

Sturgeon Farming & the Long View

Sterling Caviar visit (May 2015)



White Sturgeon (*Acipenser transmontanus*)

- White sturgeon aquaculture started with research at UC Davis in 1979; Prof. Sergei Doroshov is considered the Father of Sturgeon Aquaculture.
- Commercial farming of sturgeon began soon after, starting with a handful of farms in northern California in the early 1980's before spreading worldwide.
- Sterling Caviar represents the consolidation of multiple area facilities, including Stolt Seafarm at Wilton (started in 1983), Sierra Aquafarms at Elverta, which was a pioneer in water recirculating technology and started in 1985, and the Buena Vista coldwater facility near Ione CA.
- The first farm-raised caviar in the world came from here in 1993. Culinary acceptance has gradually grown to dominate the market, with chefs preferring the environmental sustainability and consistent quality of farm-grown product.
- Today, Sacramento is the caviar capital of America, with local farms accounting for approximately 80% of US supply.
- While it takes an estimated 20+ years for a female white sturgeon to mature in the wild, it takes about half that time on Sacramento area farms where their water remains warm year-round. Still, a crop that takes 8-10 years before harvest represents a substantial investment in capital and risk, unmatched in conventional agriculture.
- Initial broodstock originated from the Sacramento River and San Francisco Bay; requiring changes in Fish & Game Code, both to make the collection of breeders legal, and to clarify ownership of the progeny resulting from such captive spawns.
- Sterling produces nearly 12 tons of caviar and approximately 180 tons of sturgeon meat annually. Global supplies from farms have stepped up to replace wild harvests from the Caspian Sea, where a moratorium is in place to protect and allow recovery of wild sturgeon populations. Chinese caviar production is ramping up steeply, aiming to quadruple supply in the next decade.
- Caviar prices and preferences vary depending on color, texture, and flavor.
- Area sturgeon farms are a great example of water conservation, both through recirculation and by sharing their discharged waters. At the Elverta site, adjacent wetland habitat for endangered species (Natomas Basin Conservancy) is entirely dependent on Sterling; at this and other locations, neighboring farmers also re-use the water for crop and pasture irrigation.



Bobby Renschler – Production Manager, Sterling Caviar
Photo: Jonathan MacKay

Translating Success throughout California Aquaculture



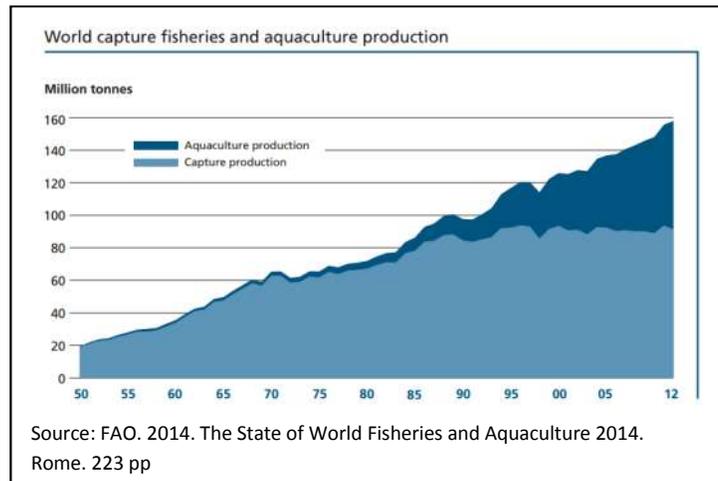
Shaoching Bishop – Managing Director at Sterling Caviar, hands out samples while Bobby Renchler describes the Italian made caviar tins.
Photo: Miho Umezawa

Growing a crop like sturgeon caviar, which takes a decade to yield its harvest, requires commitment. Growing a successful industry based on such challenges takes committed collaboration – contributions from academic research and their funding institutions (like Sea Grant, USDA, and the University of CA), from cooperative regulators (who needed to adjust conventional thinking and create new rules for this new activity), and the long-term private investment of capital, labor, and patience – all came together to make California sturgeon aquaculture the success story it is today.

California has a similar opportunity to look ahead and meet the challenges of the next 30 years with a long-term view:

Consider:

- With a world population topping 9.3 billion by 2050, more food will be needed in the next 35 years than was produced during the last 8000 years.
- A significant boost in the global middle-class (particularly Asia) over the next 35 years will translate into an even greater proportion of the seafood we now import being kept and purchased locally by producer countries.
- California has the spatial, climate, and waterfront resources to support a significantly expanded marine aquaculture industry, one that is not reliant on competing for precious freshwater resources.
- From the same amount of feed, farmers can produce: one pound of beef, two pounds of pork, four pounds of poultry, or **SIX** pounds of fish.
Expanded aquaculture development in California makes resource and economic sense.
- With over 90% of US seafood being imported, much of it at great expense to the world's carbon footprint, increased local aquaculture production can lessen our greenhouse gas impact and contribute to the state's economy.



In response to these challenges, researchers from UCSB, using marine spatial planning tools, have identified suitable areas to expand marine aquaculture in the Southern California Bight. →