



# Loretto Earth Network News

## ONE OCEAN MANY RIVERS

Summer 2019

Vol. 29 No. 2

# Restorative Ocean Farming

*By Bren Smith*

I was born and raised in Newfoundland, Canada, in a little fishing village. At age 14 I left school and headed out to sea. I fished the Georges Banks and the Grand Banks for tuna and lobster, then headed to the Bering Sea, where I fished cod and crab. The trouble was I was working at the height of the industrialization of food. We were tearing up entire ecosystems with our trawls, chasing fish further and further out to sea into illegal waters. I personally have thrown tens of thousands of by-catch back into the sea.

But then in the early 1990s, the cod stocks crashed back

home: thousands of fishermen thrown out of work, boats beached, canneries shuttered. In a search for sustainability, I ended up on Long Island Sound and remade myself as an oysterman. Then the storms hit. Hurricane Irene and Hurricane Sandy thrashed the East Coast. Two years in a row the storms buried 90 percent of my crops in three feet of mud, and 40 percent of my gear was washed away in a sea of death.



***Bren Smith Farming the Ocean***

shellfish for food, fuel, fertilizer, and feed.



***Bren Smith with crop of seaweed***

Suddenly I found myself on the front lines of a climate crisis that had arrived one hundred years earlier than expected. I began to re-imagine my occupation and farm. I began experimenting and exploring new designs and new species. I lifted my farm off the sea bottom. Now, after 29 years of working on the oceans, I've remade myself as a 3D ocean farmer, growing a mix of seaweeds and

Picture my farm as a vertical underwater garden: hurricane-proof anchors on the edges connected by horizontal ropes floating six feet below the surface. From these lines, kelp and other kinds of seaweed grow vertically downward, next to scallops in hanging nets that look like Japanese lanterns and mussels held in suspension in mesh socks. On the seafloor below sit oysters in cages, and then clams buried in the mud bottom.

Continued on page 8



## Reflection

**R**ev. Stephanie Price's outdoor congregation - <https://thelandaaurora.org> - raised its voice in defense of water when put at risk by fracking. Excerpted below, her recent sermon reminds us of that fragile Earth species so dependent on water, the human. ~ Editor

John 21:1-19 drops us into a shockingly relevant dialogue. With little room to ignore modern-day implications, we anxiously eavesdrop on Peter as we wonder, "Do we love Jesus?"

Jesus repeats the question, emphasizing the inadequacy of an empty, verbal reply. It is as if Jesus shouts to each of us, "Look, you say you love me, but you are just standing there! Feed my sheep, tend my lambs, get up, go out and do something." We begin to realize that this is not a love that requires a verbal confession or a doctrinal commitment. This is a love requiring nothing less than an absolute and ongoing transformation exemplified in our daily interactions with the world.

As we sit in the beauty of this prairie, breathing this fresh air under generous clouds, watching birds fly and flowers bloom, three black men sit in the Colorado State petitionary facing a death

sentence. One of them is 18 years old. Over 1,500 men, women and children are detained in the privately owned and managed ICE detention center in our very city. Nearby, 400 families reside in a mobile home park known as "felony flats," while 206 new houses are being built for people like us. Middle Class. White. Educated.

And Jesus asks again, "Do you love me?" As a new community of faith, we have broken out beyond the walls of the institutional church. Suddenly we find ourselves free from the fears inherited by the way things used to be. Will we waste this opportunity? To love the world as Jesus loved us. To share good news to the poor, to heal the brokenhearted, and to set free the captive. To embody the spiritual direction to do justice, love kindness, as together we walk humbly with God.

The measure of success for our community will be defined not by the walls we build but the walls we are able to break down. Flooding places of divisiveness with love will never be a successful funding plan, nor a sought-after business model. We will often feel our hands have been tied, our voices silenced. The outcomes

we seek may lead us to a place of brokenness. I imagine Jesus waits for us there.

Loving Jesus undeniably requires us to live lives of love in the public sphere. Rabbi Tarfon taught 2,000 years ago, "You are not required to finish your work, yet neither are you permitted to desist from it." Our work is to spiritually feed people who have been abused and abandoned by a structure often posing as church. We sit with and care for people whose lack of access to fresh food, adequate health care and an equitable justice system are wrapped in the systemic complacency of our relationship to our own privilege. We grow food and feed a population overfed and depleted of nutrition. Our work is to love as Jesus loved; without limits, without judgment and without disappearing into despair.



