Saving The Salish Sea

Refined Vision by:

WILDTYPE
Our vision

It’s an early spring afternoon in 2050 and the marine layer hasn’t yet burned off the Salish Sea. This region is home to the world’s first truly regenerative food system, which now supplies a significant share of the global demand for salmon and many other types of seafood—without the need to extract a single fish from the water. Breakthrough cellular agriculture technology introduced in the early 2020s allowed the Salish Sea to simultaneously produce the most nutritious and pristine seafood on the planet, while allowing wild fish populations to repopulate the sea, tributaries, and rivers.

Although urbanization has accelerated, the region leads the world in incorporating crop cultivation into the built environment. Vertical and underground farms provide enough fruits, vegetables, and grains to feed the region’s 20+ million residents. Large scale alternative energy installations power a zero-emission electrical grid that supplies both agricultural and non-agricultural demand. The now fully protected Cascade and Olympic mountain range watersheds provide ample freshwater for both the growing population and agriculture.

The economy, which was plagued by extreme income inequality in the early part of the 21st century, now provides living wage jobs for technology and food production workers alike. Not only do women hold more than 50% of the jobs in the Salish Sea’s food economy, but they also founded and currently lead many of the region’s food system powerhouses. Beginning in the early 2020s, the new food economy began to draw the best and brightest minds to reimagine how we produce food in one of the world’s most beautiful and bountiful regions without stripping it of its natural resources. By 2050, thoughtful policy and professional retraining programs have created high-paying jobs for PhD and trade-school graduates alike. For the first time in a century, food production jobs are not just viewed as a whimsical return to simpler times, but as a way to comfortably support a family and attain a deep sense of professional accomplishment.

Because healthy protein, vegetable, and fruit cultivation have been built into the fabric of the regional economy, food deserts have disappeared. Cellular agriculture is simultaneously the most nutritious source of clean seafood and meat as well as the most accessible. Residents of the Salish Sea boast the lowest levels of malnutrition, obesity, and heart disease in North America as a result of our local food production. A healthy diet for all, regardless of income level, was a critical step along the way to fostering an inclusive culture that honors the region’s ancient First Nations and Native American traditions, acknowledges the boons and shortcomings of the 20th century’s extractive economy, and ingrains a deep and visceral appreciation for the region’s many natural wonders including its growing number of national parks.

In 2050, courses in nutrition and food systems are embedded in the Salish Sea’s primary school curriculum. This week’s lesson covers the history of the region’s food system. A local eighth-grader could not believe what she just read—that only thirty years ago, our food system in the region and around the world was nearly brought to its knees by a global pandemic. The resilience of the Salish Sea’s food system in 2050 makes this outcome simply unthinkable.
The Salish Sea

Our vision centers on the Salish Sea, an approximately 100,000 km² area that stretches across coastal Washington State and British Columbia. This region is of personal significance to us at Wildtype. Justin Kolbeck, CEO, lives in Seattle with his family, and Ben Friedman, Wildtype’s Head of Product, grew up salmon fishing in the Salish Sea and its many tributaries. We selected this region as the setting for our vision not only because of our personal ties to the Salish Sea, but because it is home to the Pacific salmon species we are protecting with our technology.

Community co-created

Our vision has been shaped by dozens of stakeholders across the Salish Sea region and beyond, including fishery biologists, indigenous communities, public health officials, economic development experts, legislators, landowners, and restaurateurs. We recognize that no matter how novel our technology is, we will not succeed in transforming our food system unless we root our initiatives in our community. This means that our ideas for innovation and implementation are sourced broadly. We will also contribute as private-sector leaders to a food economy built on the ideals of environmental and social justice. The remainder of this story describes how our community shaped our vision and understanding of the systems-level forces at play.

