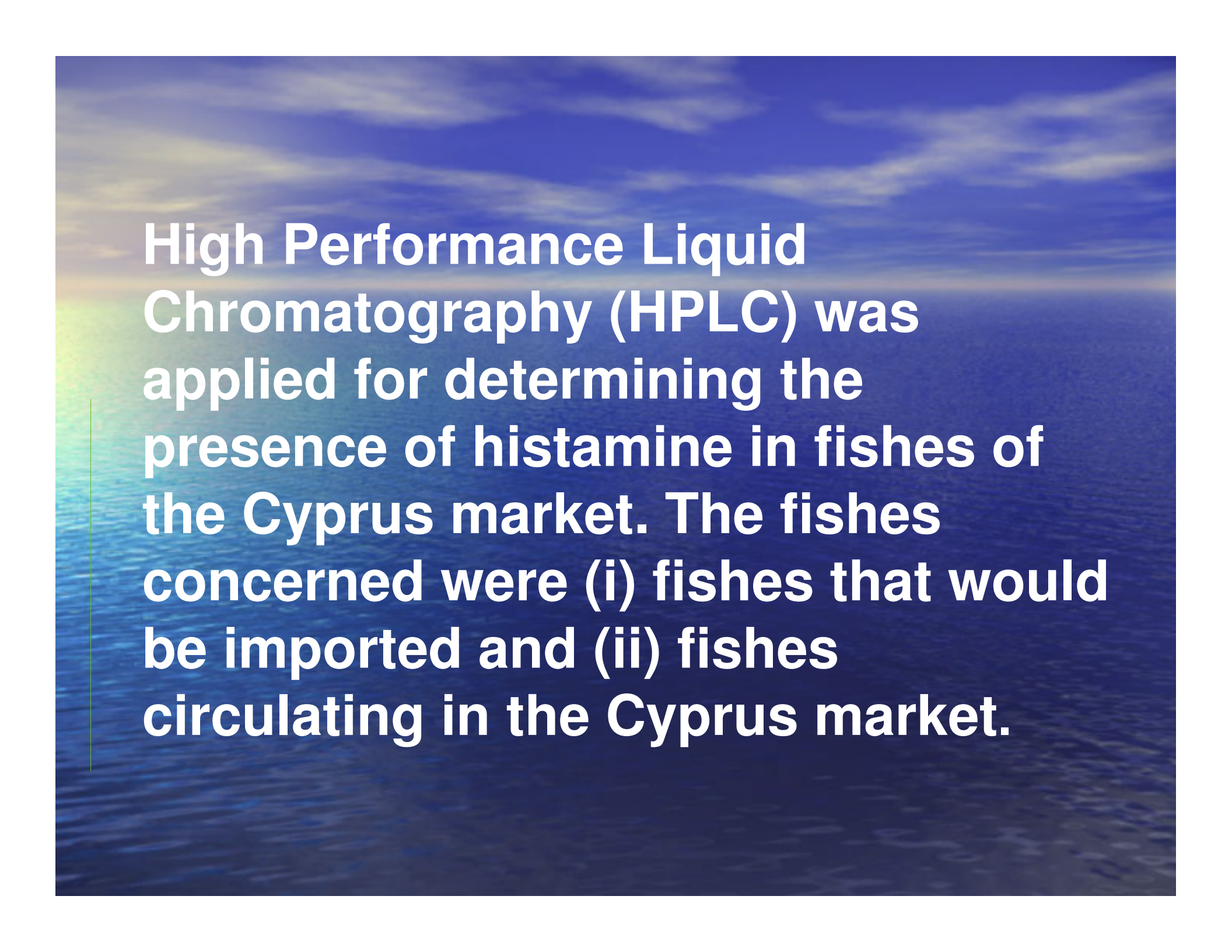


# **A SURVEY FOR DETERMINING THE PRESENCE OF HISTAMINE IN FISHES OF THE CYPRUS MARKET**

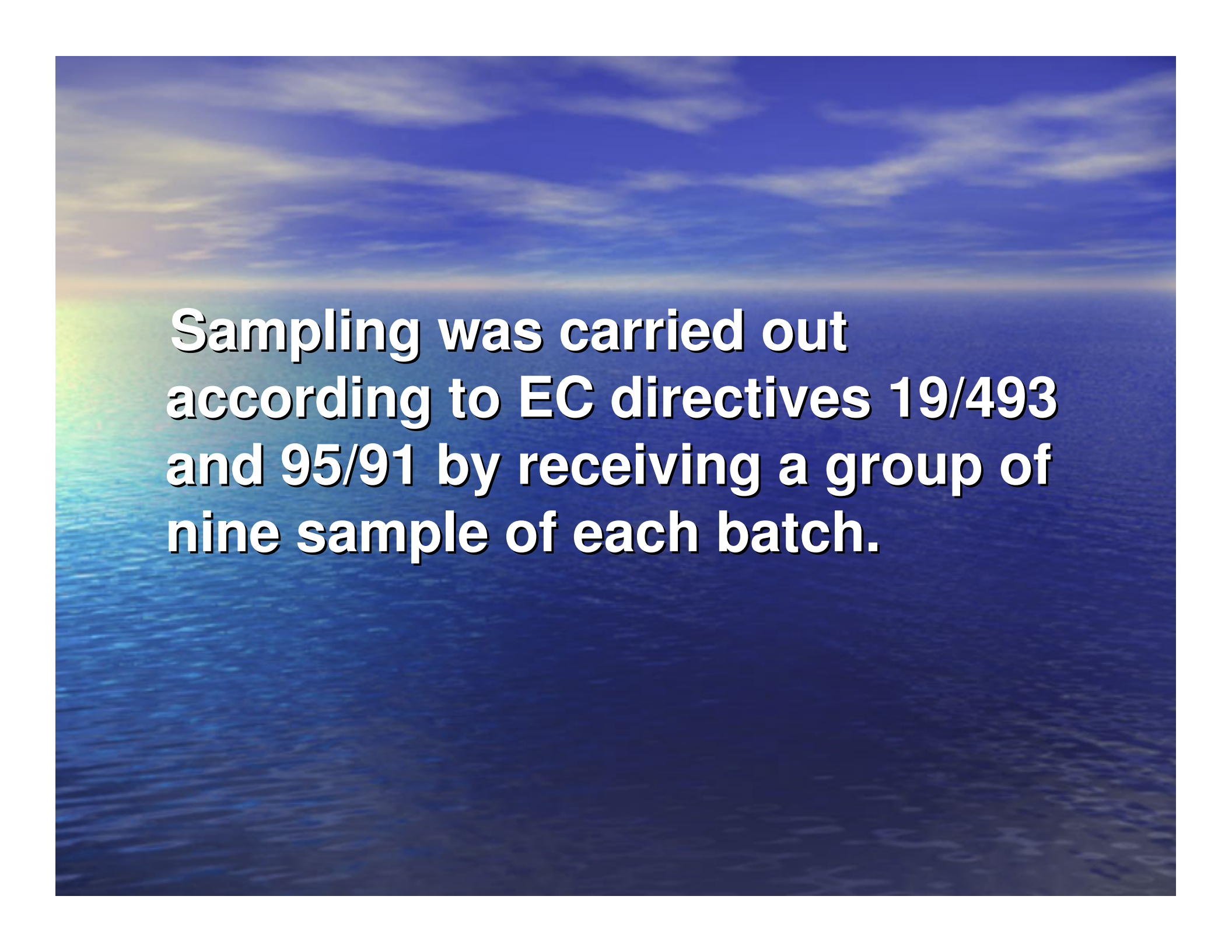
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R. Argyrides***

***State General Laboratory of Cyprus, 14  
Kimonos St. 1451 Nicosia***



**High Performance Liquid Chromatography (HPLC) was applied for determining the presence of histamine in fishes of the Cyprus market. The fishes concerned were (i) fishes that would be imported and (ii) fishes circulating in the Cyprus market.**



