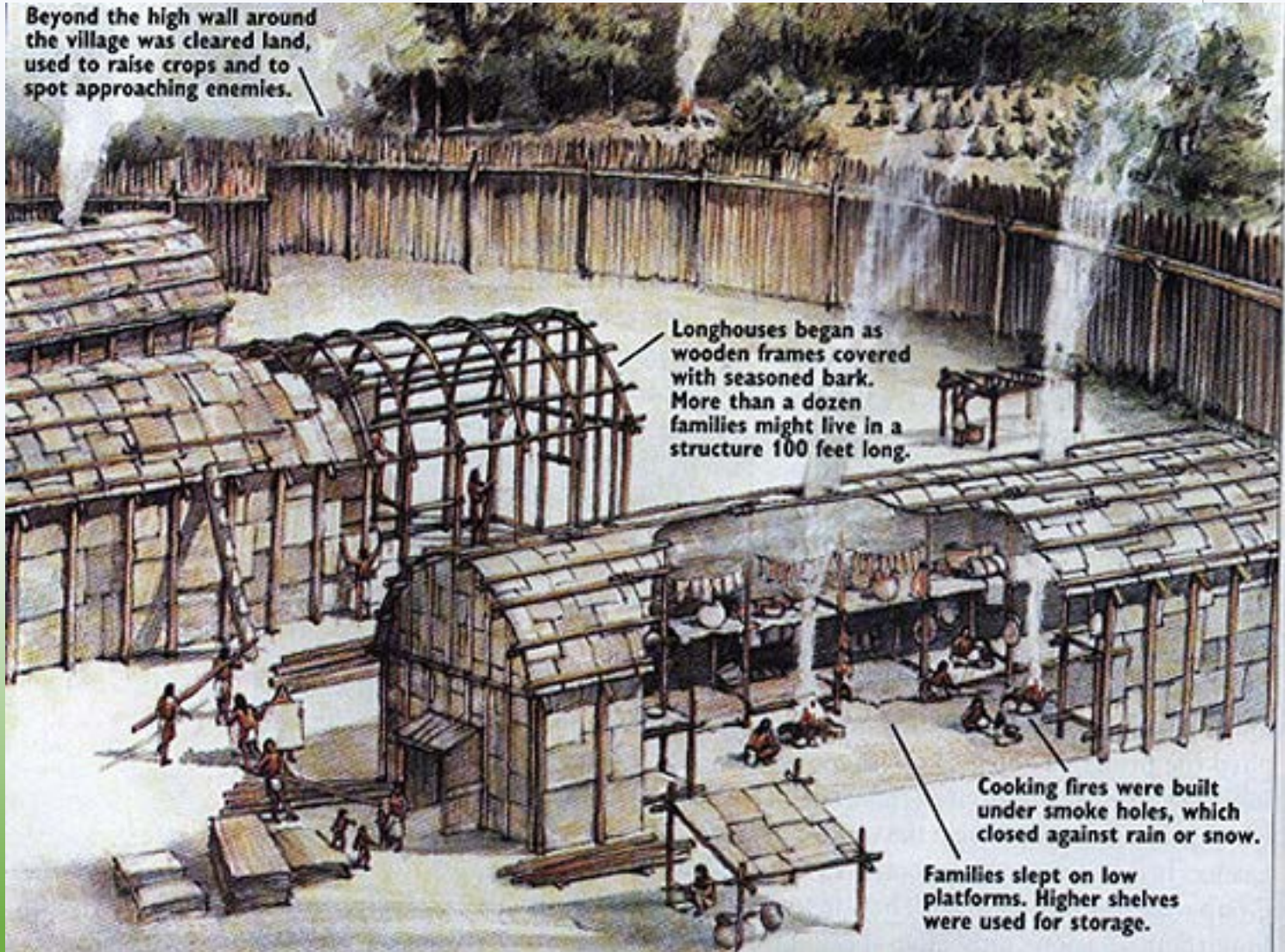
Habitat

Beyond the high wall around the village was cleared land, used to raise crops and to spot approaching enemies.

