

# Aquaculture and Animal Welfare



Fish Health Section of the  
American Fisheries Society

<https://units.fisheries.org/fhs/>

## Aquaculture supports food security and conservation

The human population is expected to increase to 10 billion by 2050

Traditional land-based agriculture occupies more than half of all developed land and uses more than 70% of the world's fresh water resources

Consumption of aquatic foods (excluding algae) has been increasing by 3% annually since 1961 and is expected to grow by an additional 15% by 2030

Most fish stocks are fully exploited, overfished, or in recovery from overfishing and cannot withstand additional harvest pressure

Rising ocean temperatures are affecting the distribution and abundance of fish stocks, and the most productive waters are experiencing acidification

Aquaculture is critically needed to close the seafood gap and support fisheries conservation and recovery efforts

## Animal welfare benefits

- Reduced stress and risk of disease
- Faster and more efficient growth
- Enhanced post-release survival and conservation outcomes
- Greater product quality and profitability
- Greater consumer satisfaction

## Animal welfare is best addressed by mindful husbandry



**Physical environment** should be suited to the animal and support health



**Handling** should be limited to minimize stress and reduce the potential for physical damage



**Health management** should emphasize preventative measures and judicious treatment to support recovery from disease



**Feed** should provide suitable nutrition for each life stage, supporting health and performance



**Breeding** should always consider health and welfare as performance traits



**Harvest** or otherwise dispatching aquatic animals must be rapid and effective

## Aquaculture offers many environmental benefits

Aquatic animals are more efficient at converting feed into protein for human consumption than terrestrial livestock

Nearly 2/3 of global aquaculture production is composed of low trophic level, freshwater species such as carp and catfish that require relatively little in terms of feed inputs

Aquaculture operations typically have smaller carbon footprints than terrestrial livestock farms and require less land and fresh water per unit protein produced

Oysters (and other bivalves) are filter feeders that clarify the water as they feed. Restoring and farming shellfish beds improves water quality, provides habitat for smaller organisms, and can help prevent shoreline erosion

New technologies for aquaculture that integrate and model topography, currents, and nutrient flow are helping to inform decisions that expand sustainable aquaculture while minimizing potential environmental impacts of marine farms

Land-based aquaculture based on water reuse technologies is one of the fastest growing segments of food production

## For more information



Aquaculture Supports a Sustainable Earth



The State of World Fisheries and Aquaculture 2020. Sustainability in action



The State of World Fisheries and Aquaculture 2022. Towards Blue Transformation



Future of the Nation's Fisheries and Aquatic Resources. The Challenges We Face in 2017 and Beyond.