

Tribal Ecosystem Services – FIFRA, ESA, and Federal Trusteeship



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Tribal lifestyles are not historical anachronisms. They are real, current, and protected by constitutional law (inter-governmental treaties) and/or federal trusteeship obligations.



Tribes are buying back their land and restoring the resources.

Tribes are encouraging traditional practices and original healthier diets.

Basic goal: protect/enhance/restore resources & traditional uses; protect tribal health and traditions through ALARA contaminant levels.



What Assumptions about Baseline?

Good resource quality and traditional resource use patterns?

OR

Hybrid part-traditional resource use, global contaminants, non-point source pollution, degraded habitat?

Every tribal member has the right to follow their heritage, by Treaty and by natural law, even if not everyone does so all the time. Which assumption is used for regulation?



Subsistence Hunting and Gathering

Restricted access is not a “baseline” assumption even if it is current condition



Contemporary Fish Surveys

Asking people what they eat now simply measures the effectiveness of fish advisories. Almost every water body has mercury-based restrictions.



CATCH AND RELEASE FISHING ONLY

All fish must be returned to the water immediately, without unnecessary injury. No baitfish or fish for bait are permitted.

Fish from these waters have high levels of chemical contaminants (PCBs) that may cause reproductive and developmental effects and cancer.

DO NOT POSSESS, REMOVE OR EAT FISH FROM THIS WATER

NYS Department of Environmental Conservation
NYS Department of Health

Choose Fish Low in MERCURY

Mercury in fish can harm your family. Even small amounts of mercury can damage a brain that is starting to form or grow. Pregnant women and children under 6 should only eat fish low in mercury.

Use this chart to quickly identify which fish are low and which fish are high in mercury. For detailed Safe Eating Guidelines you can download a brochure from our website at: www.state.ma.us/dohhelpfusa.htm

Fish You Buy	Fish You Catch
Atlantic Salmon Low Mercury Level	Atlantic Mackerel Low Mercury Level
Shellfish Low Mercury Level	Brook Trout Low Mercury Level
Blue, Haddock, Pollock, Cod High Mercury Level	Landlocked Salmon Low Mercury Level
Shad 'White' Tuna High Mercury Level	Striped Bass Low Mercury Level
Halibut High Mercury Level	Brown Trout Low Mercury Level
Shark High Mercury Level	Lake Trout Low Mercury Level
	Largemouth Bass Low Mercury Level
	White Perch Low Mercury Level
	Smallmouth Bass Low Mercury Level
	Pickering Low Mercury Level

you - mercury!
Eating Guidelines.

Bureau of Health
Environmental Toxicology Program

Contamination present



How much risk?



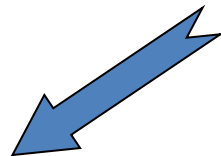
How much should you eat?

“EPA helping Tribes make healthy decisions”

Here is what is in your fish;
you decide how much to eat



Here is how much fish we eat



“Tribes helping EPA protect human health & environment”

You make sure it's safe



Executive Order 12898 of February 11, 1994
**Federal Actions To Address Environmental Justice in
Minority Populations and Low-Income Populations**

3–302. Human Health and Environmental Data Collection and Analysis.

To the extent permitted by existing law, including the Privacy Act, as amended (5 U.S.C. section 552a): (a) each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income.

Sec. 4–4. Subsistence Consumption of Fish and Wildlife.

4–401. Consumption Patterns. In order to assist in identifying the need for ensuring protection of populations with differential patterns of subsistence consumption of fish and wildlife, ...



The Federal Fiduciary Trust Obligation

The federal government has control over human actions that affect natural resources, so courts characterize it as the trustee of these resources. The trustee must protect the trust asset for the beneficiary as if it were his own (CWA, SDWA, NEPA, etc.)

When the US government took control of the land from its original sovereigns (tribes), it became the new trustee. The tribal cession of land was based on a promise (Treaties) that the federal government would protect the tribes' lifeways, which incorporated traditional harvest. The courts have enforced this promise through the trust concept. The federal government is deemed trustee of all Indian lands and resources, including those off the reservation that support traditional harvest.

