



# Freshwater Trout Aquaculture Dialogue

Freshwater trout is a popular fish, cherished by people who love tasty seafood, sport fishing or both. Most freshwater trout is farmed and the majority of it is rainbow trout. One of the oldest forms of commercial aquaculture, trout farming began in northern Europe in the early 1900s and has expanded to more than 60 countries. The top rainbow trout-producing (and consuming) countries are Spain, France, Italy, Denmark, Iran and the United States.

Freshwater rainbow trout is produced in a variety of aquaculture systems including cages in lakes, flow-through systems, ponds, and recirculating systems. Several new developments in trout farming, such as improved disease control, will help increase production levels. Farmed rainbow trout can be found in the market as whole fish, fillets, smoked or canned.

Demand for efficiency, quality and profitability has shifted most freshwater rainbow trout production from small-scale producers to larger, export-driven producers. This shift, as well as the expansion of production in local areas, impacts the environment and society.

Although trout aquaculture tends to be concentrated in more developed countries with well-enforced environmental laws, there are still negative impacts that must be dealt with in order to attain sustainability and promote the industry's adaptation to new market demands and regulations.

To address these impacts, World Wildlife Fund (WWF) has created the Freshwater Trout Aquaculture Dialogue. The goal of the Dialogue is to develop global, measurable, performance-based standards that will help minimize the negative environmental and social impacts associated with this type of farming.

Since the Dialogue began in November 2008, Dialogue meetings have been held in Denmark and Spain. Outreach meetings will be held in the European Union, Turkey and other regions in 2010 to engage people in the process of developing draft standards for freshwater trout. The draft standards will be posted for two 60-day public comment periods in mid-2010 and finalized by the end of 2010. The final standards will be given to a new organization, the Aquaculture Stewardship Council, which will be responsible for working with independent, third-party entities to certify farms that are in compliance with the standards.



## Trout Aquaculture at a Glance

- Rainbow trout (*Oncorhynchus mykiss*) and brown or sea trout (*Salmo trutta*) are the most commonly cultivated trout in freshwater environments.
- The top 10 countries producing farmed freshwater trout (mainly *O. mykiss* and *S. trutta*) are Turkey, Iran, France, Italy, the United States, Denmark, Spain, Germany, Poland and China. These countries accounted for approximately 75 percent of all freshwater trout produced in 2006.
- The global production value for *O. mykiss* and *S. trutta* in 2006 was approximately 1.3 billion USD.

## Voice from the Field

"We are confident that, by addressing sustainability, the Dialogue process will add further value to our aquaculture products. So it is a win-win situation for everybody. We welcome this new initiative."

Brian Thomsen  
Danish Aquaculture Organisation



## Principles for Freshwater Trout Aquaculture

Dialogue participants have identified six principles that provide the framework for developing the criteria, indicators and standards for responsible freshwater trout farming. The criteria will aim to provide direction on how to reduce each impact and the indicators will address how to measure the extent of each impact. All of this information will be the framework for developing standards for freshwater trout farming. The principles are

1. Obey all applicable international and national laws and local regulations
2. Conserve local habitat and biodiversity
3. Minimize negative effects on water resources
4. Proactively maintain the health and welfare of cultured fish and minimize risk of disease transmission
5. Use resources responsibly
6. Be socially responsible

To learn more about this Dialogue go to [worldwildlife.org/aquadialogues](http://worldwildlife.org/aquadialogues)



## Main Impacts of Freshwater Trout Aquaculture

- **Water use:** The amount of water used on the farm can exceed the carrying capacity of local freshwater resources. Also, alterations of natural water flows may negatively impact the environment.
- **Escapes:** Trout that escape from farms can compete with wild fish for habitat and breeding grounds. In certain areas, there are problems with escaped fish interbreeding with wild stock, which can alter the overall pool of genetic diversity.
- **Discharges:** Excessive waste can pollute the water and negatively affect the living environment.
- **Habitat conversion:** The conversion of habitat to create farms can negatively alter important ecosystems.
- **Fish health/welfare and disease transfer:** If not managed well, trout production can expose fish to stress and diseases that can impact both farmed and wild stocks.
- **Feed ingredients:** The feed used in trout production includes a high level of wild-caught fish, some from fisheries that are not environmentally sustainable.
- **Energy efficiency and carbon footprint:** The carbon footprint associated with many farms can be high because of the amount of energy used for water pumps, recirculation systems and other equipment.
- **Predator control:** Birds and other predators can consume considerable volumes of fish from the farms and cause serious economic losses to the producers.
- **Social/community impacts:** Freshwater trout aquaculture can conflict with other important uses of an area or resources. There may also be issues of labor conditions.



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