

U.S. Tuna Industry Review of Mercury in Seafood

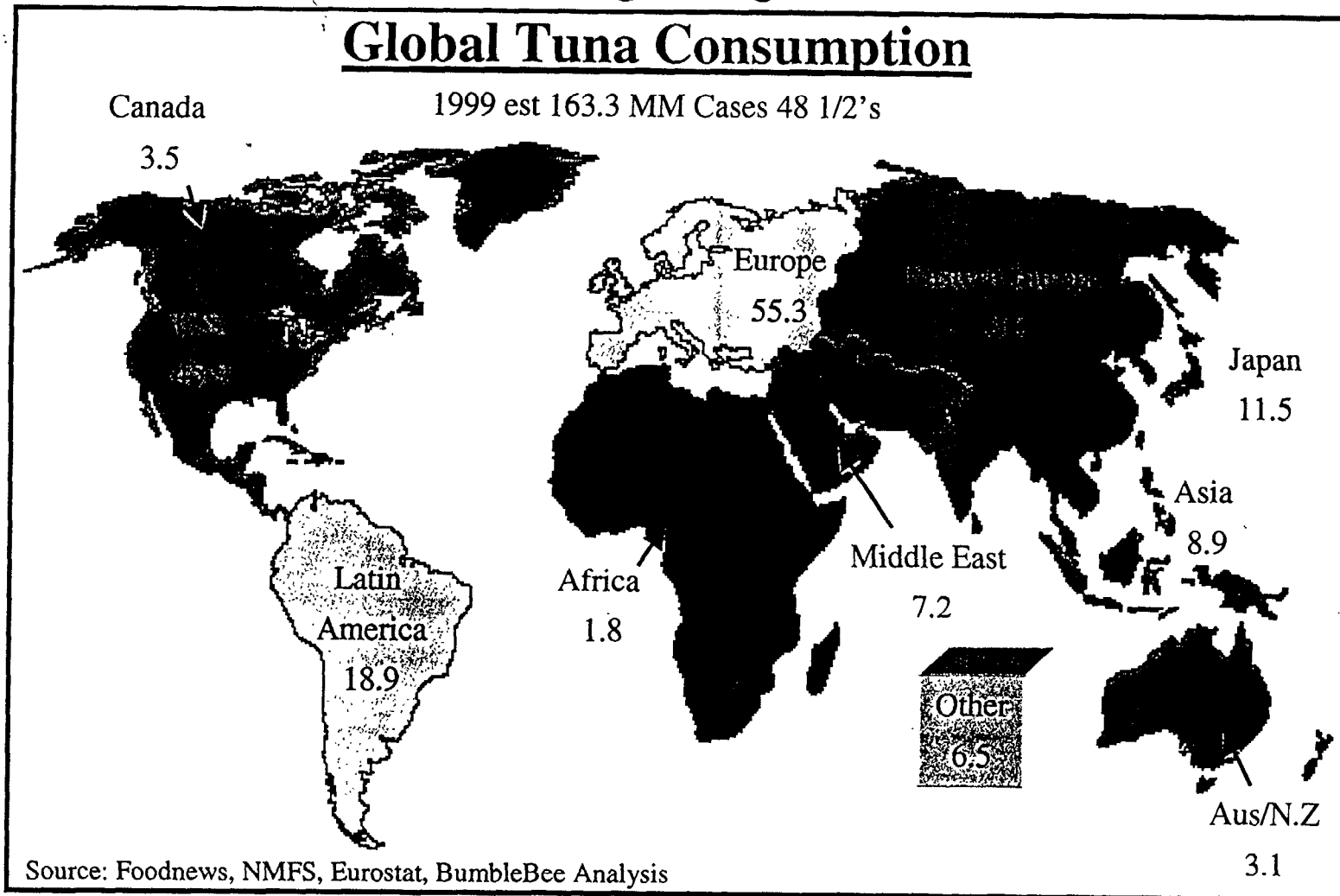
Washington D.C.
November 6, 2000

StarKist

BUMBLE BEE
SEAFOODS

Chicken & Sea

Canned tuna is a global commodity with about U.S. \$6 billion in annual sales. The U.S. is the largest single market