Some federal courts have concluded that the United States' obligation to protect treaty rights extends to the protection of the resources on which those rights depend



CTUIR First Foods (cultural keystone species)



Salmon



Choosh



Choosh



Huckleberry



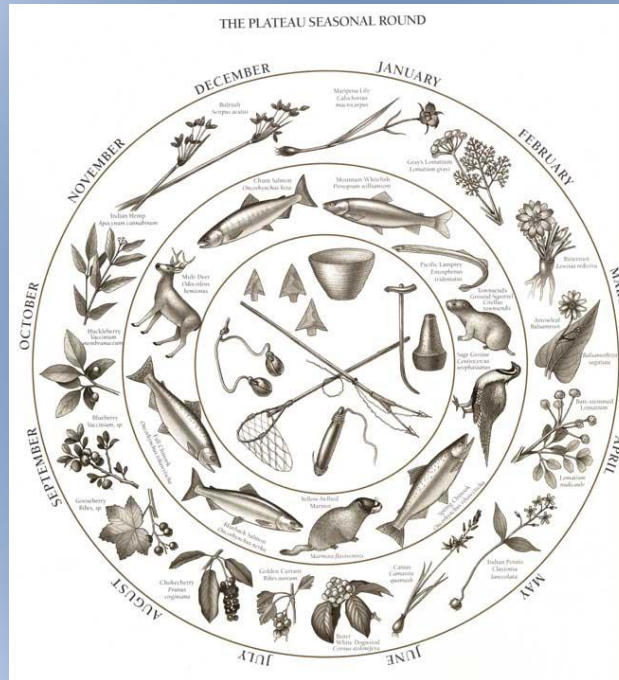
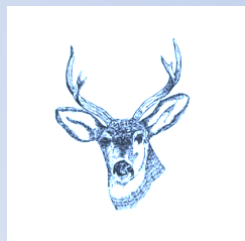
Chokecherry



Elk



Deer



Cous, roots



Bitterroot



Tribal Species of Concern

Federal and State T&E, sensitive, candidate, listed, critical habitat

Ecological keystone species

Cultural keystone species such as First Foods

Ethnobotanical evaluation

- Edible
- Medicinal
- Fiber, dye, material use





Traditional resource management used prescribed burns to increase food and medicinal plants.

Today's equivalent is transmission line rights of way with early-successional plant communities, more browse for game, better berries.

These areas are not remote areas; they are subsistence grocery stores without re-entry time limitations.

Pesticide registration needs to incorporate traditional environmental knowledge.



Elements of an exposure scenario

Greater environmental contact, unique exposure pathways

1.

Ecology

2.

Traditional diet

3.

Direct exposures

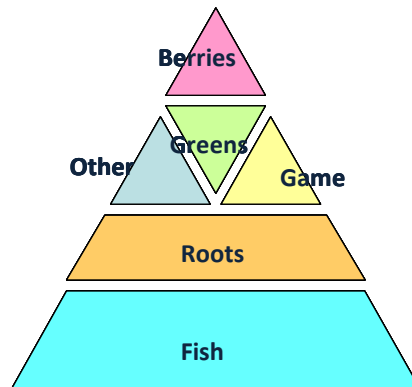
Walla Walla, Umatilla
(River peoples)



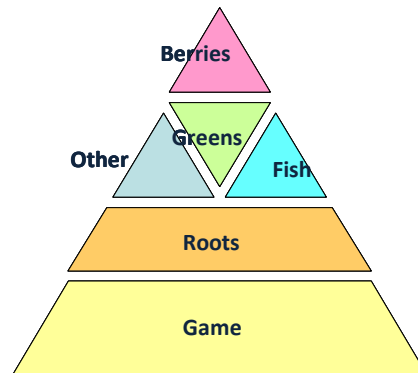
Cayuse
(Upland peoples)



Staple foods in food groups
Calories-Vitamin-Mineral .



Calories, Nutritional content, Daily intake



First Foods

WATER

AQUATICS

- Salmon – chinook, coho, sockeye, steelhead
- Lamprey, Sturgeon
- Mussels
- Trout, Whitefish, Suckers

LAND MAMMALS

- Mule deer, Elk, Whitetail deer, bighorn, mountain goat, bison, moose

ROOTS

- Cous, Camas, Celery, Carrot, Bitterroot (also moss, greens)

BERRIES

- Chokecherry, Huckleberry

Exposure Factors

Daily soil ingestion rate based on terrain and activities;

Daily water intake rate;

Daily inhalation rate

Residential (24/7/365/70), Self-sufficient.



The National Research Council (1992) defined restoration as:

The return of an ecosystem to a close approximation of its condition prior to disturbance. In restoration, ecological damage to the resource is repaired. Both the structure and the function of the ecosystem are recreated.

Inherent tension between restoration to baseline and protecting species (ESA) & allowing a decrement due to chemicals (FIFRA).

