Fish is an excellent protein staple, low in saturated fat, yet high in vitamin E and selenium. Fish oils reduce the risk of strokes by preventing blood platelets from sticking together. Fish supports cardiovascular health because it is a good source of omega-3 fatty acids, which reduce blood pressure and cholesterol. Omega-3 fatty acids may lower the risk of breast cancer as well.

Fish has long been considered good food for the brain. Scientific studies validate the importance of omega-3 fatty acids as necessary for building healthy brains in children. The fetal brain undergoes a big growth spurt during the last trimester of pregnancy, and omega-3 fatty acids play an important role in the proliferation of neurons and blood vessels.

Once an ideal protein food, fish has now come into question due to unchecked pollution and environmental degradation. Billions of pounds of toxic chemicals dumped into rivers, lakes, and oceans eventually find their way into the food supply. Chemical contaminants are absorbed by aquatic plants, which are eaten by small creatures that are eaten by larger fish, and so on up the food chain. The contamination becomes more concentrated by “a factor of 10 to 100 with every link ascended.”

The food chain among land animals is seldom more than three links, while it can be as long as six to twelve links among aquatic ecosystems. Some of the contaminant’s found in fish and seafood include methyl mercury, PCBs, pesticides, and dioxins. A consumer thereby receives more toxins from eating fish than from eating meat. Choosing small mouth fish should help the consumer avoid eating too far along the aquatic food chain.

Pesticides in Salmon

Pesticides used on golf courses, in agriculture, commercial, municipal and home applications create resistant pests and have a detrimental effect on non-target species. Salmon are suffering the effects of pesticides that journey downstream from a variety of land applications. The Northwest timber industry’s use of pentachlorophenol as a wood preservative has caused a problem to the local salmon. After a long campaign by environmental advocates the US Environmental Protection Agency (EPA) is finally phasing out this highly toxic pesticide. The US Geological Survey (USGS) has detected 15 pesticides in Northwest waters that exceed standards set to protect aquatic life. “Diminishing Returns,” a 1999 report by Dr. Richard Ewing prepared for the Northwest Coalition for Alternatives to Pesticides, documents how pesticides impact salmon’s ability to survive. Pesticides can alter their ability to swim, inhibit feeding and predator avoidance; cause abnormal sexual development; cause skeletal deformities; and impair salmon’s ability to transition from freshwater to seawater. Government agencies lagged for years in correcting this problem until the Earthjustice Legal Defense Fund won a suit under the Endangered Species Act.

Salmon Farms

Just as modern dairy, veal, and poultry farms raise animals in crowded confined spaces that breed disease and create excessive waste, so it is for farmed salmon raised in tightly packed pens or nets. Other fish that inhabit the same waters are suffering from an inundation of excessive fecal matter, dead fish, and drugs.

To fatten them up as quickly as possible, farmed salmon are fed a diet rich in fish oil from herring, which is itself a very oily fish. Preliminary tests of farmed fish found consistently higher levels of several toxins including pesticides. PCB levels were ten times higher. The culprit appears to be the processed food, where elevated levels of lipid soluble contaminants were found in all types of salmon feed. The natural diet of farmed salmon has been altered to maximize profits, just like with commercial beef and poultry. Consumers who regularly eat farmed salmon would easily “exceed the World Health Organization’s tolerable daily intake for persistent organic pollutants,” a particularly dangerous situation for children, pregnant women and nursing mothers.

Wild stock develop the characteristic “salmon” color from the krill in the natural diet. Farmed salmon are fed duller rations and develop into shades of gray. To fix this problem the salmon are given a pigment supplement (astaxanthin) to redden their flesh for market. Roche Pharmaceuticals distributes a color chart that displays many shades of “salmon.” Industry researchers found that two out of three shoppers prefer salmon fed #33, which produces a deep red pigment.

Bruce Barcott, writing for Mother Jones magazine, says the salmon farms were welcomed fifteen years ago when first introduced in the Broughton Archipelago, 250 miles north of Vancouver. They were viewed as eco-friendly, a boost to the local economy, and a way to offset the diminishing supply of wild salmon runs. The welcome quickly wore off when large commercial outfits bought out the small local fish farms, and increased the size of the operations with little regard to increased pollution or interfering with natural runs of the prized wild salmon.

The economy of the shrimp fishermen was negatively impacted when they found their traps filled with farm muck, “a gooey black mixture of feces, excess antibiotic-laden fish
feed, and decayed salmon carcasses that filtered out of the ponds." Salmon are a major dietary staple for seals and sea lions. The new salmon industry, intent on protecting their financial interest, sought to break this link in the food chain by installing piercing acoustic sirens to keep away the seals and sea lions. This also drove away the killer whales.2

Another financial decision was to replace the native Pacific chinook and coho with Atlantic salmon, which are harder, faster growing, and better adapted to survival in crowded conditions. Worried environmentalists were quickly assured that if any Atlantic salmon ever managed to get loose in the Pacific waters they wouldn’t survive and would quickly become fodder for the seals and sea lions. The experts were wrong, and environmentalists’ concerns were proved valid. The Canadian government estimates that more than 400,000 farm-raised Atlantic salmon escaped over the past decade, and far from perishing, they have survived and thrived in their new found liberation, competing with native species for food and habitat.2

East coast fish farms are no better at protecting endangered wild stock from escapees. There was practically no media coverage of the recent escape of over 100,000 salmon from a Maine fish farm. Besides competing for food and mates, escaped farm salmon reduce the genetic diversity of wild species by interbreeding.3,5

