

# Environmental Assessment and Risk Analysis Element



## Research Project Summary

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### ***Perceived Impacts of Fish Consumption Advisories on the Recreational Fishing Boat Industry in New Jersey***

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#### **Abstract**

Captains of New Jersey party and charter fishing boats were interviewed about fish consumption advisories, to address a charge to the New Jersey Mercury Task Force to identify economic impacts of such advisories. Overall, boat captains identified advisories as a moderate influence on their business, less important than market forces and fish management regulations, and those who thought it was a strong factor were not more likely to specialize in species subject to mercury or PCB advisories than were other captains. Boat captains had a mix of correct and incorrect views about fish consumption advisories, which may affect the advisory knowledge of many salt-water recreational anglers. Education directed at party and charter boat captains could be important in educating salt-water anglers about fish consumption advisories.

#### **Introduction**

Fish consumption advisories are issued by states like New Jersey when fish are contaminated with concentrations of mercury, PCBs or other chemicals that pose significant risks to consumers. Although many of these advisories are issued for freshwater fish, some apply to estuarine or ocean species, which may be captured by anglers. This raises the possibility that fish consumption advisories might affect people whose livelihood depends on commercial fishing through providing party/charter boat service to fishers. This research was conducted under a charge to the Mercury Task Force (1998-2001) from the Commissioner of the New Jersey Department of Environmental Protection (NJDEP) to explore such impacts. It is focused on the perceptions of recreational fishing boat captains, and does not attempt to provide quantitative measures of economic impact.

#### **Methods**

New Jersey party and charter boats operate mostly out of Sandy Hook and Raritan Bay, Manasquan Inlet and Shark River, Barnegat Bay, Absecon Bay, and Cape May. Forty percent (93) of the 231 registered captains in the state were interviewed by telephone for this project in March-May 2000. The others contacted were unable to arrange interviews before the fishing season began. There was no difference between interviewees and non-interviewees in proportion of party versus charter boats or the boats' capacity.

#### **Results**

Most boats were operated for an average of 220 days and an estimated capacity of 828,000 person-days of fishing per

year. This is about 15% of the recreational saltwater fishing done in New Jersey waters. Most trips were for flounder, fluke, bluefish, striped bass, weakfish and tuna, with significant differences in fish sought in different bays. Sixty percent of captains said that all of their clients ate at least some of the fish caught; the minimum percentage reported was 75% of clients.

When asked what they had heard about health warnings on fish, 35% mentioned PCBs (a bit over a third linking it to striped bass, particularly in the Hudson River) and 29% mentioned mercury. Both accurate and inaccurate statements were made. For example, some captains mentioned lead, iron and Pfiesteria as contaminants, or shellfish, flounder, weakfish and shad as contaminated species. Only six captains cited limits on the amount of certain species that one should eat, which is the focus of fish consumption advisories. Self-reported explanations to clients about fish also varied. For example, eight captains mentioned specific species to avoid (usually bluefish and striped bass), one said only "bottom feeders" should be eaten while another warned about "some of the bottom fish." Nine captains gave advice about fish preparation that is accurate for PCB-contaminated fish (mercury risk is not reduced by any type of fish preparation). Nineteen percent of the total (32% of those reporting advice given to clients) said there was no problem.

Captains considered consumption advisories a moderate influence on their businesses, ranking below catch size, strength of the economy, commercial over-fishing, and management regulations (see graph). Sixty percent thought advisories had an effect on their business, though only 31% felt advisories had a strong effect. Captains who felt strongly affected by advisories were slightly more likely to fish for bluefish, fluke and sea bass ( $p < 0.10$ ), but overall were no

more likely to fish for species with high contaminant levels than were other captains. Reported effects of advisories did not vary between captains targeting swordfish, marlin, striped bass, tuna, or sharks (all species with relatively high mercury values), and captains targeting other species. Captains operating out of Sandy Hook reported more effect from the economy and advisories than others, and this port is closest to the PCB/dioxin contaminated waters of Raritan Bay and New York harbor, where there are advisories for bluefish. However, this is a geographical difference only; the Sandy Hook captains were not more likely to seek highly contaminated fish species.

For information on fish consumption advisories in New Jersey and adjacent states, visit <http://www.nj.gov/dep/dsr/njmainfish.htm>

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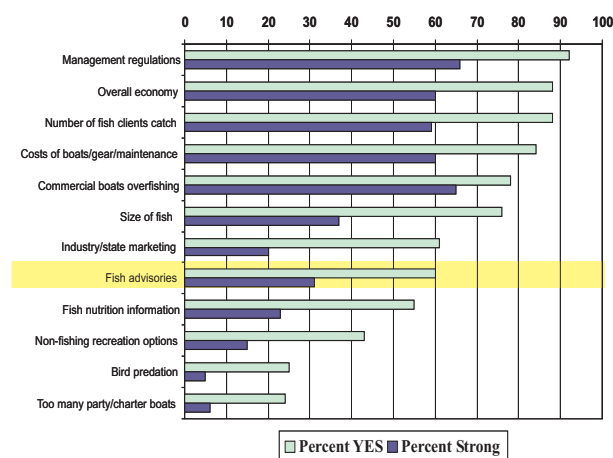
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**Perceived Factors in NJ Party/ Charter Boat Economics**



Captains' willingness to post advisories (37% yes; 42% no; 21% it depends—unspecified) was not affected by whether they thought their business was affected by advisories. They felt their customers were aware of advisories but not of their content; only 20% felt their clients knew about mercury as a health risk.

## Conclusion and Recommendations

Overall, captains of party and charter fishing boats reported fish consumption advisories as a moderate influence on their business, less important than market forces and fish conservation regulations. Although the majority of captains interviewed could accurately name at least one relevant contaminant and one affected fish species, some of the information they reported giving their clients is inaccurate or inappropriate. Education directed at recreational boat captains could play an important role in publicizing fish consumption advisories, since people who entrust their lives to captains on fishing trips may be likely to trust them about other fishing matters as well.

Further details can be obtained from J. Burger et al., "Perceptions of Recreational Fishing Boat Captains: Knowledge and Effects of Fish Consumption Advisories," Risk Analysis, 2003, 23, 369-377.



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