Longhouses began as wooden frames covered with seasoned bark. More than a dozen families might live in a structure 100 feet long.

Cooking fires were built under smoke holes, which closed against rain or snow.

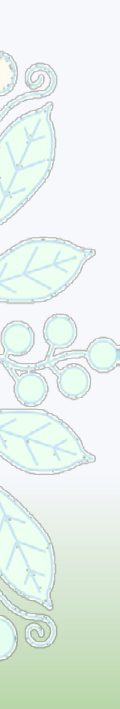
Families slept on low platforms. Higher shelves were used for storage.



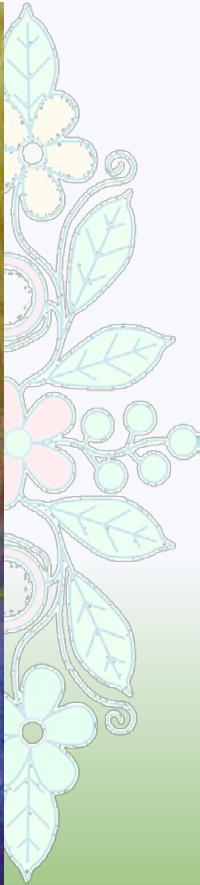
Habitat



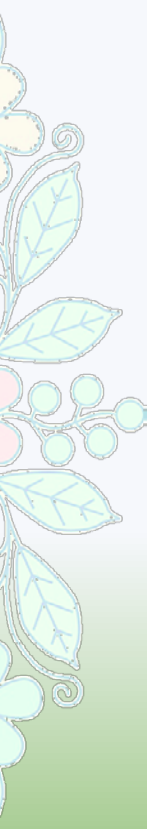
Navigation



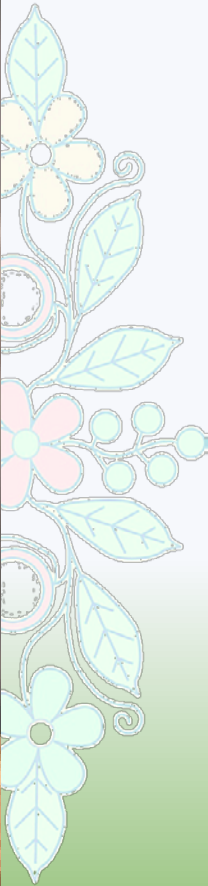
Navigation



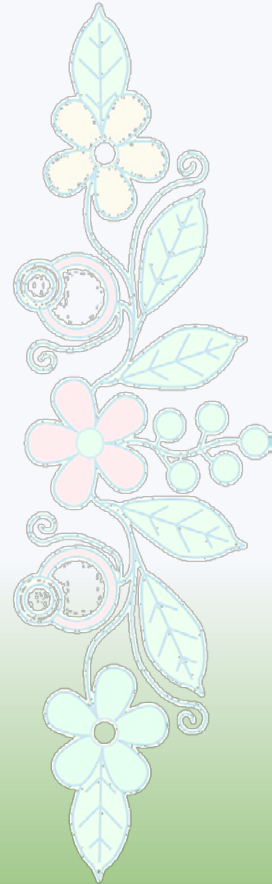
Navigation