Pharmed Salmon

Unnatural crowding of fish in pens and nets breeds more disease and parasites, similar to what happens with factory raised poultry and dairy cows. The fish are fed a steady diet of antibiotics, just like their feathered and leathered counterparts, which invariably leads to antibiotic resistant strains of disease. In salmon the fatal disease is furunculosis, which produces ugly skin ulcers, and is easily spread to wild species migrating past the pens. Prior to the establishment of the fish farms this disease was practically unknown.2

Sea lice are another problem of unnatural crowding. To combat this problem, the salmon are doused with ivermectin, a potent antiparasitic known to kill some species of shrimp, another blow to the shrimp fishermen. Lice infestations are much more prevalent among wild salmon traveling in close proximity to the fish farms than among wild salmon at further distances. Serious lice infestations can be fatal to the salmon.2 Because of the medicated diets and administration of additional drugs some critics of the new industry have coined the term “pharmed” fish.
Environmental Issues

> salmon farming would help protect the diminishing number of wild salmon. Instead the industry has become a major threat, polluting the water, disturbing the ecosystem, and spreading disease and parasites to the native stock. Too often the experts are only good at protecting the vested interests, and no good at protecting the environment or human health.

A Global Issue

High intensity fish farming has become a global issue with environmentalists and corporate interests on opposite sides of the issue. Fish farms have spread throughout Norway, Scotland, Maine, Washington State, and New Brunswick, and have spread farm-incubated diseases to local stock. In the 1960s Norway's wild salmon were nearly wiped out from over-fishing, acid rain, and development, which led Norway to experiment with fish farms in the country's sheltered fjords. Scotland, Ireland, and New Brunswick were soon to copy the trend. Inexpensive labor, lax regulations, and a huge coastline attracted a burgeoning salmon farm industry to Chile. The rapid farming expansion there has caused Chilean fishermen and environmentalists to call for a moratorium.

With an eye to further expansion, the industry headed westward in the 1980s courting Alaska and British Columbia. Alaska made a bold move and outlawed salmon farming entirely in an effort to protect its own commercial fishermen. The fish farm industry was more warmly embraced by British Columbia and farms were established in no time. When Norway enacted stricter environmental regulations during the 1980s, some of its salmon farmers moved to British Columbia where they continued their less than scrupulous farm methods giving fish farms in that area a bad name. Alaska's wild salmon fishery now ranks among the healthiest and best managed in the world. Their decision to ban salmon farms worked at protecting their native species, whereas British Columbia experienced the lowest wild salmon catch in 50 years.

Salmon, once a delicacy, is now as common a restaurant item as hamburger. It's true that fish farms have brought down the cost of salmon. Chilean workers earn a mere $1.50 a day dropping the cost of farm raised salmon so low that while Alaska's wild salmon are thriving, the salmon fishermen are struggling. The scenario parallels the agricultural industry that brags about the low cost of food in the US without any thought to environmental degradation; water, soil, and air contamination; additional use of fossil fuels for long distance transportation; loss of crop diversity; reduced nutrient content of food with dire consequences to human health. So-called cheap food is bankrupting the US economy in terms of out of control medical expenditure. It seems the whole country has become myopic. No one can see the whole picture anymore.

Health advocates choosing salmon for its health benefits, rich in omega-3 fatty acids, may want to eat only wild harvested salmon from pristine Alaskan waters. There had to be a trade off somewhere. As the price of salmon declined precipitously, so did the health benefits. The National Audubon Society, Sierra Club, and Environmental Defense recommend consumers avoid farmed salmon due to the industry's poor environmental practices. When shopping or dining out consumers are urged to request "wild caught" salmon, preferably from Alaska. Wild caught salmon are not artificially colored, contain no antibiotics, are higher in health promoting omega-3 fatty acids, and lower in lipid soluble pesticides. "Wild Salmon Don't Do Drugs," the bumper sticker slogan of wild salmon advocates says it all.

Safe Catch

In the August 2002 issue of Total Wellness, Dr. Sherry Rogers informs readers that the Chesapeake Bay supplies most of the commercial seafood along the Eastern Seaboard. Unfortunately, the Chesapeake has suffered extensive pollution over the years, with "extremely high levels of mercury and other heavy metals, as well as PCBs and other carcinogens," including "the bottom paint that barnacle-proofs the Navy fleet." Her efforts to locate a source of healthful canned and fresh fish led her to a company that supplies fish caught in Alaskan waters. Consumers can order from: Seafood Direct, 14522 NE N. Woodinville Way #102A, P.O. Box 1836, Woodinville, Washington 98072 USA 800-732-1836, or www.buyseafooddirect.com

GE Salmon

Genetically engineered fish that grow faster and larger, but with skeletal deformities and weakened progeny, is the next major health and environmental threat. An application for approval to commercially raise GE salmon has been made to the US Food and Drug Administration (FDA). This new and unproven technology is wrought with potential disaster for consumers and the environment. No one at the FDA is fully qualified to answer the myriad questions posed by this technology. The FDA decided to treat the matter as an "animal drug" and passed it to their Center for Veterinary Medicine (CVM), headed by Dr. Stephen Sundlof. Greenpeace and other watchdog organizations are urging consumers to object to the approval of GE fish. Consumers should voice their opinions directly to John Shide, Director of Communication at the CVM, or send an email at CVMHomeP@cvm.fda.gov. More on GE fish to follow.

References

6. Rogers, S., MD, Total Wellness, Aug 2002
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