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## **Booming Fish Farming Industry Depleting World Fish Supplies**

### **First Worldwide Study Finds Widespread Problems and Alarming Trends Despite Responsible Fish Farms in Some Parts of the World**

*First Peer-Reviewed Study Evaluating Aquaculture Worldwide to Appear as  
Cover Story in International Scientific Journal Nature June 29th*

Ten leading experts - ecologists, economists, fisheries and aquaculture specialists evaluated whether farm-raised fish add to the global food supply, as intended, or contribute to the depletion of fish populations worldwide. This international team of specialists found that in some cases, aquaculture does more harm than good.

While fish farming on balance still adds to the world's fish supply, some trends are headed in the wrong direction. Many types of aquaculture are pushing us faster towards a worldwide fisheries collapse through inefficient practices that rely too much on the ecologically inefficient practice of feeding wild caught fish to farmed fish. Some aquaculture systems also reduce wild fish supplies by destroying fish habitats and collecting wild fish to stock fish farms.

"If done right, aquaculture could greatly benefit the world's food supply," said Rosamond Naylor, Senior Research Scholar at the Institute for International Studies at Stanford University and one of the study's principal authors. "Unfortunately, many types of aquaculture are creating unforeseen problems and we seem to be headed for big trouble as a result."

Problems with some kinds of aquaculture revealed in the new study include:

- **Using Wild Fish to Feed Farmed Fish:** Many farmed fish are fed ground up wild fish which contributes to the depletion of ocean fisheries. For example, it takes around three pounds of wild caught fish to grow one pound of shrimp or salmon. There are also increasing trends to feed vegetarian species fish oil and fish meal to enhance production.
- **Pollution:** Some aquaculture produces waste laden with fish feces, antibiotics and uneaten feed. Fish farming often produces a flow of untreated effluent which contributes to pollution of coastal waters.
- **Habitat Destruction:** Hundreds of thousands of hectares of coastal wetlands and mangroves -- areas that are critical nurseries for wild fish and shellfish -- have been destroyed for aquaculture.

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Today's booming 6 billion dollar aquaculture industry has more than doubled in the last decade, with more than one out of every four fish consumed worldwide now being farm raised. But despite fish farming's prevalence, there is little public awareness about the harmful effects or incentive for industry to engage in ecologically sound practices.

In fact, according to a February poll by the Mellman group, among those who express an opinion, most think that raising fish on farms is both more healthy and more environmentally sound than fishing species in the wild.

"Farming salmon and shrimp clearly results in a net loss of marine resources," states Rebecca Goldberg, Senior Scientist at Environmental Defense and another principal author of the study. "When choosing what's for dinner, purchasing farmed fish isn't necessarily better for the environment than purchasing wild caught fish."

The authors recommend several ways aquaculture can both help reduce the pressure on the world's dwindling fisheries and be conducted in an environmentally sustainable manner. The species farmed and their production methods are key. For example:

- Promote the aquaculture of largely vegetarian fish such as catfish, tilapia or of filter feeders like scallops, mussels and oysters. This type of aquaculture doesn't put pressure on already strained wild fish populations.
- Promote ecologically sound management of aquaculture by mandating the treatment of waste water, enforcing strict health and other biosafety measures and restricting the siting of farm ponds in mangroves and other coastal wetlands.
- Reward the aquaculture industry for engaging in best practices.

"Fish farming and fisheries management are clearly linked ecologically and economically. They must be integrated in new ways," says co-author, Jane Lubchenco, a Distinguished Professor at Oregon State University and former President of the American Association for the Advancement of Science. "The world needs aquaculture. Aquaculture is so important to our future it is critical that we do it right. Now is the time to set the Blue Revolution on a productive path, not a destructive one."

Other authors of the study include: Jurgenne Primavera of the Southeast Asian Fisheries Development Center (SEAFDEC, PHILIPPINES); Nils Kautsky, Carl Folke and Max Troell of Stockholm University and the Beijer Institute; Malcolm C. M. Beveridge from the Institute of Aquaculture at the University of Stirling, UK; Jason Clay of the World Wildlife Fund; and Harold Mooney from Stanford University.

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**ATTENTION JOURNALISTS:** For more information or to obtain a copy of the study, please contact Charles Longer at Fenton Communications, (202) 822-5200 x 223.