Navigation



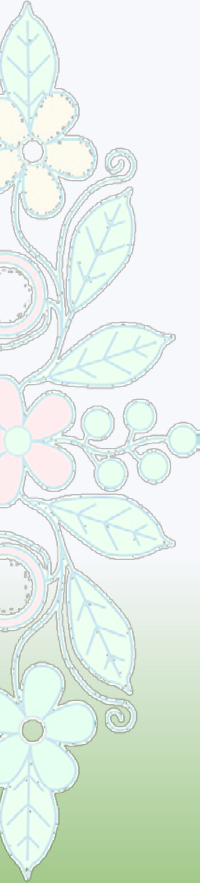
Worship



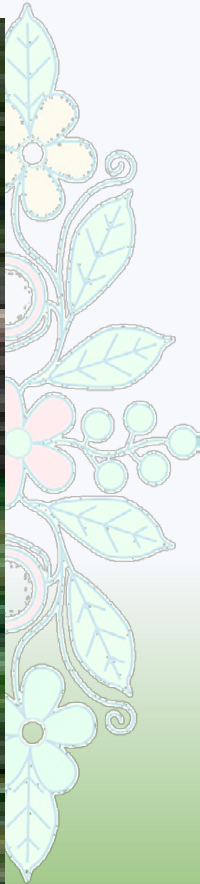
Worship



Worship



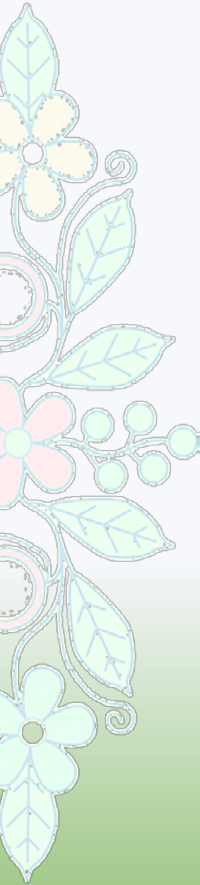
Resources



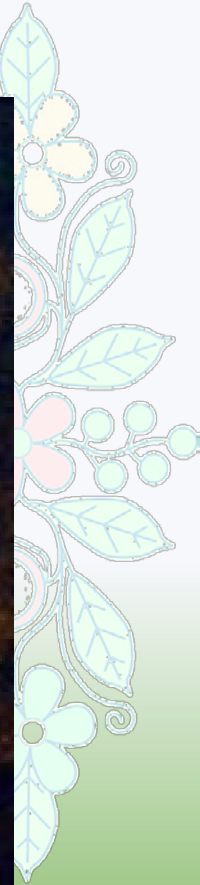
Preservation



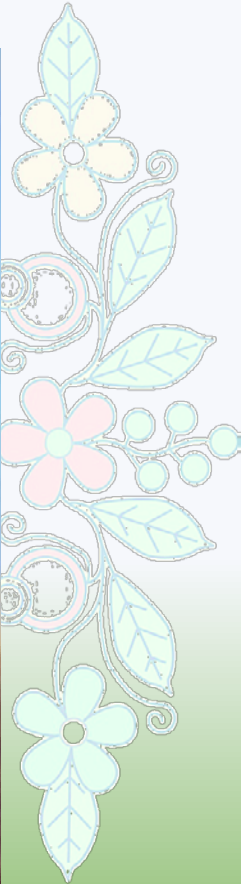
Preservation



Subsistence



Subsistence

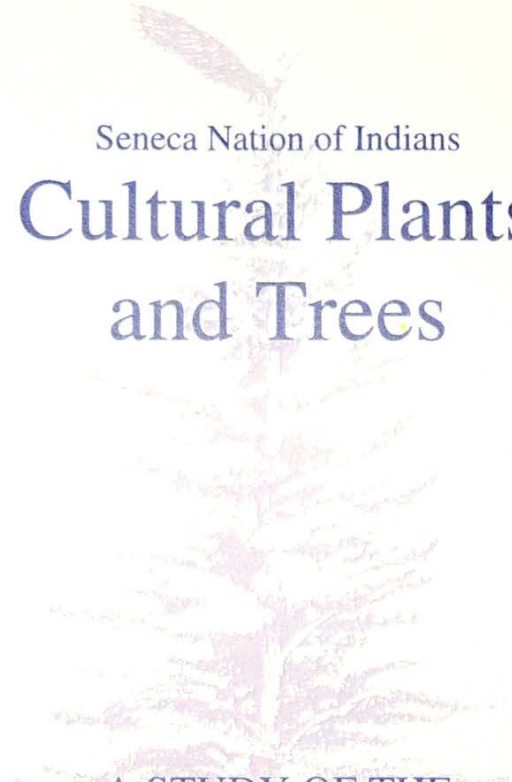


Subsistence

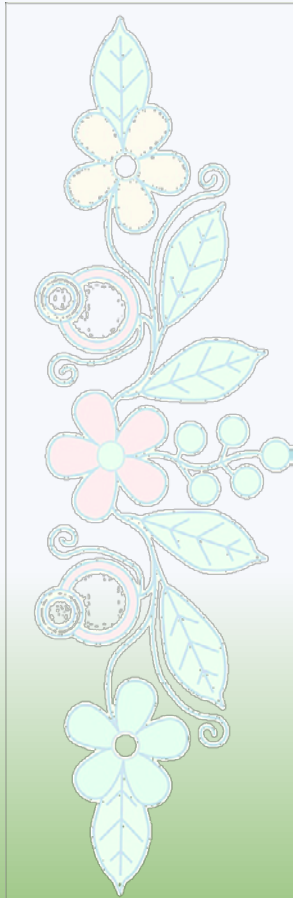




Seneca Nation of Indians
**Cultural Plants
and Trees**



A STUDY OF THE
PROPOSED U.S. ROUTE 219 CORRIDOR
(First Edition)



