

CETACEAN AND TOURBOAT INTERACTIONS IN KENAI FJORDS NATIONAL PARK, ALASKA

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Fig. 1. Location of the study area

THE CONTEXT Kenai Fjords National Park (fig. 1), in close proximity to Alaska's largest city, Anchorage, is an increasingly popular tourist destination. In the past decade a young tour boat industry has developed serving nearly 100,000 clients annually (fig. 2). Viewing cetaceans has become one focus of this industry.

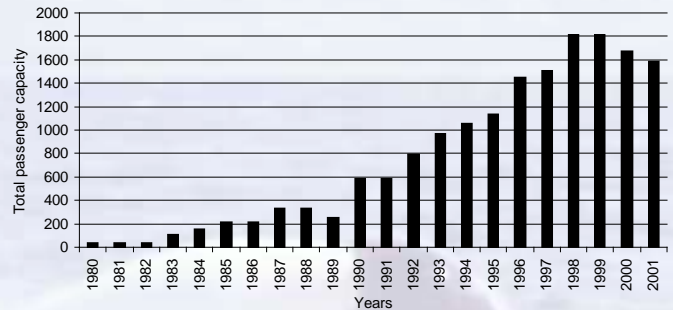


Fig. 2. Evolution of the total passenger capacity of the tour vessels in the Kenai Fjords National Park from 1980 to 2001

THE SITUATION This growing industry could potentially have a negative impact on sensitive cetacean populations, if it were to interfere with vital activities such as feeding and reproduction. Of special concern are the endangered humpback whale (*Megaptera novaeangliae*) and the mammal-eating ("transient") killer whale (*Orcinus orca*) which shows high levels of PCBs and DDTs (Ylitalo *et al.*, 2001). Moreover, the genetically discrete transient killer whale group "AT1" has declined by over 50%.

OUR PROGRAM In 2000, considering these factors and with support from the National Marine Fisheries Service, we initiated a program to educate tour boat operators on the biology and status of local marine mammal stocks, and demonstrate negative effects of aggressive/intrusive whale-watching. We assisted the operators in creating and adopting their own code of conduct. They developed an association and a code that actually exceed the government regulations and guidelines (table 1).

Table 1. U.S.A. federal laws and main guidelines developed by the operators' association

Federal laws (MMPA and ESA)	Main guidelines developed by the Kenai Fjords Tour Vessel Operators Association in 2000
In U.S.A. waters, the Marine Mammal Protection Act and the Endangered Species Act prohibit harassment, hunting, capture, killing or feeding of marine mammals in the wild.	<ul style="list-style-type: none"> ✓ No active approach closer than 100 m ✓ No observation longer than 20 min ✓ Keep noise levels down around animals ✓ No corralling of animals ✓ Minimise contact with resting whales ✓ Minimise contact with transient killer whales ✓ Exercise caution around cow and calf pairs ✓ Avoid re-viewing the same group of whales more than once in a trip ✓ Do not approach killer whales when they are beach-rubbing
In addition to these regulations, guidelines are recommended.	

RESULTS In order to assess the way operators complied to the guidelines they developed, we observed their conduct around whales in 2000 and 2001 (table 2). Although our presence may have had some effect on operators, we believe it was minimal.

Table 2. Main results of the monitoring of operator's conduct

	Viewing time < 20 min	No active approach < 100 m
Interactions in 2000	68.3% (n=139)	89.8% (n=128)
Interactions in 2001	66.7% (n=168)	75.2% (n=165)
Evolution	-2,3%	-16.3%
Significance tests	χ^2 test, p=0.755	χ^2 test, p=0.01

DISCUSSION Most operators complied with the self-developed guidelines. Some relaxation of discipline was observed from 2000 to 2001 and this may justify annual refresher workshops to review and update the guidelines. We also suggest occasional visits by enforcement personnel. Observations indicated an educational effort should also be directed at the sport/charter/pleasure boat fleet that increasingly views cetaceans and has not had the benefit of educational programs. Operators' associations have been created in other regions of the world (e.g., Washington State, U.S.A., British Columbia, Canada, Scotland, Norway, Tarifa and Islas Canarias, Spain, New South Wales, Australia, Kaikoura, New Zealand) but remain scarce and, in some cases, not efficient enough because some operators do not comply to the guidelines or do not join such associations to keep a wider freedom of practice.

REFERENCE Ylitalo G.M., Matkin C.O., Buztis J., Krahn M.M., Jones L.L., Rowles T., Stein J.E., 2001. Influence of life-history parameters on organochlorine concentrations in free-ranging killer whales (*Orcinus orca*) from Prince William Sound, AK. *The Science of the Total Environment*, 281(1-3): 183-203.

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