Community voices

Environment

“*In the Salish Sea, marine survival of Chinook and Coho salmon and Steelhead populations have declined by up to 90% and their abundance remains well below what it was 30 years ago, despite considerable investments in hatchery and harvest reform and in habitat protection and restoration... The loss of salmon threatens the heart of Pacific Northwest culture, the health of our local sea, a multi-billion-dollar fishing industry, and deeply rooted Native American traditions.*”

- Iris Kemp, Fisheries Research Biologist at Long Live The Kings

“As a Pacific Northwest chef, salmon isn’t just important to me because it’s the second most popular seafood in the United States, it’s also a vital part of our culinary tradition and a cultural symbol in this region. Tomorrow’s consumers are demanding more transparency—and the full picture of how that salmon arrived on their plate is grim at best. Wildtype offers succulent, delicious salmon served up without negatively impacting our waters and species... Cultivated meat is the future because it’s real animal protein!”

- Joel Gamoran, Celebrity Chef & Founder of Brown Banana

Our 2050 vision resolves a longstanding tension between eating the foods we love and protecting the environment as exemplified by Iris Kemp’s and Joel Gamoran’s comments. This tension is particularly acute with seafood. While fish is one of the most nutritious sources of animal protein, current production techniques deplete wild fish stocks and pollute coastal ecosystems. In 2050, previously accepted dogma that animals are required to produce meat
will no longer apply. Our technology will enable the production of truly local, harm-free animal protein, eliminating food miles, and significantly reducing the environmental impact of animal protein production.

**Policy**

“It will take innovation and creativity from the private sector to meet the challenges of tomorrow, but innovators bear some responsibility and must proactively partner with government, nonprofits, and communities to inform and support the transition to new economies, including retraining workers displaced by their disruptive technologies. The public and social sectors can’t carry this burden by ourselves.”

- Kris Goddard, Public-Private Partnership Manager at the City of Bellevue, WA

“[Cellular agriculture] production fits better with our environmental ethos. Maritime has a huge future here and we’re building toward that future.”

- Dave McFadden, Managing Director, Economic Development at the Port of Seattle

Achieving our 2050 vision will require us to thoughtfully consider the policy implications associated with transformative technology. As Kris Goddard impels, technological advancement in this sector, despite its manifest benefits, has the potential to upend many livelihoods. Wildtype and other new food economy producers will partner with local and state governments to prioritize retraining and hiring legacy workers. Companies like Wildtype, therefore, have a responsibility to build capacity where production has historically occurred; we believe that future salmon production should stay in the Salish Sea even if our technology allows salmon to be produced anywhere.

In 2050 the relationship between policy and new food technology will be highly collaborative and mutually beneficial. Leading up to this vision, government agencies like FDA and USDA will need to adapt existing regulations to new paradigms of food production. Industry leaders like Wildtype have the opportunity to expedite this process by educating regulators and the general public on new production technologies. In this process, producers can leverage regulators’ expertise to improve safety and labeling practices, while enhancing consumer trust via transparent consultation and approval processes.

**Diet**

“Safe and nutritious diets depend on the access and availability to foods rich in micronutrients, which are essential for healthy growth and development of global populations. Studies show that over the next 30 years, we’re expected to see losses of key micronutrients in the soil due to the impact of climate change—namely rising CO2 levels—which will significantly reduce the amount of micronutrients in staple foods and vegetables. If nothing is done to combat this, our fight to end malnutrition will become exceedingly more difficult than it already is.”

- Florencia Vasta, Food Policy and Finance, at Global Alliance for Improved Nutrition
Florence Vasta highlights the interdependence between our diets, the environment, and economics. Environmental degradation has had a direct impact on the quality of our food. In 2020, this factor, combined with a basic economic truism that most people decide which food to buy based on price (cheap fast food tends to be less nutritious) helps explain the food system challenges that lie ahead. Public health officials and dietitians will be central in reshaping our new food economy. By 2050, a transition to climate crisis-resilient indoor agriculture, local food production, and low cost cell-cultivated animal proteins like salmon, will eliminate the gap between accessibility and nutrition.

Technology and culture

“Cultivated salmon presents an unprecedented opportunity to produce sustainable, just, and healthy seafood. Given the numerous challenges facing the seafood industry, there is an urgent need for new approaches to meet the increasing global demand for seafood. GFI shares Wildtype’s vision of a world where everyone has access to delicious, affordable, and nutritious seafood made without sacrifice.”