It is the number three item at U.S. retail on the basis of dollar sales per cubic foot of shelf space. Retail sales are in excess of \$1.5 billion

Top U.S. Retail Categories
(\$/sq ft of shelf space)

#1	Granulated Sugar	77
#2	Regular Coffee	57
#3	CANNED TUNA	54
#4	Instant Coffee	36
#5	RTE Cereal	35
#6	Dry Dog Food	21
#7	Juice Drinks	20
#8	Canned Soup	18
#9	Cooking Salad Oil	16


Source: AC Nielsen

One of the most popular and nutritious foods in all of retail grocery

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From a consumer view point, canned tuna is a key component of the U.S. diet

Canned Tuna Usage

- Canned tuna represents 37% of all seafood eatings
- 95% household penetration
- 67% of households eat tuna at least once per month
- Families represent 80% of tuna consumption
- Average consumption is 10.5 annual eatings per capita

Source: NET

Compared to popular alternative sources of protein, canned tuna is clearly superior

Nutrition Comparison

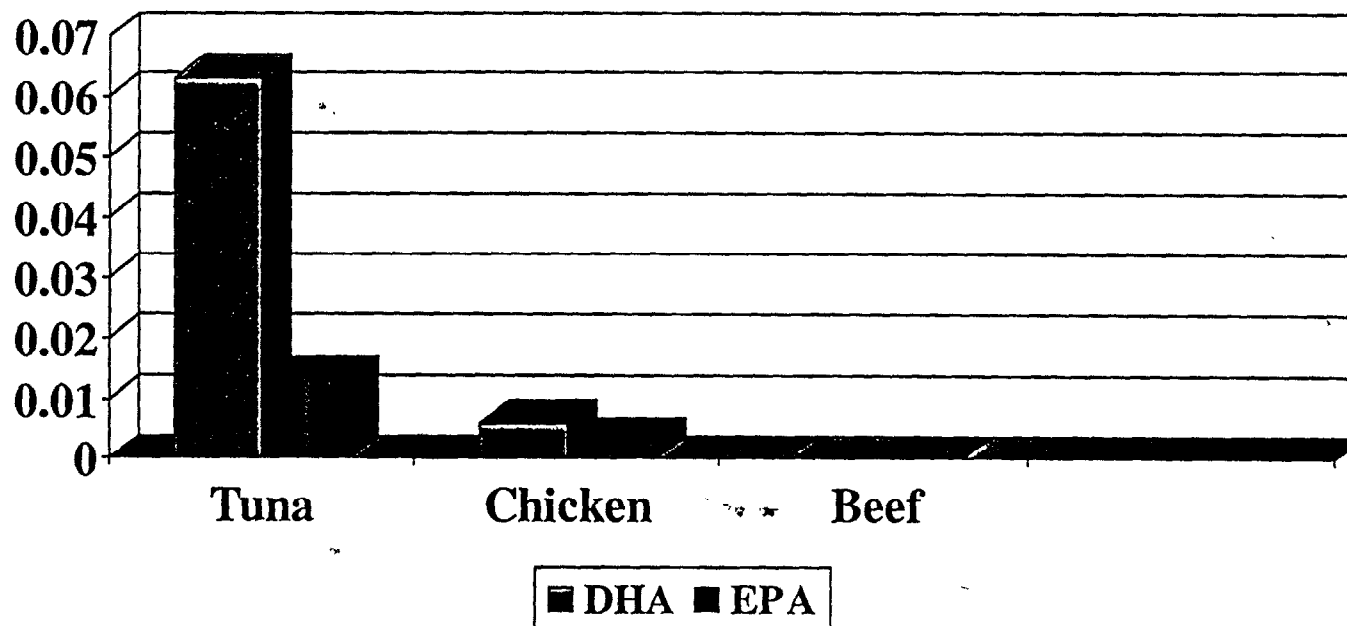
(per ounce)