**Do Tribes have a voice in saying what is OK?
Whose health, rights, and resources do you have to protect?**



- Restoration of relationship to land
- Respect, reciprocity
- Partnership with natural processes
- Time frame: generations

Ecological restoration is inseparable from cultural and spiritual restoration, and is inseparable from the spiritual responsibilities of care-giving and world-renewal.



Kevin Paul
Swinomish
Bioaccumulative Toxics Project

Assertions about lack of effect, or acceptable levels of toxic chemicals are viewed with skepticism. Some uses are impaired at the first drop of impurity, not the drop that causes an exceedance of a standard.



Traditional Environmental Knowledge: TEK is part of “best available science”

TEK includes

- **Resource inventory, pattern recognition**
- **Resource modification and management systems**
- **Classification and nomenclature systems**
- **Knowledge of landscape, climate, energy flows**
- **Successional dynamics**
- **Knowledge about Seasons and cycles**

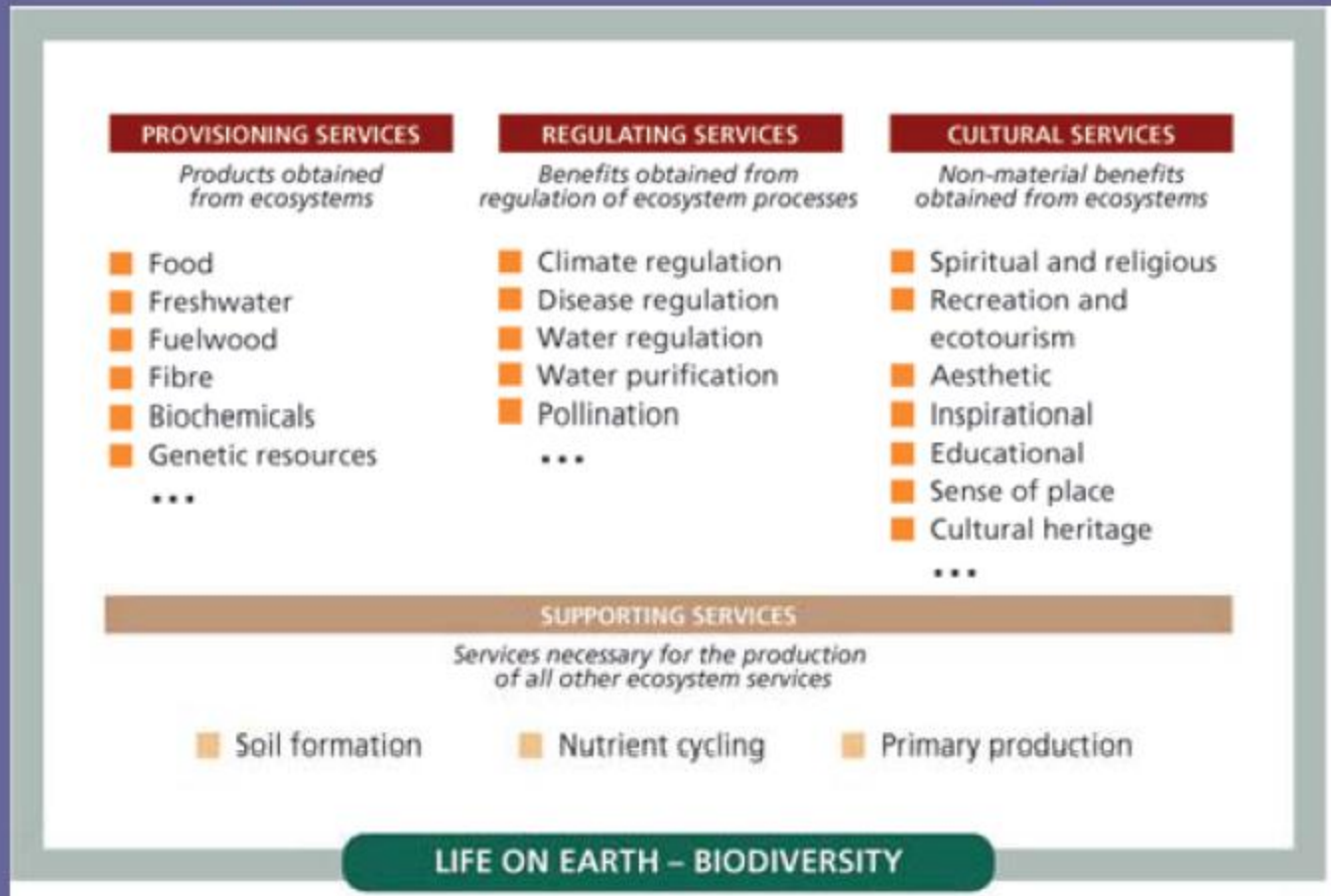
Both indigenous and western science are based on observation, hypothesis formation, testing, codification through education.

