

# Morning Star Fishermen, Inc. Helps to Fight Hunger with Aquaponics



By Javier Colley

Morning Star Fishermen Inc., a tiny, die-hard, non-profit organization is about finished converting a 40 year old abandoned clown fish hatchery into a modern day aquaponics facility and training center. After an arduous seven year period, and thousands of hours of dedicated volunteer labor, MSF founder Hans Geissler's dream of an aquaponic greenhouse that would serve as a research and training center is finally becoming a reality. The transformation of the old 200 feet long by 60 feet wide building has been truly remarkable. More amazing still is how suitable the original design is for an aquaponics operation considering nobody had even heard the term 'aquaponics' when it was built back in the 70's as a saltwater aquarium fish hatchery.

"You have to give Hans a lot of credit; first for having the vision and the tenacity to invest in a condemned facility that laid in ruin, and then for having the ingenuity and the determination to realize a transformation like this." said Javier Colley, Morning Star Fishermen's new volunteer Executive Director.



*Hans and Sigrid Geissler, Founders,  
Morning Start Fishermen*

With a mission to help in the fight against world hunger, since the early 90's, Morning Star Fishermen has been proposing aquaponics as a feasible and reliable means of producing much needed protein for impoverished communities in countries devastated by hunger and starvation. We all know the numbers; only one-third of the world is well-fed, while the rest is under-nourished or starving to death. Since you started reading this article, at least 500 people have died of starvation all over the world.

If you ever wondered what could be done about it, teaching aquaponics is something that can result in a permanent ongoing supply of nutritious food grown by and for each specific community. MSF's

motto is; 'Give a man a fish, he eats for one day...teach a man to grow fish and vegetables, and the whole community eats'.

At Morning Star Fishermen we believe that solutions to hunger and poverty can be found at the grassroots level. Teaching people to grow their own food; assisting small farmers to implement simple and effective technology, and providing the education and training necessary for replication, maintenance and sustainability can be a long-term solution to hunger and poverty.

The key to the success of our humanitarian project is to learn to attain sustainability ourselves, and then train others to become sustainable. Capacity building, education and hands-on training are the foundation for all MSF initiatives.

Since the year 2000, when we moved to our current headquarters in Dade City, Florida, we have been striving to adopt the latest aquaculture and aquaponics technologies, which can later be incorporated into our curriculum. Last summer we attended Dr. James Rakocy's Aquaponics Short Course at the University of the Virgin Islands in St. Croix, and we are teaming with Nelson and Pade to expand our course offering to include commercial oriented modules and cover more sophisticated intensive technologies in our curriculum.

In addition to the main aquaponic production area, our main building also houses a 9,000 gal. capacity hatchery and a classroom. Our main greenhouse aquaponics system has 36,000 gal. of fish grow-out capacity and 900 sq. ft. of raft hydroponics surface area. We also have a variety of smaller scale demonstration aquaponic system indoors and outdoors, and an older traditional aquaculture fish tank farm with additional 40,000 gal capacity in another part of our 10 acre property.

Our main aquaponic system tries to emulate Dr. Rakocy's UVI recirculating aquaponic system as close as possible. We have proportionally 25% more fish production capacity than plant production surface area, compared to the UVI system. There is an advantage in having additional fish "space," because you can produce the same amount of fish using lower stocking densities. This gives you a wider margin for error than trying to use higher stocking densities. The fish seem to grow faster, plus it makes it easier for inexperienced and uneducated growers to be successful.



*Morning Star Fishermen Training Center  
Photos: Top: the classroom; middle: the wet lab; bottom: some of the fish tanks;  
Left page, top: the raft tanks in the greenhouse with basil growing*



We are growing two different Tilapia hybrids, the Rocky Mountain white, and a red strain of Nile Tilapia crossed with *Oreochromis mossambicus*, as well as the blue Tilapia found locally in Florida, *O. aureus*. We have started to plant basil and other herbs, as well as a variety of vegetables, legumes and even grassy plants that can be used as forage for farm animals in arid or desert regions. Using the same criteria and production parameters that UVI uses, our greenhouse aquaponic system has the capacity to produce approximately 10,000 lb of Tilapia and an additional 10,000 lb. of vegetables and herbs per year.

We specialize in offering interactive hands-on training, which is key to the success of any aquaponic enterprise, whether it is for community development purposes, or commercial interest. People don't realize how valuable this is until they come to one of our courses and spend some time actually helping to run and operate a working aquaponic farm and fish hatchery.

We have a variety of courses and seminars, ranging from one-day introductory seminars to more intensive three month courses, with dormitory facilities that can house up to 12 people at a time.

Still, we are a very small organization and the truth is that we need help to turn MSF into the world class organization it could become. In the fifteen years that we have been in operation, a lot of talented, qualified people have come and gone from us. The list is really impressive and we owe a lot to each of these individuals. Without them MSF would not be what it is today. All of them brought good things to the table, but we were not able to provide the support that they required to remain working with us.

During this time, we have been able to improve our organizational structure and our financial situation is improving as well so, hopefully, we will be able to attract and retain more qualified individuals in the near future.

We now have a fully operational facility, and we are starting to get a lot of attention from the academic and research community. We are strategically located in the middle of the three largest universities in Florida, all three of which are in the list of the top 10



*Activities at Morning Star Fishermen:  
top to bottom: transplanting basil  
seedlings; inspecting fish health;  
maintaining the aquaponic systems;  
harvesting tilapia.*

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

largest universities in the country, including The University of Florida (UF) at Gainesville that is the second largest university campus in the nation by enrollment, and is Florida's top agricultural school. It is just a matter of time before we move to the next level.

In the mean time, we are also building a sister aquaponics and sustainable farming training facility in Nicaragua, one of the poorest countries in the Western Hemisphere. We received a grant from The Rotary Foundation, and three acres were donated for this project by Silvio Echaverry, a professor emeritus from that country's top agricultural university, Universidad Nacional Agraria (UNA) in Managua. This facility will make our services more accessible for students and community leaders from Latin America, who would otherwise be unable to come to the United States for training.

It is truly remarkable that Morning Star Fishermen has been able to get so far and do so much with

so little. We continue to struggle financially, we continue to be under manned, but we have a passion that surpasses those limitations. We are building a strong foundation, and are working to have everything we need in place in order to achieve our maximum potential. Until then, we remain a clean canvas upon which we expect even greater work to be done in the not too distant future.

**About the Author:** *Javier Colley has been with Morning Star Fishermen since May 2007. Before coming to Morning Star Fishermen, he worked 16 years in the seafood processing industry as R&D Manager and Process Manager for Bumble Bee Seafood, Inc. He has a bachelor's degree in biology from the University of Notre Dame, and completed four years of graduate studies at the University of Puerto Rico's Department of Aquaculture and Marine Sciences where he also worked as a Research Assistant. Javier can be reached by email at [msfmail@morningstarfishermen.org](mailto:msfmail@morningstarfishermen.org).*



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