### Loretto Earth Network News

**A publication of the Loretto Community**

**Editor: Libby Comeaux CoL  
4000 South Wadsworth  
Littleton, CO 80123**

**Email: LorettoEarthNetwork  
@LorettoCommunity.org**

**Layout: Nancy Wittwer SL**

# Pakistan

By Maria Daniel SL



**D**ue to alarming increase in population and rapid industrialization, Pakistan suffers a crisis in drinking water quality. Research shows that both physicochemical properties and the presence of pathogenic microorganisms cause the problem.

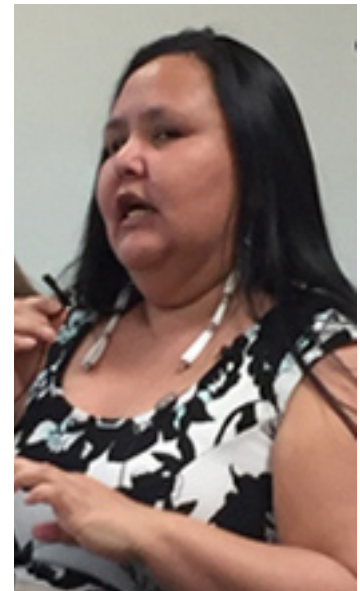
Eighty percent of the population is forced to use unsafe drinking water because there are just not enough safe and healthy drinking water sources. They have been contaminated by the discharge of sewage. In addition, toxic chemicals from industry, including agricultural pesticides and fertilizers, flow into water bodies.

When we moved to Lahore three years ago, we saw little children dying with water-related diseases. We desperately wanted to take some immediate protective measures for them.

Last year when we went to the USA, Sr. Buffy, Sr. Barbara, Sr. Kathy Wright, Sr. Maria Daniel and Jane German visited Water Step Louisville. Water Step is the company that local Pakistani doctors introduced to us. At Water Step we were able to purchase four water purifiers. Now water purifiers protect the students at St. Albert's School in Faisalabad, as well as at St. Anthony's High School in Green Town, Lahore. Students from grades 6 and 7 helped with the installation. They are responsible to run the water purifier to provide clean water for all the students. To fill a 500-gallon water tank, the water purifier must run for one hour.

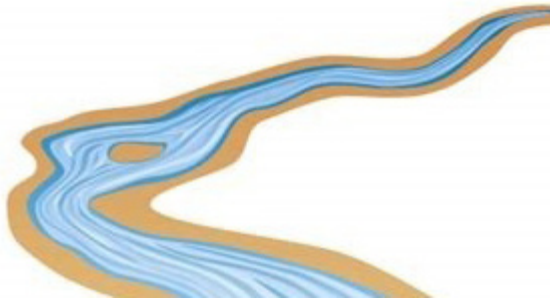
People in our village in Bagrrian have migrated from different rural areas. One can find illegal housing, mud houses in any open area, and no drainage system. We are happy to install a water purifier for the village and especially for our children. They will drink clean water while in school and take clean water back home.

Thanks to the students of Loretto Academy, El Paso, and our Loretto Community, our children will not drink unhygienic water.



**Waniya Locke**

On April 28 in Lafayette, Colorado, Water Protector Waniya Locke reminded us that the Missouri River is still the source of drinking water for 1.4 million people. We must be prepared for when the ill-advised DAPL breaks. Not *if* but *when*. She urged each activist to engage with one youth to train in activism and use their skills for Earth. "Within resistance, you develop healthy lifestyles," she said. Also, "Our treaty rights protect you too – not just Indigenous Peoples." Finally, she turned our attention to community in diversity. Appreciating Water Protectors who travelled from Lafayette to Standing Rock, she reminded us, "No white fragility allowed." We build relationships for the long term, "where you are no longer tokenizing Indigenous People at events."