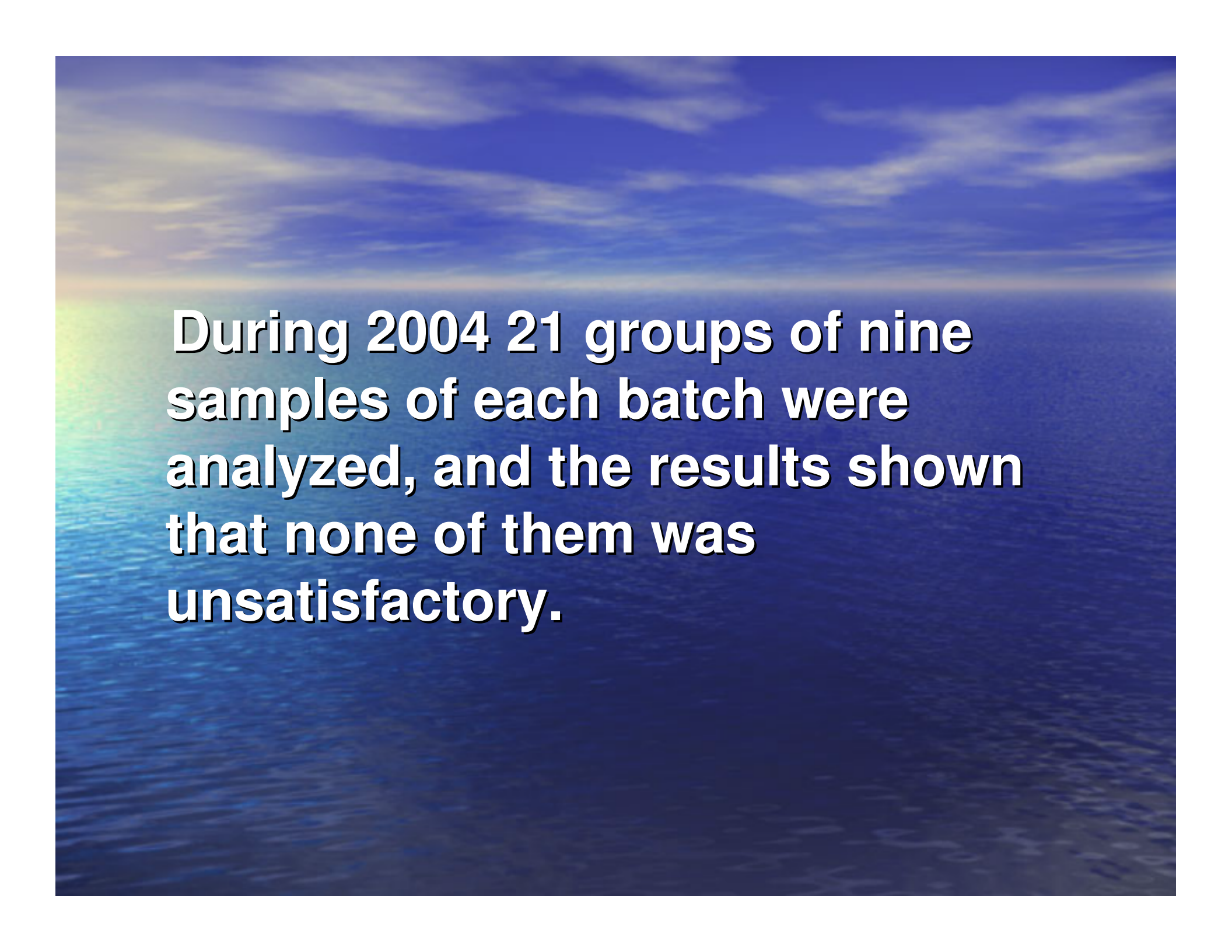


**Sampling was carried out according to EC directives 19/493 and 95/91 by receiving a group of nine sample of each batch.**

The homogenized samples were suspended in water followed by clarification of extracts with perchloric acid, filtration and dilution with water. After LC separation on a reversed-phase C18 column with phosphate buffer (PH 3.0) – acetonitrile (875 + 125v/v) as mobile phase, histamine was measured fluorometrically (excitation, 340nm, emission 455nm) in samples and standards after post-column derivatization with o-phthaldialdehyde (OPA).

