

## Rare earth elements in different trophic level marine wild fish species

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### Introduction

Wild fish generally exhibits lower levels of contaminants, such as mercury and Persistent Organic Pollutants (POPs), compared to farm-raised fish. This is because wild fish consume a more varied diet, resulting in reduced exposure to potentially harmful substances. By contrast, farm-raised fish can accumulate higher concentrations of contaminants due to the use of concentrated feed and potential exposure to pollutants in the farming environment. Consuming wild fish in moderation can help minimize the risk of ingesting these contaminants while reaping the health benefits associated with fish consumption. Choosing wild fish supports the preservation of biodiversity and the health of marine ecosystems. Fish play a vital role in the delicate balance of ocean ecosystems by controlling the populations of smaller organisms and maintaining the health of coral reefs and seagrass beds. By opting for wild fish, consumers contribute to the economic incentives that encourage sustainable fishing practices, habitat conservation, and the protection of endangered species. Sustainable fishing practices, such as catch limits, season restrictions, and protected areas, help maintain the diversity of fish populations and safeguard marine ecosystems for future generations. The consumption of wild fish also has positive socio-economic impacts, particularly in coastal communities. Fishing is often a traditional way of life in these regions, and supporting the fishing industry helps preserve local cultural heritage. By choosing wild fish, consumers contribute to the economic livelihood of fishing communities, creating jobs and supporting small-scale businesses. Additionally, the promotion of sustainable fishing practices ensures the long-term viability of these coastal communities, maintaining their cultural identity and traditions.

### Description

The consumption of fish has long been associated with numerous health benefits, mainly due to their high protein

content, omega-3 fatty acids, and essential nutrients. However, when it comes to wild fish, there are certain side effects that need to be acknowledged and understood. This article aims to shed light on the potential side effects of consuming wild fish and explores the factors contributing to these effects. While wild fish can be a valuable part of a healthy diet, it is crucial to be aware of the possible risks they may pose. One of the primary concerns associated with wild fish consumption is the presence of heavy metals, such as mercury, lead, cadmium, and arsenic. These toxic substances find their way into water bodies through industrial pollution, mining activities, and natural deposits. Wild fish, being the inhabitants of these water bodies, can accumulate these heavy metals over time. Prolonged exposure to these contaminants can lead to severe health issues, including neurological disorders, impaired cognitive function, and developmental problems in children. Apart from heavy metals, wild fish can also be exposed to a variety of environmental pollutants, including Polychlorinated Biphenyls (PCBs), dioxins, and pesticides. These pollutants originate from industrial discharges, agricultural runoffs, and improper waste disposal. Fish tend to accumulate these pollutants in their fatty tissues, and when consumed, they can pose significant health risks. PCBs and dioxins are known to be carcinogenic and can potentially cause reproductive and developmental disorders.

### Conclusion

While wild fish can be a nutritious addition to a balanced diet, it is crucial to be aware of the potential side effects they may pose. Heavy metal contamination, environmental pollutants, overfishing, micro-plastic ingestion, allergenic reactions, and parasitic infections are among the key concerns associated with wild fish consumption. It is important to make informed choices about the fish we consume, opting for sustainably sourced options and adhering to proper cooking and preparation methods. By understanding these

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risks and taking necessary precautions, we can continue to enjoy the benefits of wild fish while safeguarding our health and the environment.

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None.

### **Conflict of Interest**

The author declares there is no conflict of interest in publishing this article.

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