**“THE MISSISSIPPI RIVER:** more than a river or a waterway, but a river system that extends from the Rockies to the Appalachians. The Mississippi gathers up the other rivers like foundlings, and this area of drainage covers nearly half of the United States, approximately 1,250,000 square miles. Great rivers like the Missouri and the Ohio, minor ones like the Illinois and Arkansas, and rivers you never heard of like the Rock and the Black and the Chippewa – they all flow into the Mississippi, the greatest river, either directly or indirectly, and the big river lovingly takes her charges down to the sea. Thirty-one states and two Canadian provinces she drains, discharging into the oceans more water than any other river but two – the Amazon and the Congo. From Wyoming to West Virginia, Montana to North Dakota to North Carolina, the rivers of the midsection of the country flow into the Mississippi and belong to her....

“Much more than any of this, though, more than a river system, more than drainage, more than highway, the Mississippi is legend. Too thick to drink and too thin to plow, the saying goes. More than river, less than god. The legend tickles imaginations worldwide and the word alone – Mississippi – conjures up images to everyone. When you call out her name, no one has to say what it is or where?”

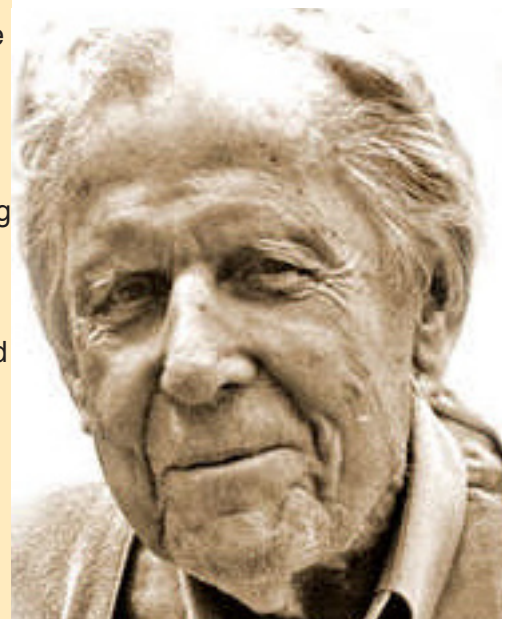
Eddy L. Harris, *Mississippi Solo*, p.139

“There is a huge opening along the Missouri side and the water there changes color and rushes like rapids and swirls violent eddies. For a short time there are two rivers, the one colored grey and blue, the other muddy and dark brown. Then the two rivers blend and the brown one wins out. I was at the mouth of the Missouri River and I ran into the wedding like an uninvited guest, and was treated like one.” *ibid.* p.132



“In 1970 I established the Riverdale Center for Religious Research in the northwest corner of New York City along the east bank of the Hudson River, a center dedicated to the study of the more comprehensive forces determining the course of history. While this center began as a concern for the cultural formation of the human and the inter-relation of cultures with each other, it shifted in a few years toward a study of the devastating impact of industrial culture on the survival of the planet and on the future of the human. Human-Earth relations became the essential issue. It was immediately apparent that any damage or any loss of the outer world of nature was a loss to the inner world of the human. A desolate outer world immediately produces a desolate inner world. The loss of the primordial forest is a loss of the soul in the human, since the way to the sacred is through the place of our dwelling. Thomas Berry, *An Appalachian View*, quoted in *Thomas Berry: A Biography* by Mary Evelyn Tucker et al, p. 106.

**Look for a retrospective on Thomas Berry’s life and work in the Autumn 2019 issue of LEN News.**



**Flowing from one connection to another**, your editor learned of Eddy Harris' memoir – and that he hails from the St Louis area – after attending a presentation by Carolyn Finney and reading this in her book, *Black Faces, White Spaces*:

“What I discovered/uncovered/recovered is the many ways in which – be it physical, artistic, or spiritual – black people have laid it all down in order to feed their children, plant their dreams, and share their experience and history with the environment. People like **MaVynnee Betsch** who, in her middle years, gave away all her wealth to environmental causes and fought hard until her death in 2005 to conserve and protect both the natural resources of her home place, American Beach on Amelia Island in Florida, and the African American history that she believed was an intricate part of that landscape. Or **Eddy Harris**, who at the age of thirty during the 1980s, canoed the length of the Mississippi River to understand both the material and spiritual meaning of the river in American life and to explore what it meant to be a black man in contemporary society.”