	<u>Canned Tuna</u>	<u>Skinless Chicken</u>	<u>Lean Beef</u>
• Energy (kcal)	33	47	77
• Protein (gr)	7.2	8.8	7.0
• Total Fat (gr)	0.23	1.01	5.23
• Saturated Fat (gr)	0.07	0.29	2.06
• Cholesterol (mg)	8.5	24.1	24.7
• Selenium (mcg)	22.8	7.8	8.2
• Vitamin E (mg)	0.15	0.08	0.06

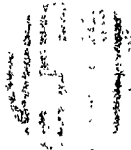
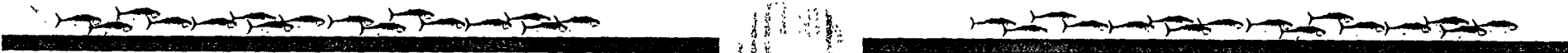

Source: U.S. Dept of Agric, Agric. Research Service. 1999 USDA Nutrient Database for Std Reference, Release 13.
Nutrient Data Laboratory Home Page

In addition, canned tuna is high in Omega 3 Fatty Acids which are proven to help neural development in developing fetuses and children while providing significant health benefits to the general population including the reduction of heart disease

Omega 3 Fatty Acids (Grams per Ounce)



Source: U.S. Dept of Agric, Agric. Research Service. 1999 USDA Nutrient Database for Std Reference, Release 13.
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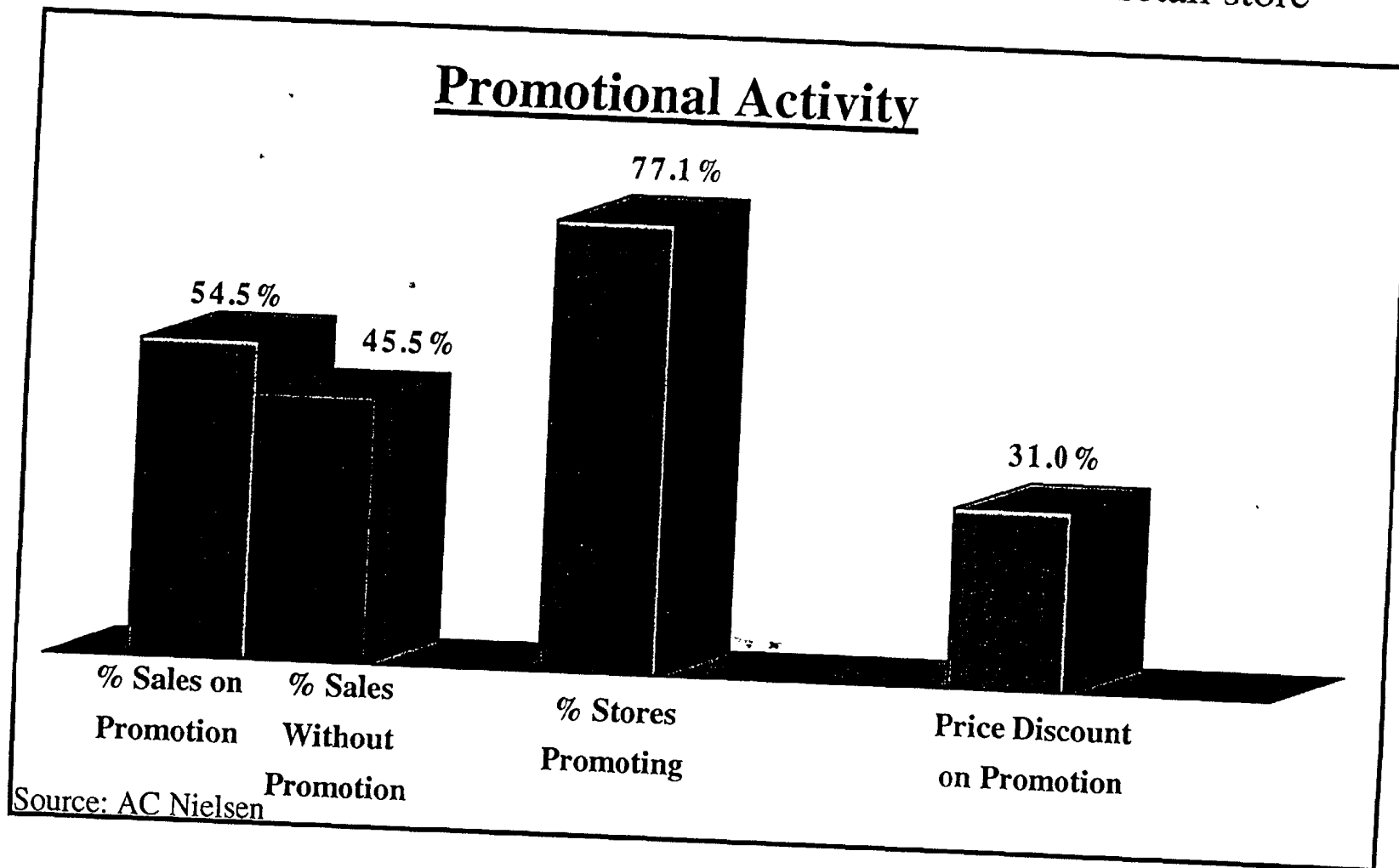