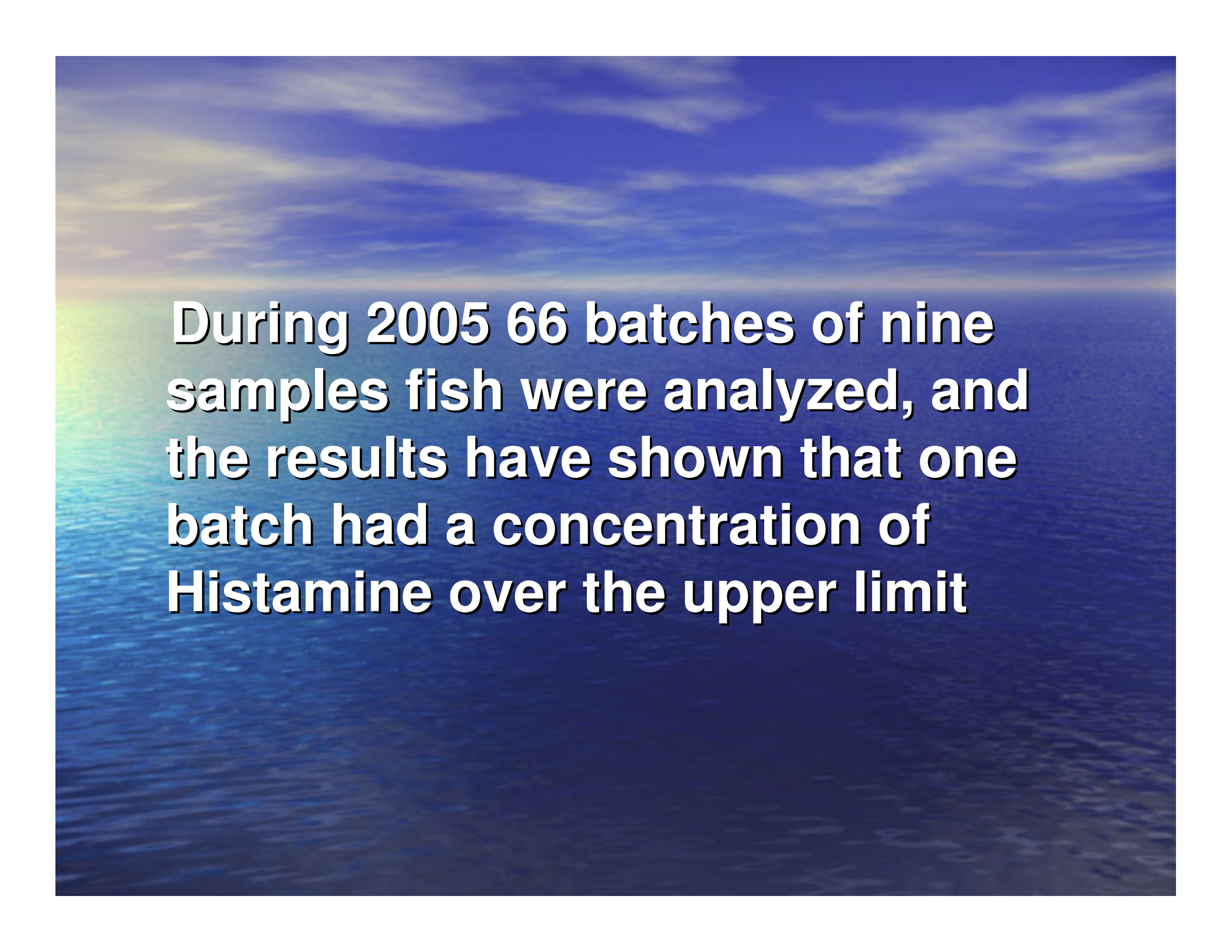


**The survey was started in 2003 and lasted until today. During 2003 30 groups of nine samples of each fish, were analyzed and the results have shown that two samples (batches) had a concentration of histamine over the upper permitted limit. Both samples were imported canned fish (white light meat tuna and light meat tuna).**