TEK tends to be more holistic, and has embedded moral, spiritual aspects; describes relationships and not just objects and mechanisms. TEK is education for survival, and includes components sharing, respect for nature, & recognizes that people are part of the ecosystem. TEK is peer review in action: what doesn't work or is not true is discarded. TEK tends to be conservative and precautionary because the goal is survival, not publication or regulatory implementation.

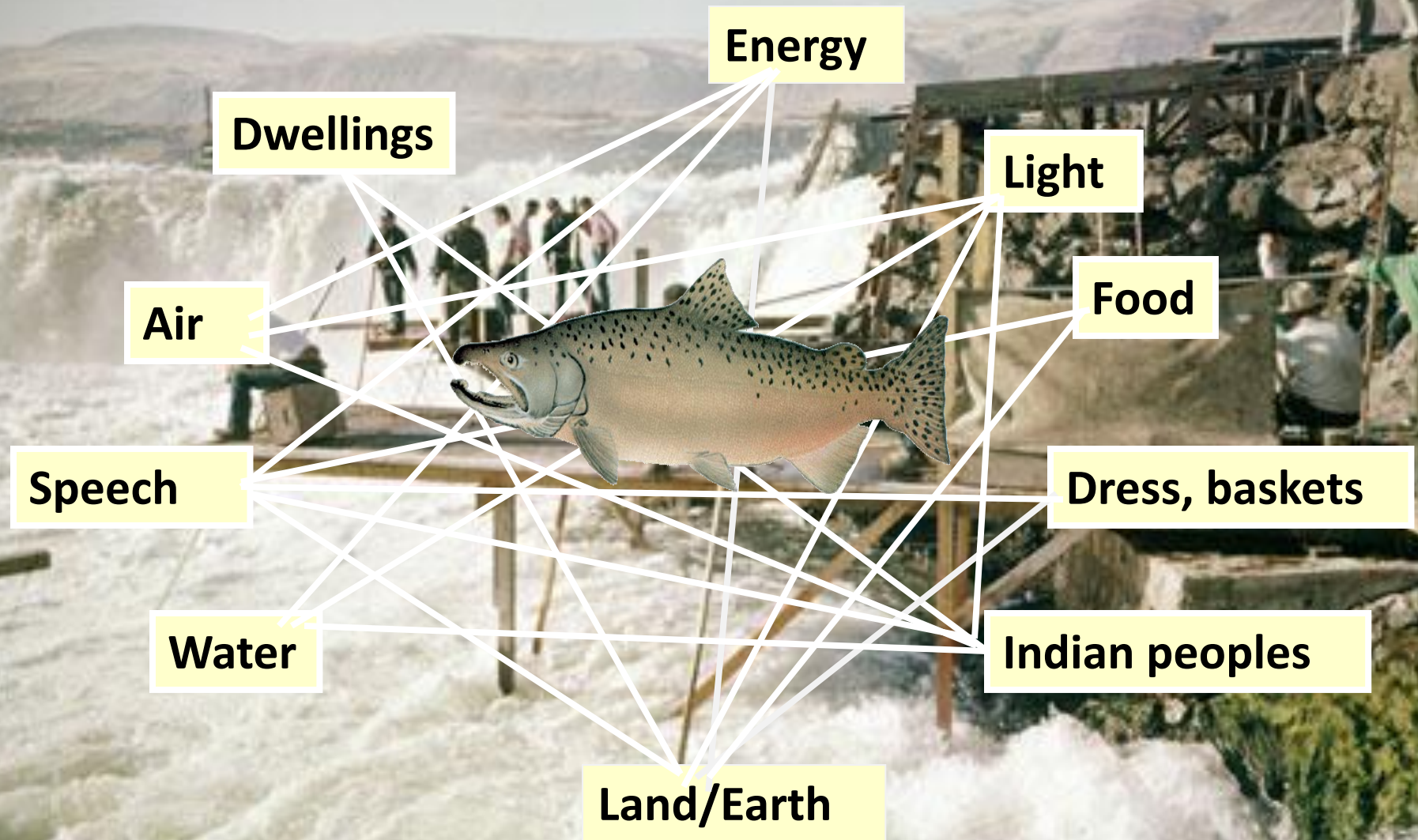


Millennium Ecosystem Assessment

Ecosystem Service Categories

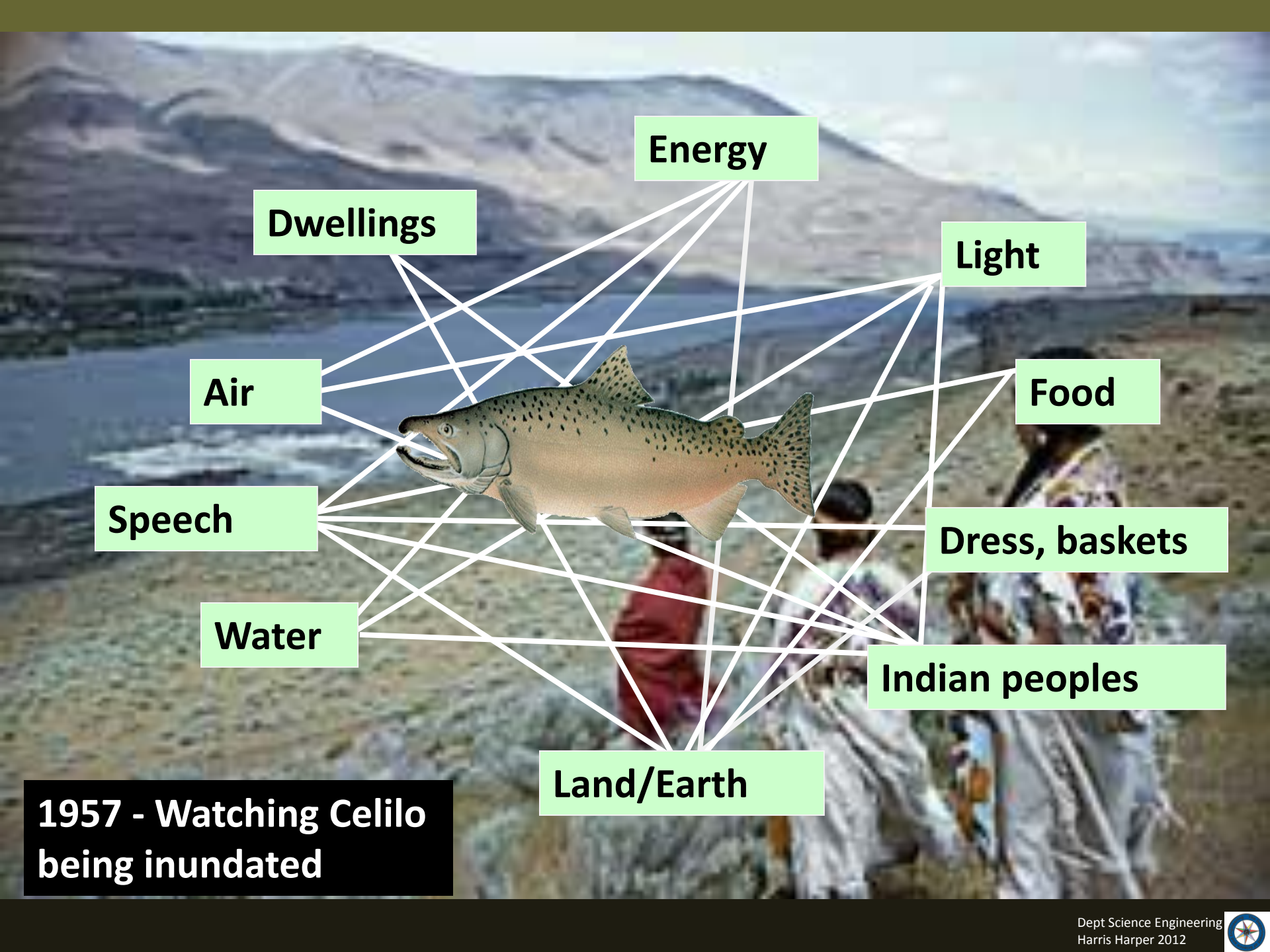


Tamánwit (natural law - CTUIR)



Celilo Falls, 1956





Energy

Dwellings

Light

Air

Food

Speech

Dress, baskets

Water

Indian peoples

Land/Earth

1957 - Watching Celilo
being inundated



**Tribal Lifestyles are not an impediment to progress.
They are the path to sustainability**



The next generation is watching