And key health organizations, publications and journals continue to rate seafood, and in particular canned tuna, very high in terms of health and nutrition

Supporters of Canned Tuna

- American Heart Association
- American Dietetic Association
- Dieticians of Canada
- Numerous Health and Nutrition Publications
- Numerous Medical Advisories and Journals

Canned tuna is also critical to lower income groups as it is often 'featured' at a deep price discount or as a 'loss leader' to drive traffic in the retail store



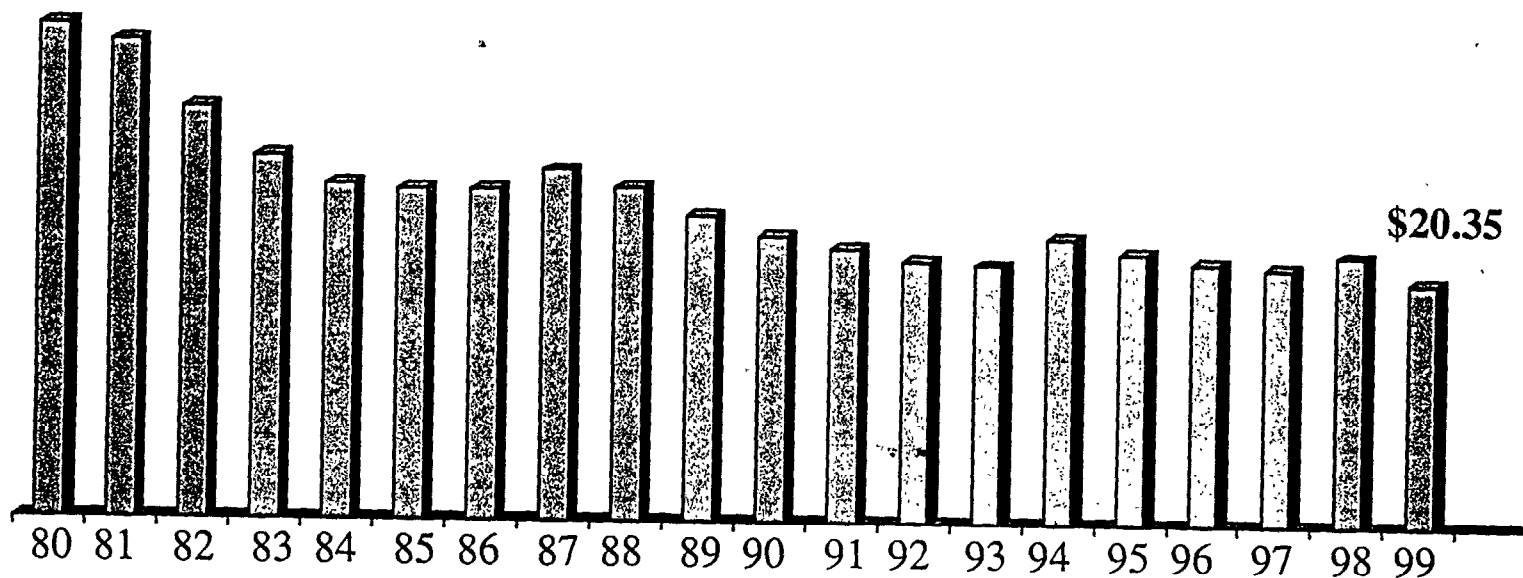
Over the last twenty years it has been a 'deflationary' product providing increasing consumer value