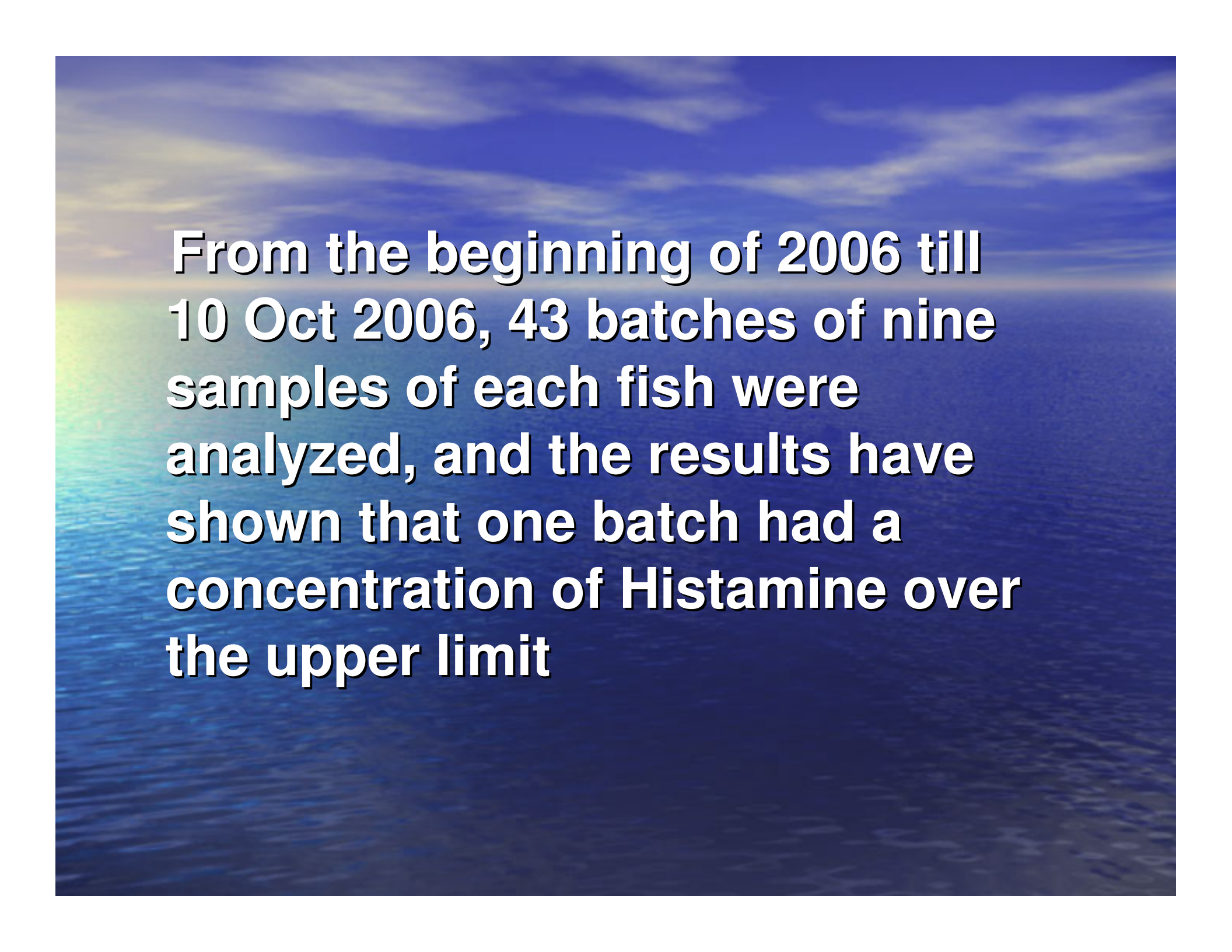


**During 2004 21 groups of nine samples of each batch were analyzed, and the results shown that none of them was unsatisfactory.**