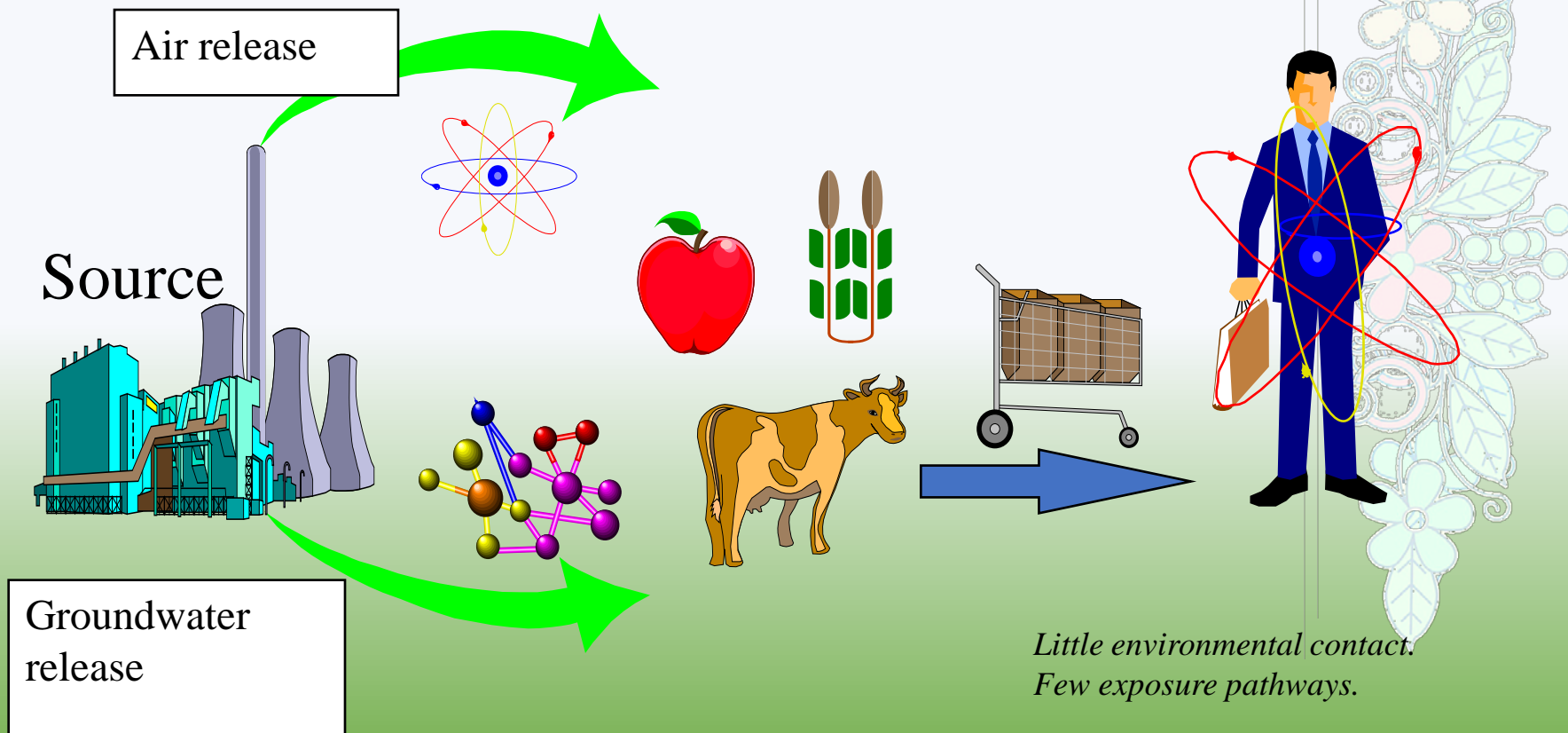
Environmental Threats / Exposures

- **Approximately 125+ hazardous waste sites pose a serious threat that could potentially impact many Tribal communities**
- Tribal culture is intertwined with the environment, making tribal populations more susceptible to an array of potential environmental exposures, resulting in public health scenarios that are unique to tribes and extraordinarily different than other populations



Typical Exposure Assessment Model

- Suburban lifestyle





People are inextricably intertwined with the environment through unique and multiple uses of resources for food, cultural, ceremonial and religious practices.

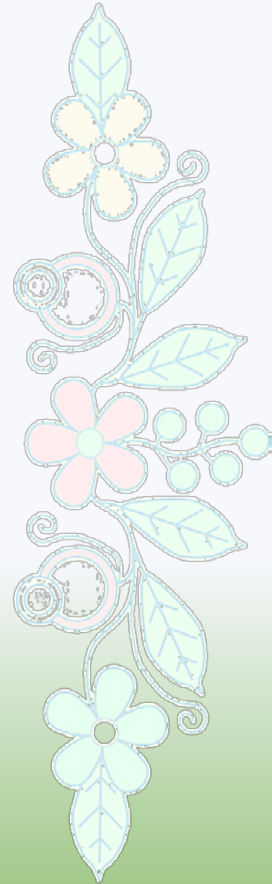
Tribal Specific Exposure Pathways

- There exist a continuous need to understand the uniquely *over looked concerns of tribal exposure pathways* that result in human health effects, subsistence resources, cultural impacts and historic preservation issues.