Lightmeat Retail Prices - Adjusted for CPI

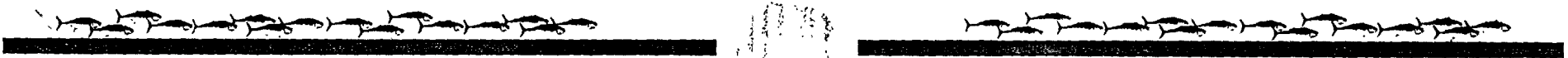

(\$/Case CL 48 1/2's)

\$43.19

53% Decline in Real Terms



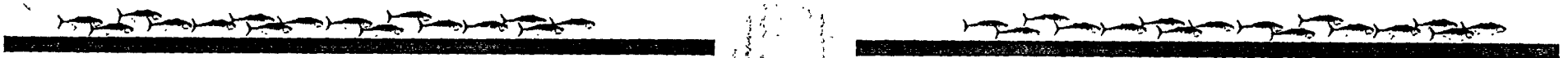

Source: FTC



Yet despite all of these proven benefits, the FDA is considering a health advisory against seafood. The threat is based on a NAS 'Committee' report that raises many questions -- without providing the answers

NAS Committee Report Summary

- Stated -- with no scientific basis -- that 60,000 children in the U.S. each year 'might be at risk' of struggling to keep up in school due to methyl mercury exposure in utero. This hypothesis is grossly inaccurate and misleading
- Selected Faeroes study since there was an 'adverse effect'
- Ignored the Seychelles study -- which has a much better fit with the U.S. consumer -- because there was no adverse effect



In utilizing the Faeroe Islands study, the NAS Committee recognizes that the population feeds on whale meat and blubber

Faeroe Islands Study Concerns

- Infrequent but heavy consumption of whale meat and whale blubber which is high in mercury, PCBs and POPs
- Episodic consumption of whale meat and blubber
- PCB levels that are up significantly higher than EPA's recommended maximum -- and which are known to affect fetal development in ways similar to mercury
- Nursing infants exposed to PCBs at several hundred times the level considered safe by EPA
- High levels of POPs which can mimic the effects of mercury
- Use of methods to measure PCBs and POPs that are not scientifically validated

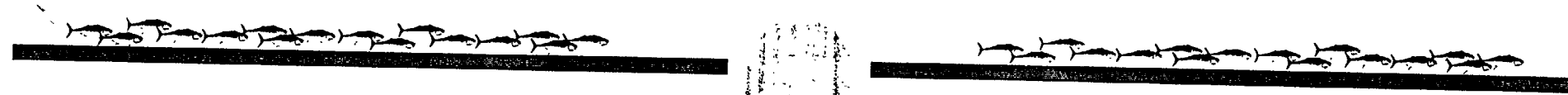

The NAS Committee acknowledged these weaknesses and raised a number of questions that remain unanswered

