Growing Fish in Natural Reservoirs

The model is based on populating of various types of fish in low density, determined by local conditions: water temperature, existent types of fish, water exchange and quality of the water and bottom of the Reservoir.

No fish-feed is required once juvenile fish are placed in the reservoir. The fish feed on natural food, Phytoplankton, Zooplankton, snails, etc. The Predatory Fish feed on natural eggs laid by the different types of fish that inhabit the reservoir. The amount of the natural food in the reservoir is derived by the local temperature, type and quality of soil, water's origin, pH levels, salinity.

After production of Minnows in an industrial hatchery in the right timing, the fish are grown to weight of 50-100 grams in semi-intensive ponds and/or cages (using fish feed for this stage only), to ensure good survivability in the "receptive" reservoir. Later the fish are placed in the reservoir to continue growing. After 1-2 years, fish that have grown to market size only (size depending on the type) are extricated by boats with adequate nets, allowing the small fish to stay and grow to the desired market size.

Aside from the client/market demand, the choice of fish-type to restock relies mainly on the type of fish and natural food already existing in the reservoir, for two reasons:

1. All types must be able to co-exist and not 'hurt' each other.
2. It must be able to feed on the same natural food, or furthermore, feed on the natural food not consumed by the existing types.

The amount of fish that would be placed in the reservoir varies and mainly depends on the water temperature. For example in Russia, it would be 30 fish per hectare, whereas in Africa it would be 500 fish per hectare. Therefore, we can expect a harvest of 10 kg fish per hectare/per year in the cold water zones and 150 kg fish per hectare/per year in the warm water zones.

Costs for production of 2,000 tons:

Investments/Expenses	Artificial ponds	Natural water reservoir
Hatchery	$100,000	$100,000
Intensive ponds	$2,100,000	$200,000
Boats and fishing nets	$800,000	$400,000
Total - $	$3,000,000	$700,000
Feed - ton	4,000 tons	*200 ton

*feed used for 1st stage only in Intensive ponds until transferred to the natural reservoir.

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Lower in Fat, Rich in Omega 3

In a lab test conducted on the fish of the Sea of Galilee in 2007 (by Milouda Laboratories -see below) where this method has been implemented for years, we learned that the fish were significantly lower in fat than the fish grown in semi-intensive ponds (referred to as 'local market'), with desired proportion of high levels of Omega 3 versus lower levels of Omega 6.

	Local market Tilapia	Sea of Galilee Tilapia	Local market Carp	Sea of Galilee Carp
% total fat	5	3.8	6.5	5
% omega 3 of total fat	3.6	24.5	3.5	20.15
% omega 6 of total fat	23.4	7.7	21	12.2
Omega 3: omega 6	1 : 6.5	1 : 0.3	1 : 6	1 : 0.6
Total Omega 3 (gr) in 100gr meat	0.18	0.79	0.23	0.86