**Carolyn Finney, PhD**

At another point, Finney discusses how we think of ourselves in relation to the environment: “Who do we see, what do we see? In *Outside* magazine, **Eddy Harris**, a black writer and self-described outdoorsman, says that we see black people on television as lawyers or doctors, but we balk at imagining African Americans in the great outdoors.”

Finney is one of those advising the planners of the 2020 Sisters of Earth Event near Ferguson, Missouri, July 16-19, 2020. SOE's last business meeting

set a course to reach out to a younger, more racially and ethnically diverse, demographic of women to strengthen the capacity, experience and competence needed to move forward together in these times of shared crisis. In the process, we hope to celebrate, acknowledge, and support the leadership of future generations.

“**Carolyn Finney, PhD** is a storyteller, author and a cultural geographer. The aim of her work is to develop greater cultural competency within environmental organizations and institutions, challenge media outlets on their representation of difference, and increase awareness of how privilege shapes who gets to speak to environmental issues and determine policy and action. Carolyn is grounded in both artistic and intellectual ways of knowing. She pursued an acting career for eleven years, but five years of backpacking trips through Africa and Asia and living in Nepal changed the course of her life.”

[www.carolynfinney.com](http://www.carolynfinney.com)

**By Libby Comeaux CoL**

***Sisters of Earth is coming to the Rivers!  
July 16-19, 2020 – Noon Thurs to Sun Noon  
Pallottine Renewal Center, Florissant, MO***

**We will emphasize getting to know our network of networks, sharing our work and learnings, and being challenged by vigorous leaders from within and beyond what we know. Bring your curiosity and your diverse friends and colleagues to an invigorating weekend. We will visit sites of pain and resilience, exploring cosmic themes of interiority, diversity, and community at multiple scales.**

**The website for SOE2020 will go live in July!**



**Jesse Rathburn, Diza Velasco,  
Mabel Najarro**

# Elwha River Story

By Karen Kudebeh

For more than 100 years, the Klallam tribe of the lower Elwha River near Port Angeles, WA had their historic homelands and cultural sites covered in water. Two dams – the Elwha and the Glines Canyon -- had been constructed on the River in the early 1900s to provide cheap electricity to a burgeoning timber/milling industry.

As a result, the tribe lost its culture/home, and the River lost its eleven species of salmon and trout, which were unable to navigate the two dams. Sediments were trapped behind dams, and log jams that provided habitat for salmon and river life disappeared. The mouth of the river turned barren and eroded away. The number of salmon returning to spawn in the once teeming river plummeted to only 1% of pre-dam days. That cut off 130 species in the River ecosystem from life-sustaining nitrogen and phosphorus they had gleaned from salmon carcasses.

Then, in a series of fortuitous circumstances, environmentalists, fishing enthusiasts, and governmental entities like the National Park service aligned with the Lower Elwha tribe's initiative. They determined to proceed with the largest dam deconstruction ever attempted in the United States. They began the biggest river reconstruction project in the world.

It took three years for the two dams to be dismantled, between 2011 and 2014. Deconstruction

took place in stages, so that formerly trapped silt wouldn't snuff out river life as it was released. Scientists from all over the world paid attention. Local university teams carefully monitored each stage of the project to share best practices elsewhere.

Five years have passed since the Elwha flowed free again. You can search articles such as "The Elwha, Unleashed," "The Elwha, Reborn," "Return of the River," "Reborn to be Wild," "Roaring Back to Life." Olympic National Park is home to much of the Elwha River watershed. The newly wild River has taken out two popular campgrounds and road access to trail heads. Humans have to accommodate by hiking or biking to points of interest they used to reach by auto.

In the meantime, a new River has emerged. As the River totally reshapes the landscape, humans do what they can to assist. One project seeks to restore an intact ecosystem in former lakebeds. Animals and the River carry seeds to new places. Mammals begin to return. For the first time in 100 years, several species of salmon and trout are spawning upstream of the second dam.

The damage caused by the dams will continue to affect the health of the River, with collateral damage in the form of sporadic fish die-offs. But over time, freeing the River gives Elwha salmon their best possible chance in the face of climate chaos. With warming temperatures in the oceans, they



**Karen Kudebeh**

really need free rivers running fast and cold.