Faeroe Island Study Issues Raised by the NAS Committee

- “it is possible that the more episodic exposure pattern in the Faeroe Islands, with heavier doses per occasion [methyl mercury in whale meat and blubber], has a more adverse impact on neuronal development than the more gradual exposure in the Seychelles”.
- “...the Faeroes population that eats whale blubber accumulates unusually high PCB body burdens”
- “The potential for confounding by PCB exposure is of some concern for the Faeroe Islands Study’



And while these ‘questions’ can be addressed, the Faeroes researchers appear unwilling to do so because they are concerned it will invalidate their conclusions



There is an alternative -- The Seychelles Study

The Seychelles Study


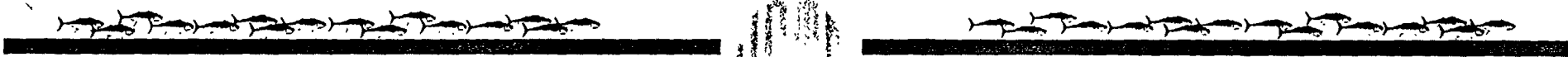

- Like the U.S. population, the Seychelles population is exposed to mercury through fish -- not whale -- consumption
- The population is not exposed to high levels of PCBs so there is no 'confounding' issue
- It is a better 'comparable' for assessing the health risks to the U.S. population
- There is no evidence of any relationship between maternal exposure to methyl mercury during pregnancy (at even the higher levels found in the Seychelles cohort) and adverse developmental outcomes
- To issue an advisory without full consideration being given to the Seychelles study will have an irreparable negative impact on American dietary habits resulting in significant segments of the population turning away from the proven health benefits of fish consumption

In support of our position are many scientists, science agencies and international health organizations. They *do not* support use of the Faeroe study due to the confounding issues related to PCBs and POPs. They *do* support the the Seychelles Study

Scientific Agencies that do not Support the EPA and FDA Positions

- Agency for Toxic Substances and Disease Registry's (ATSDR)
- Michael Dourson -- Toxicology Excellence for Risk Assessment (TERA)
- World Health Organization -- Dr. D. C. Bellinger -- Harvard Medical School, NAS Committee Member and Dr. P. M. Bolger -- FDA, in their report questioning the reliability of PCB estimate methodology used in the Faeroe Island study
- George M. Gray -- Harvard Center for Risk Analysis

How can the EPA and FDA justify using the Faeroes Islands study -- with all of its known shortcomings -- as the basis for establishment of a Consumption Advisory for the U.S. population?



There would be disastrous consequences of issuing an advisory based on the EPA reference dose (RfD)

Projected Consequences of an Advisory that is not Based on Good Science

- In our opinion, if a new advisory is issued based on the EPA RfD, it is preordained that the current FDA defect action level (DAL) will be correlated to this level
- This would have a catastrophic impact on:
 - the eating habits of Americans,
 - the U.S. seafood category,
 - U.S tuna / seafood processors and their employees
 - U.S. fisheries,
 - International trade in fisheries, and
 - international fish conservation

Consequences of changing the advisory / DAL -- and the reality that once a mistake is made, it is irreversible -- will result in significant segments of the population turning away from the proven health benefits of fish consumption

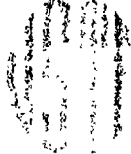
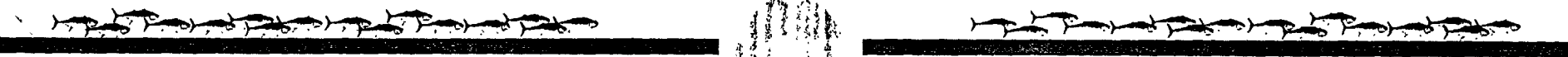

