

Entrepreneurs

Fishing Expedition

Jonathan Fahey, 06.08.09

Grabbing sushi with David Tze is frustrating. Tze, 34, is the managing director of Aquacopia, an investment firm providing venture capital to fish farms. His iPhone runs an application that lists species to avoid for health or environmental reasons. Ask him to check on a favorite like yellowtail, eel or tuna, and the answer is the same: Skip it.

The oceans can't keep up with demand for fish, which has been climbing 3.6% a year (twice the growth in population) since the 1960s. The stocks of some species, like Atlantic cod, collapsed long ago; Atlantic blue fin tuna are nearly gone; Chilean sea bass and flounder are under pressure. The Food & Agriculture Organization of the United Nations estimates that three-quarters of the world's fisheries are either at their limits or already beyond them and approaching collapse.

Fish farming to the rescue. In 1970 humans grew 1.5 pounds of fish per capita; in 2006 we grew 17 pounds. Aquaculture now supplies 43% of the world's fish.

Those numbers got the attention of Jared Polis, Tze's undergraduate pal from Princeton. Polis, also 34, started and sold an online greeting card company to Excite AtHome in 1999; he scored again by unloading ProFlowers, an online flower shop, to Liberty Media in 2006. Tze had worked at an online marketplace for the oil and gas industry and at a series of what he called "exhilarating disasters" in e-commerce. It didn't take much for Polis to convince him to try a new game. "Fish protein is the most healthy protein for human consumption," says Polis. "It's important for humanity that we get this right."

Polis' first thought was to launch or acquire a fish farm. But a lot of pieces have to come together to get from science to profits in this industry. While universities pump out a ton of research on fish farming, much of it doesn't get commercialized, and the duo didn't want to be locked into one bet. "There is no professional money invested in early-stage aquaculture," says Tze.

Freshwater fish like trout, tilapia and catfish are farmed on land in long, outdoor pools; marine species like salmon and shrimp are often grown in pens, in ocean bays or in estuaries. To increase production fish are packed ever tighter, inviting disease outbreaks (and the expensive antibiotics and pesticides needed to combat them) and high concentrations of waste that poison the pens and the surrounding waters.

The biggest cost is feed. While fish are very efficient machines (unlike chickens and cows, they don't use metabolic energy by growing strong bones to fight gravity), they still eat a lot. On average fish gobble 2 pounds of feed to produce one pound of flesh. Fish are finicky eaters, too, and they prefer snacking on their own kind. Hence the \$6 billion for fish meal, made of ground-up forage fish, used to feed all those farmed fish. (Mixing in cheaper ingredients, such as wheat gluten, soy protein, feathers and bone meal helps, but there is a limit.) Also, forage fisheries are now being overfished, raising feed prices and worrying ecologists.

Undaunted, Polis mustered \$16 million, including his own savings and money from friends and family, before stepping aside last year after winning a congressional seat in Colorado. Now Tze, Aquacopia's only full-time employee, navigates the fund, which has minority stakes in five holdings, and charges investors 2.5% on assets under management, plus a 20% cut of the capital gains.

Aquacopia's answer to the onshore farming challenge: Go offshore. It has a piece of Open Blue Sea Farms, founded by Brian O'Hanlon, who watched his father's Manhattan wholesale business sink when the Northeast cod fishery collapsed in the 1980s. Soon after, O'Hanlon quit college and built a 3,000-gallon tank in his suburban Long Island home to try to grow snapper from eggs. That effort eventually led to a pilot farm 2 miles off Culebra Island in Puerto Rico. In 64-foot-diameter spherical pens, O'Hanlon grew a few 50-ton batches of cobia--a firm, mild whitefish that looks a bit like a shark--that he sold for \$4 a pound to distributors.

Now O'Hanlon, with Aquacopia's help, is looking to raise \$20 million to build a farm with dozens of pens in 2,500 acres of ocean 8 miles off the Caribbean coast of Panama. O'Hanlon thinks he can grow 10,000 tons of cobia a year (1.7 million fish) and start shipping to high-end retailers and restaurants by the end of 2010. As soon as he gets cobia up and

swimming, he'd like to add new species: "Every customer asks us what else we could do," he says. "We could sell two or three times more fish if we had it."

Some of the cages in which O'Hanlon's fish will grow will likely come from another Aquacopia-funded company, Ocean Farm Technologies, of Morrill, Me., founded by Stephen Page, a former salmon farmer. The cages start at \$136,000. Their frames are made of fiberglass-reinforced plastic, with vinyl-covered galvanized-steel mesh to keep the fish in and the seals and sharks out. Mexican shrimp farmers are starting to use them as they move their operations offshore. Page sold 7 last year, and he's on track to sell 20 in 2009; with only five employees, who build the pens by hand, he figures he'll break even this year.

Tze's biggest catch, he says, could be Oberon from Idaho Springs, Colo. Founded in 2001 by two graduate students from the Colorado School of Mines, Oberon aims to address the fish-feed problem by serving farmed fish the bacteria used to eat up the excess food in wastewater streams of food-processing plants.

Rather than filter out the spent- bacteria sludge and send it to a landfill, Oberon plans to harvest the bacteria at an earlier stage when it is full of protein. (The stuff going to landfills is 20% to 25% protein, while bacteria from Oberon's pilot at the New Belgian Brewery in Fort Collins, Colo. contain 65% protein.) Piggybacking off an existing infrastructure means low raw material and capital costs, says Chief Executive Randy Swenson, 59. Swenson figures he can sell his meal for less than his competitors, who get around \$1,000 a ton, and hopes to start selling within nine months.

Aquaculture skeptics abound, like Paul Molyneaux, author of *Swimming in Circles*, a book that excoriates the aquaculture industry. Molyneaux thinks the pressure to boost production will inevitably lead to unhealthy fish no matter where they are grown. "The notion that it's going to make things better for wild fish hasn't been borne out," he says.

Tze's response: If we don't make this work, there won't be anything left on the sushi menu. He only wishes he could push things forward faster. "If anything, we've underestimated the size of the market," he says.