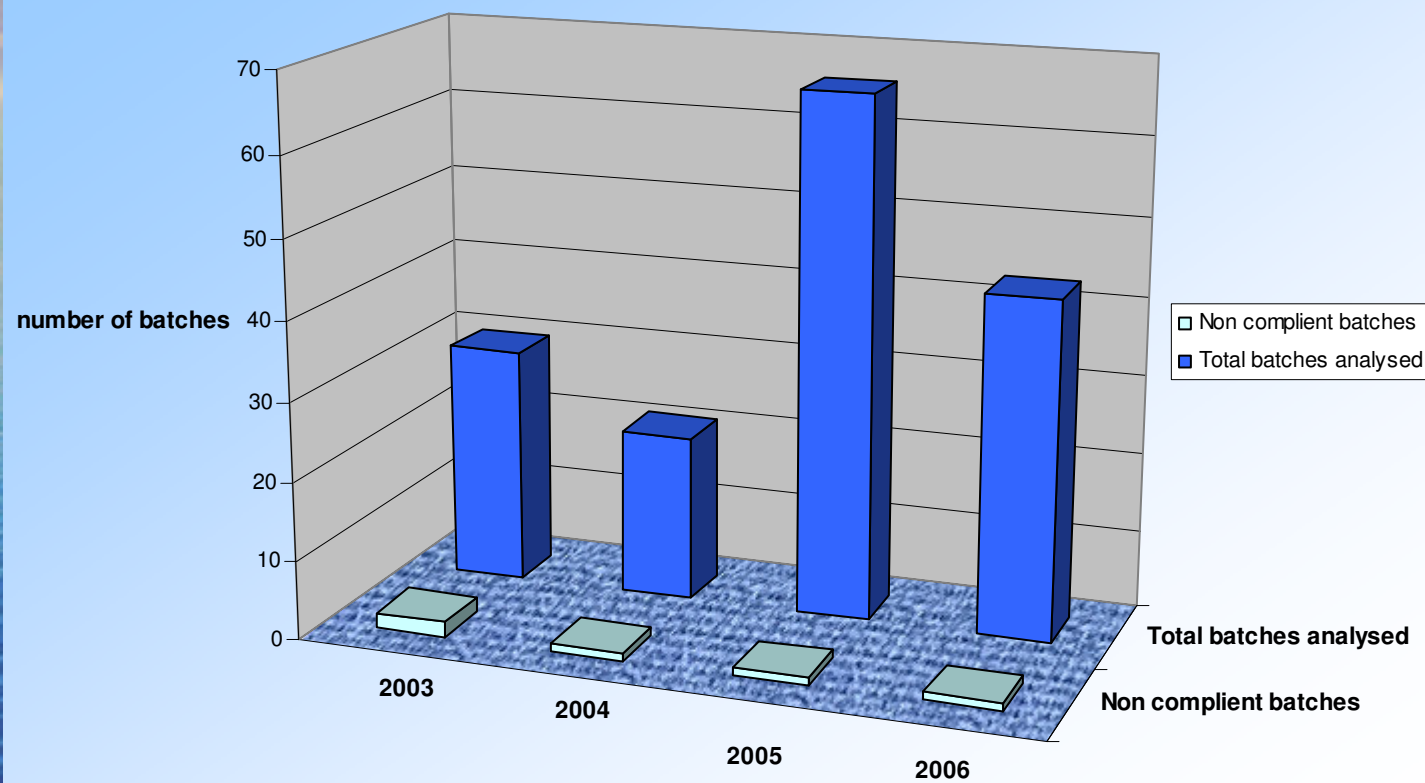
**During 2005 66 batches of nine samples fish were analyzed, and the results have shown that one batch had a concentration of Histamine over the upper limit**



**From the beginning of 2006 till  
10 Oct 2006, 43 batches of nine  
samples of each fish were  
analyzed, and the results have  
shown that one batch had a  
concentration of Histamine over  
the upper limit**



