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8 April 1992

Dr. George Balazs Honolulu Laboratory Southwest Fisheries Science Center National Marine Fisheries Service 2570 Dole Street Honolulu, HI 96822-2396

Dear George:

Please pardon the delay in my response to your earlier letter with included shark list and literature citations. Major reconstructive knee surgery and associated rehab sessions have severely limited time at my desk.

The revised list plus literature is extremely valuable, and I greatly appreciate your sharing it with the ISAF. As you correctly pointed out, such endeavors are indeed extremely time consuming and truly represent a labor of love, since God knows we don't get any fiscal support for our activities! As I indicated earlier, our interest in the data centers on bringing the ISAF up to date worldwide, leading eventually to a revised worldwide synthesis, rather than on regional analyses. As for the latter, we eagerly anticipate your publication of the Hawaiian data base.

The Hawaii attack problem certainly is a complex one. I have seen your statistics quoted by both sides of the 'fish/don't fish" issue, and must confess that I don't see much in the way a disturbing trend. As a resident of a state with a markedly similar socio-economic base (tourism is king, aquatic activities the focus, etc.) I find Hawaii's level of "attack paranoia" a bit high, especially when one considers that Florida, with 10-15 documented attacks per year (and about one death about every other year), has never felt the need to address the situation in an organized fashion. When I say documented, I mean confirmed cases where a shark attack resulted in injury/death to a victim, or where a shark clearly represented a threat to a human through aggressive actions. Shark damage to drowning victims, "dumped" bodies (Miami Vice-style activities do occur in south FL!), unrecovered missing persons thought to have encountered a shark, etc. are investigated, but not "tallied", in the above statistics. In reviewing your cases I see a number situations that might fall in these categories. In addition, I have very good data that indicates that the number of reported shark attacks is directly related to the amount of effort being expended to find them! No surprises here -- if I look harder I find more, if I make more of an effort to pass the word along the beaches that I'm seeking reports, I get them. I suspect that the recent rise in Hawaiian attacks may in part

reflect your own diligence in data retrieval, but also may reflect an increase in man-hours in the water. In Florida, the increase in tourism over the last three decades [which translates into increased man-hours in the water] has been significant; more people mean more interactions with sharks, even if the shark populations are stable (or decreasing, as in FL). See if you can get some tourism figures and divide your total attacks by this number to get a per capita figure; I wouldn't be surprised to see that the rate between decades is similar.

Reduction of shark populations through fishing pressure certainly will reduce the chances of shark-human interactions, but to get shark populations to the point that these interactions will be significantly different would require major. (= over) fishing pressure. In an era when we are making some progress in regulating fisheries, and have been fighting strongly for protection of shark populations world-wide, I think it would be unwise to embark on such a wholesale reduction program. The Florida story again helps demonstrate this: despite intense commercial and sport fishing pressure (so intense that the proposed emergency NMFS regulation will probably not return stocks to their former levels for decades) our total number of shark attacks is basically staying the same. Thus it seems likely that an eradication program will serve only to damage one of the few remaining "virgin" shark populations while offering little in the way of human protection.

I would recommend initiation of a public awareness program aimed at the those groups most at risk. Such a program should identify high risk groups and geographic areas, suggest ways to minimize these risks, and work to educated the public about the relative infrequency of shark attack injuries/death when compared to other aquatic risks. My perception of the Hawaiian shark attack problem (based in part on Surfer magazine, which has little "near-miss" stories in it nearly every month) is that one user group, surfers, is at highest risk and is most vocal about the subject. Perhaps some enlightened discussion with this group might be profitable. Considering the mind-set of most surfers, the problem might be turned around on itself: in Florida, most surfers bearing attack scars wear them like badges of honor!

I appreciate having the opportunity to discuss this with you, and look forward to return comments.

Best wishes,

George H. Burgess Director

International Shark Attack File

PS. Enclosed is an AES application (if you haven't gotten one back yet from linda Martin)