Per Capita Consumption

- U.S. canned tuna consumption dropped more than 20% with the announcement of dolphin safe in the 1990's -- and it has never recovered
- Current average consumption is estimated at 10.5 servings per capita per year
- Families with children represent 80% of canned tuna consumption
- An unfounded health advisory could easily reduce consumption by 50% or more



Impact on Population

- If consumers are forced away from canned tuna by a health advisory that we are convinced is unfounded, they will replace it with less healthy substitutes
- The nutritional content of the U.S diet will suffer
 - Reduction in the Omega 3 fatty acids (EPA / DHA) could lead to an increase in heart disease and could retard neural development of fetuses and children
 - Reduction in Selenium and Vitamin E which are proven antioxidants
 - Increase in fat and cholesterol



This will have a detrimental impact on the health of the U.S. population

Impact on U.S. Eating Habits

- The purpose of issuing an advisory is to change eating habits
- Any advisory limiting fish consumption on the basis of concerns over mercury will lead people to stop fish consumption
- Focus group studies have demonstrated that women of childbearing age will stop consuming fish when shown an advisory
- An Advisory should be issued only after very careful consideration

Furthermore, it would be in direct contradiction of FDA's long standing position on the health attributes of seafood

FDA Stated Position

- “Consumption advice is unnecessary for the top 10 seafood species making up about 80% of the seafood market”. This is in recognition of the fact that the methyl mercury in these species is less than 0.2ppm and few people eat more than the suggested weekly limit.

Top Ten Species

- | | |
|----------------|-------------|
| -- Canned Tuna | -- Catfish |
| -- Shrimp | -- Clams |
| -- Pollock | -- Flatfish |
| -- Salmon | -- Crabs |
| -- Cod | -- Scallops |

It will also impact the U. S. tuna fishing fleet which is already suffering due to an oversupply of tuna

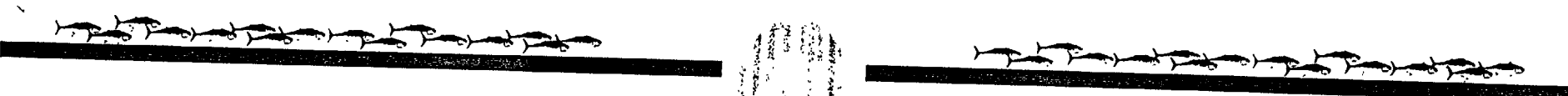
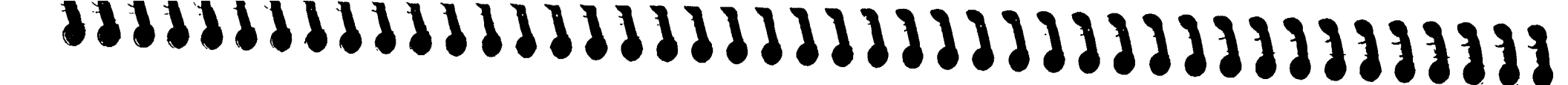
U.S. Tuna Fleet

- The U.S. fleet currently supplies about 45% of the U.S. lightmeat market
- The fleet operates under the Westpac Treaty which is essentially the U.S. foreign policy in the South Pacific
- A U.S. presence in fishing ensures a place at the table in critical United Nations policy negotiations regarding responsible fishing



Impact on Industry

- A drop in U.S. requirements will result in a loss of market for the U.S. fleet
- This will exacerbate the current oversupply situation and will further depress fish prices
- The U.S. fleet, which is already struggling financially, will fail as loan commitments will not be honored
- The U.S. will lose its position as a major tuna fishing power and will erode its political influence in the Pacific



By implementing lower mercury standards -- with no scientific basis -- the U.S. government will push the industry to target juvenile tunas creating an environmental problem