- Jen Lamy, Sustainable Seafood Initiative Manager at the Good Food Institute (GFI)

“Wildtype’s visionary work shows us a refreshing and inspiring antidote to the narrative of social displacement, economic inequity, and cultural disenfranchisement that we too often see when technological innovation fails to nurture and support the broader human context in which it exists. In its bold vision for the Salish Sea, Wildtype adopts as one of its core convictions the idea that technological development must be guided by the broadest possible coalition of voices in order to achieve truly equitable outcomes – only then can a place thrive in a self-sustaining, culturally authentic way.”

- Shuo Zhai, Gehry Partners LLP

As Jen Lamy suggests, the next chapter in the Salish Sea’s history as a global technology leader is about to begin. A renaissance in how we source nutritious, clean seafood via cultivated animal protein is just one aspect of the Salish Sea’s 2050 food future. Clean energy alternatives to hydropower are already in development in the region such as next-generation safe nuclear power. Staple crops can be climate proofed and grown with greater efficiency in vertical indoor farms both above and below ground. Automated harvesting and food delivery systems on a zero-emission power grid will make nutritious food available to everyone.

Beyond the policy implications of technology displacing jobs, another point of tension is how technology challenges and shapes our culture. Today, gentrification and the rapid adoption of new technology creates friction against our pre-existing cultural norms as the pace of change accelerates across every aspect of society. We will learn from this experience as we usher in the technological advances that will enable the creation of a regenerative food system in 2050. The thirty years between now and then must not be marked by a culture of technological advancement at any cost, but rather by our deliberate and broad coalition building among all stakeholders in our community. This means that no single company or organization will have an outsized impact on the region’s culture. It also means that the economic gains from the food system will be equitably distributed. The realization of this vision is a 2050 culture that is shaped by everyone who calls the Salish Sea home.
Economics

“We see high tech agricultural manufacturing as a great use for urban industrial sites because many of their customers are in the city, making distribution of their products more cost effective. Close proximity to educated population centers also gives them access to high-skilled, educated employees, a necessity for businesses that rely on modern technology.”

~ Adam Rosen, Portfolio Manager at Seattle–based Alco Investment Company

The Salish Sea’s 2050 food economy turns the 2020 version on its head. In 2020, economic growth and living-wage jobs clustered around information technology companies. By 2050, a broad range of food producers now offer high-paying jobs across the region. As Adam Rosen points out, leveraging underutilized industrial areas like Seattle’s “SODO” district grants easy access for food delivery to densely populated areas and provides high-paying jobs to urban workers. Today it is unfathomable that our cities will be home to salmon, vegetable, and grain production. But by 2050 urban food production will be the norm.

Alternative protein and urban farming will bring more than 200,000 new jobs to the Salish Sea region. Due to the technology embedded in 2050 plant and protein production, food production jobs in the Salish Sea offer living wages for computer scientists, mechanics, and biologists alike.

Eating with our hearts

In 2050, food is once again about the joy of people and communities coming together to share stories over delicious dishes. Here in the Salish Sea, salmon is still on the center of our plates, often grilled over a soaked cedar plank and served alongside salad greens grown inside a skyscraper in downtown Seattle. Our food culture still celebrates the region’s abundance with a deep connection to the origins of our food and the role nature plays in our lives. We are once again free to eat with our hearts without the trade-offs that permeated the food system in 2020.

Cellular agriculture has created an abundant source of clean animal protein and our native salmon populations are rebounding beyond what even experts predicted. Our Southern Resident Killer Whale has been taken off the endangered species list, as have many native marine species of the Salish Sea, including our Chinook salmon. Thankfully, in 2050 we still marvel at the power and resilience of nature.

Our region’s food hub has inspired other countries, states, cities, and provinces to rethink their food systems. Following the Salish Sea’s lead, historic cattle ranching regions are now home to cultivated beef production. These transformations are mirrored by agricultural regions around the globe as food systems evolve into a local production model. This 2050 food system is not just regenerative, it is also producing food that is better for us all.