Finally, the mouth of the Elwha River is being naturally reshaped from all the released sediments. A large estuary has formed, supporting shellfish, kelp beds, and shore animals.

This story of the Elwha will hopefully become just one of many such stories, as other rivers are also set free. Perhaps we humans, who once imprisoned the rivers to do our bidding, are realizing that all life depends upon a circulatory system that flows freely throughout the planet.

***Our Rivers are Us.***

*Karen grew up on the Olympic Peninsula and hiked and camped in Olympic National Park throughout her childhood and teen years. She was at the River's edge when the silt-laden, newly-freed Elwha waters rose and overflowed their banks. She knew that this water was celebrating its freedom. Now she gifts samples of that originally released water, combining it with fresh Elwha water that salmon are now spawning in.*

# Freeing the Snake River

**By Elizabeth Dunne**

I'm a relative newcomer to the decades-long battle to free the lower Snake River in Eastern Washington. But it didn't take long for me to see how the situation cried out for a paradigm shift from business as usual – whether that business be the misnomer of clean hydropower or the environmental regulatory complex.

The US Army Corps of Engineers built the four lower Snake River dams – Ice Harbor, Lower Monumental, Little Goose, and Lower Granite – between 1961 and 1975. They quickly devastated a thriving river valley.

Along with the dams came promises of a burgeoning seaport in Idaho – 450 miles from the Pacific Ocean! Despite the familiar mantra of jobs, jobs, jobs, the vision never materialized. Those holding onto the dams are left only with a bizarre sense of pride in a dead dream of bounty born from destruction.

For the 60-year history of documentation that the US Corps deliberately exaggerated the dams' benefits, while underestimating their costs, view "Struggle for the Snake, 1971" on YouTube. Some people have been taught to take great pride in man's "achievement" to tame the river with dams and reservoirs. Watching the film might help them realize that they've been taken for a ride.

For oral history of the Snake River-Palouse, search [River Song – Palouse](#). Lands were stolen



and flooded with the construction of Ice Harbor dam. The Palouse are not gone. They are still fighting every day, alongside the Snake River, never giving up on her return. They say that natural law "takes precedence over the commercial exploitation of resources given to us by the Creator." But this biological and spiritual reality is nowhere to be found in our legal construct. We misperceive nature as mere property available for commercial exploitation, limited only by environmental regulation that sets what's considered to be a tolerable amount of degradation.

But the degradation is not tolerable. Species are dying. Keystone and iconic ones, like the Salmon and the Orca. Fisheries are collapsing and Orca and natural Chinook salmon are at the brink of extinction.

Breaching the four lower Snake River dams would open 5500 miles of intact, high-elevation cold water salmon spawning and rearing in streams that are the most resistant to climate change in the lower 48 states. These streams have

a huge potential to once again produce large amounts of salmon. Immediate breaching two dams would prevent the death of nearly 4 million Chinook smolts, resulting in nearly 1 million Chinook growing to suitable prey size for Orcas within 18 months. Search "5 Means for Breaching the Lower Snake River Dams" and "Breach this Year" on [damsense.org](#).

Instead, Washington's Governor Inslee recently announced \$750,000 to fund yet another study. This has already been studied. And restudied. The impacts are far less extensive than industry trade groups would have people believe, and yes, they can be mitigated. In fact, there's plenty of money to do it if we reallocate the money that's being wasted on more studies.

Most disturbing, the mitigation conversation ignores the dams' impact on displaced Indigenous Peoples and the River herself. Decision makers ignore the River's right to exist, flourish, and flow as a matter of at least equal, if not greater, concern than business interests.

So, here we stand at the climate and extinction crisis, and the right questions aren't even being asked. Public discussion ignores what is morally right, economically expedient, and biologically necessary. What if public officials showed the courage to breach the dams now? We would have an astonishing story to share with future generations about the return of the River. We would look back only to wonder why it took so long.