- Technology “*used correctly*” can assist in providing the ability to collect and analyze complex data.
- The production of easily interpreted information that can be disseminated throughout tribal communities



Encroachment of Tribal Lands

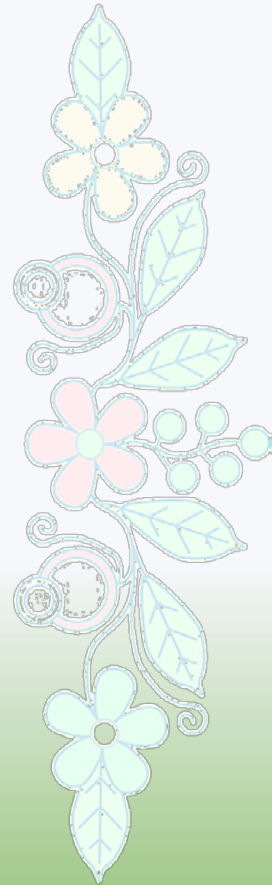
- Eminent Domain
- Land is a limited Resources
- Will the government compensate for loss lands? New land for the taking of Tribal land for development.
- Preservation of land resources is critical for sustainability and tribal sovereignty





Treat all men alike.
Give them all the same
law. Give them all an
even chance to live and
grow. All men were
made by the same
Great Spirit Chief.
They are all brothers.
The earth is the
mother of all people,
and all people have
equal rights upon it.

Chief Joseph, Nez Perce



Thank you! Questions!

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