Impact on Fishing

- If Mercury standards are tightened -- with no scientific justification -- fleets will attempt to target juvenile tunas
- It is not technologically feasible to target fish by size
- By-catch will become a significant environmental issue as large, biologically mature fish will be discarded at sea rather than delivered to processors
- Targeting juvenile fish negatively impacts the economics of fishing as prices for small fish are lower
- More importantly, increased fishing effort on juvenile fish would be contrary to sound fishery conservation principles

And there will be international trade and WTO ramifications that have not been considered

Impact on International Trade

International Trade Issues

- The U.S. already has international 'tuna' issues related to 'Dolphin Safe'
- Imposition of unilateral new mercury standards -- not supported by science -- would be inconsistent with other global regulatory regimes
- New standards would need to withstand challenge under WTO rules
- The WHO has already questioned the validity of the RfD recommended by the EPA and endorsed by the NAS Committee
- Disputes not accepted globally could set off a new round of trade disputes



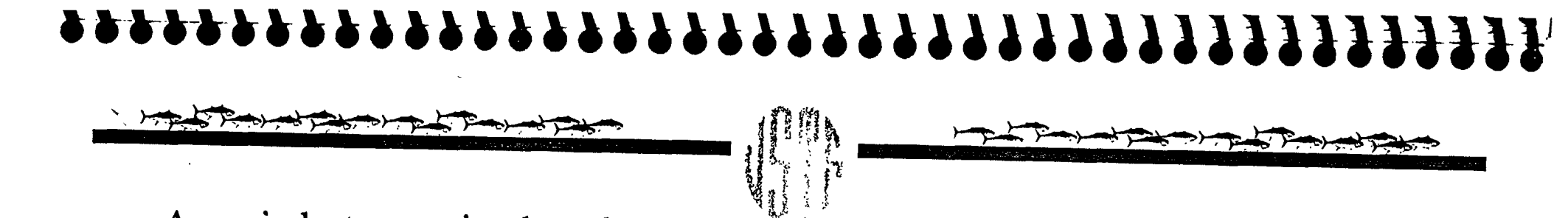
International Trade Impact

- The U.S. would be cited by other fishing nations for imposing unfair trade practices not supported by science
- U.S. exports would potentially be embargoed as retaliation for U.S. trade practices / restrictions
- Any U.S. action that would impinge on the ability of other nations to market fish that is found safe in all other markets will force those nations to seek compensation from the WTO

Another downside to this is that it could result in potential legal risk

Legal Implications

- Canned tuna and other fishery products have been sold in the U.S. for more than a century
- In recent years, FDA has repeatedly confirmed the safety of these products
- Any change in this policy will be seen as an admission that earlier statements were inaccurate and will put in doubt the safety of these products
- This may encourage spurious lawsuits to be filed against seafood producers by individuals who will now believe that the seafood product they thought was safe has carried the risk of adverse neurodevelopmental deficits
- The U.S. seafood industry and the U.S. canned tuna industry would face the distinct possibility of numerous class action lawsuits
- Although these lawsuits would have no scientific basis, they would have to be defended at substantial cost and adverse publicity
- The sole basis for these lawsuits would be the decision by FDA to issue an advisory without considering the most relevant scientific evidence -- the Seychelles Study



As an industry, we implore the FDA to step back and use the principles of 'good science' that have always governed your decision process

Steps to Validate -- or Invalidate -- Mercury Concerns

- Carefully consider the nutrition implications to consumers and their health if an advisory scares them away from consuming fish and seafood
- Provide time for the Seychelles study to be completed as it is acknowledged to be the most thorough and authoritative study ever undertaken on the impact of methyl mercury on fetal development
- Force a closer examination of the NAS Committee report and take action to answer the questions that it raises
- Force further analysis of the Faeroes data to confirm or reject its hypotheses
- Consult with international counterparts to validate the basis for public health policy on mercury in fish
- Consider the implications of your actions on the U.S. industry, the global trade environment and international fish conservation efforts



Based on the facts, an Advisory is not warranted