

## Checklist for Science Studies

New research on the risks and benefits of farmed Atlantic salmon seem to be published every day. Competing claims can be confusing, particularly when one side (aquaculture) spends millions of dollars financing research and public relations campaigns. To help you determine which studies are trustworthy, Off the table Canada has compiled a list of red flags to sort out bias and misinformation.

1. **Check the funding source.** Research paid for by an organization or company that benefits from certain results is *a major red flag*. For example, an eight-year study of lobsters beneath a single salmon farm concluded that the farm had no obvious impact on the abundance of lobsters. The professor who led the study occupied a university chair funded by a major salmon farming company and the research was financed by a salmon farming industry lobbying group.
2. **Evaluate the sample.** If the sample size is too small, the results may not be representative. A study concluding that the nutritional value of farmed salmon was roughly the same as wild salmon relied on *a sample of 12 fish* purchased at local markets. By comparison, a landmark study that compared *650 farmed and wild salmon samples* from multiple countries found that farmed salmon contained “consistently and significantly more” contaminants than wild salmon. The level of PCBs, a probable carcinogen, was seven times higher in farmed salmon than wild salmon.
3. **Watch for conflicts of interest.** Researchers with financial, professional, or personal stakes in the outcome should *engender skepticism*. For instance, the lead scientist in the comparison of farmed and wild salmon was president of a national aquaculture association and a paid advisor to the salmon farming industry. One of the associates in the study of the impact of the salmon farm on lobsters worked for the salmon farming industry.
4. **Be wary of claims that contradict settled science.** In 2023, an advisory body associated with the Canadian Department of Fisheries and Oceans published a report that found “no statistically significant association” between sea lice in salmon farms and on wild juvenile salmon, discounting accepted science that sea lice infestations from salmon farms are a major threat to migrating juvenile salmon. Sixteen Canadian scientists signed an open letter accusing the report of “*scientific sin*.” They said the authors ran multiple statistical tests and selected only results that supported their preferred conclusion. The letter also pointed out that people with ties to the aquaculture industry were among the experts who vetted the paper.
5. **Consider where the information was published.** The most trustworthy scientific research is published in journals with established procedures for reviewing the substance of the research. These studies are *peer reviewed*, which means independent scientists examined the findings and accepted them before the paper was published. Every reputable paper should include a section disclosing any potential conflicts of interest from the researchers. Conclusions in studies that are not peer reviewed should be treated with skepticism.