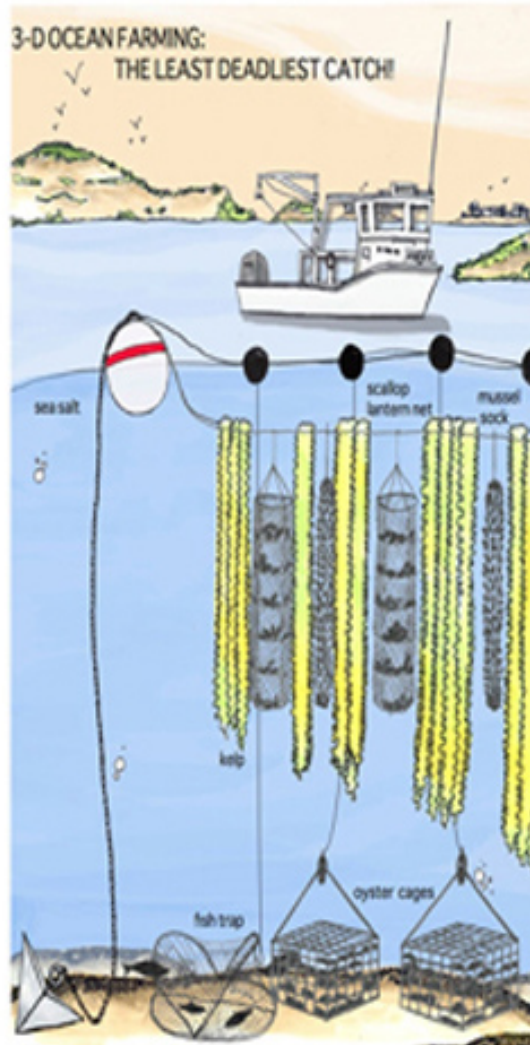
**Elizabeth Dunne** is a lawyer and activist in the Northwest and Hawaii.

# Restorative Ocean Farming

Continued from Page 1:

These crops are restorative. Millions of years ago Mother Nature created two powerful agents of renewal: shellfish and seaweeds. Oysters filter up to 50 gallons of water a day, removing nitrogen, a nutrient that is the root cause of the ever-expanding dead zones in the ocean. Sugar kelp, called the Sequoia of the sea, **soaks up five times more carbon than land-based plants** and is heralded as the culinary equivalent of the electric car. Seaweeds are the key to ramping up soil carbon sequestration and closing the land-and-sea nutrient loop: sponging carbon, nitrogen, and other nutrients out of the oceans that can be returned to land-based farms in the form of seaweed-based fertilizers. Seaweeds are also proving to be a powerful methane-reducing additive in livestock feeds. [Adding a low dose of red algae to livestock feed reduced methane production by 58% in cattle and up to 80% in sheep.](#) Search for “Seaweed Could Make Cows Burp Less and Cut Their Carbon Hoofprint,” in MIT Technology Review (November 23, 2018).

At the same time, 3D ocean farms function as a storm-surge protector and an artificial reef, both helping to protect shoreline communities and attracting more than 150 species of aquatic life, which come to hide, eat, and thrive. Shellfish and seaweed require zero inputs - no freshwater, no fertilizers, no feed. They



**Bren Smith**, executive director of GreenWave and owner of Thimble Island Ocean Farm, pioneered the development of restorative 3D Ocean Farming.

For more information, visit [www.greenwave.org](http://www.greenwave.org) and follow @greenwaveorg on Instagram, Twitter, and Facebook.

Look for my new book, [Eat Like a Fish: My Adventures as a Fisherman Turned Restorative Ocean Farmer.](#)

simply grow by soaking up nutrients, making it, hands down, the most sustainable form of food production on the planet. The model is open source and replicable: just an underwater scaffolding that's affordable and easy to build. The simple design and low cost mean these farms can be replicated quickly. It has the potential to revitalize coastal economies by utilizing existing infrastructure and latent capacity in shuttered fishing communities, diversify existing shellfish businesses, and provide a stream of supplemental income for fishermen.

GreenWave recognizes the opportunity to weave equity and inclusion into the DNA of the emerging restorative ocean farming industry. Restorative ocean farmers are emerging from all walks of life: from landlubbers and experienced fishermen to veterans and young land-based farmers struggling to find farmland. Notably, women are leading every level of this new blue-green economy as farmers, scientists, hatchery technicians, policy experts, and entrepreneurs. GreenWave believes Who Farms Matters and works to ensure these marginalized communities continue to shape the new ocean economy.

As ocean farmers, we can simultaneously create jobs, feed the planet, and fight climate change.