**Figure 1: Results of histamine determination in fish**





**During these years the laboratory participated in proficiency tests with excellent performance.**



2003

FAPAS® Allergens Report

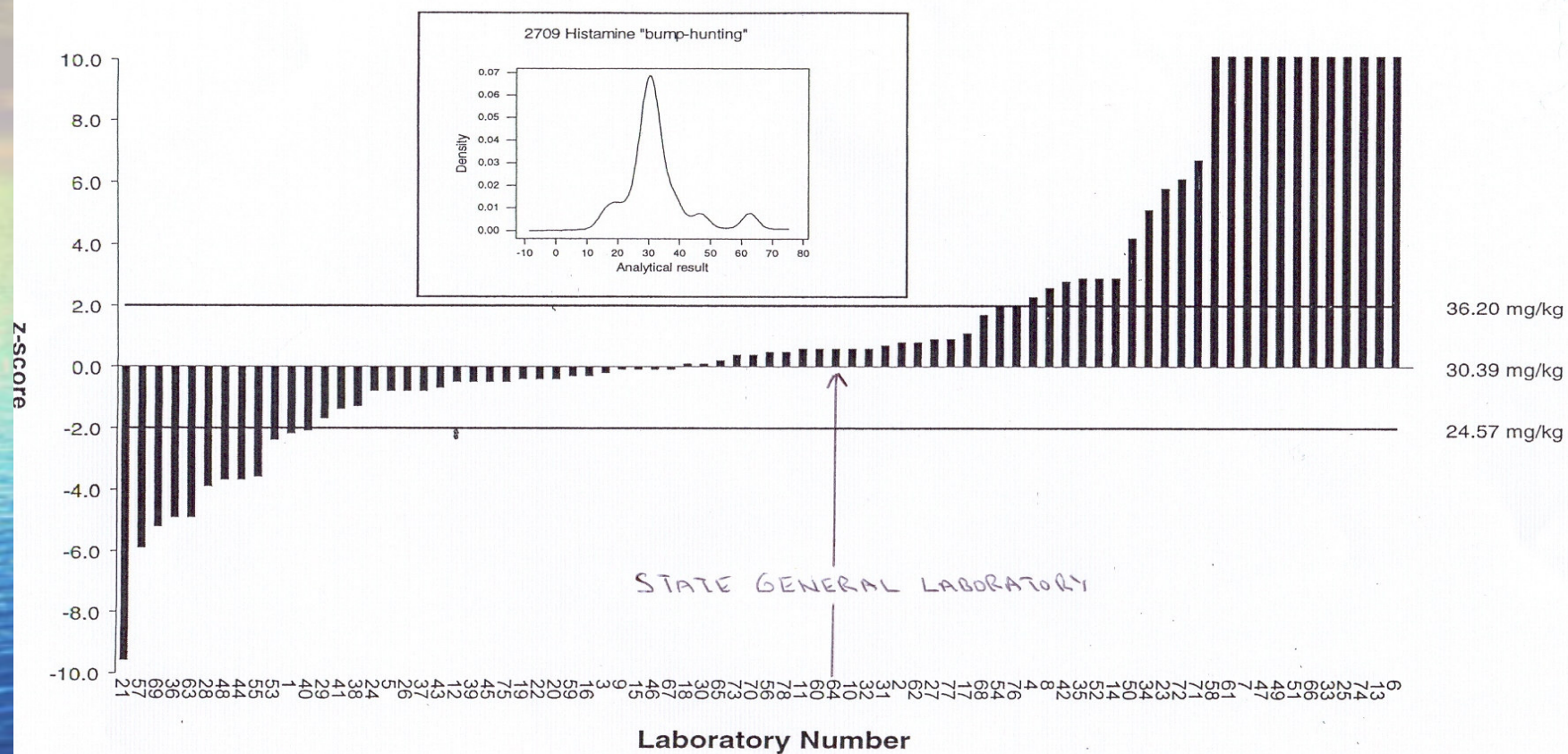


Figure 1: z-Scores for Histamine (30.39 mg/kg) in Canned Fish Test Material

2004

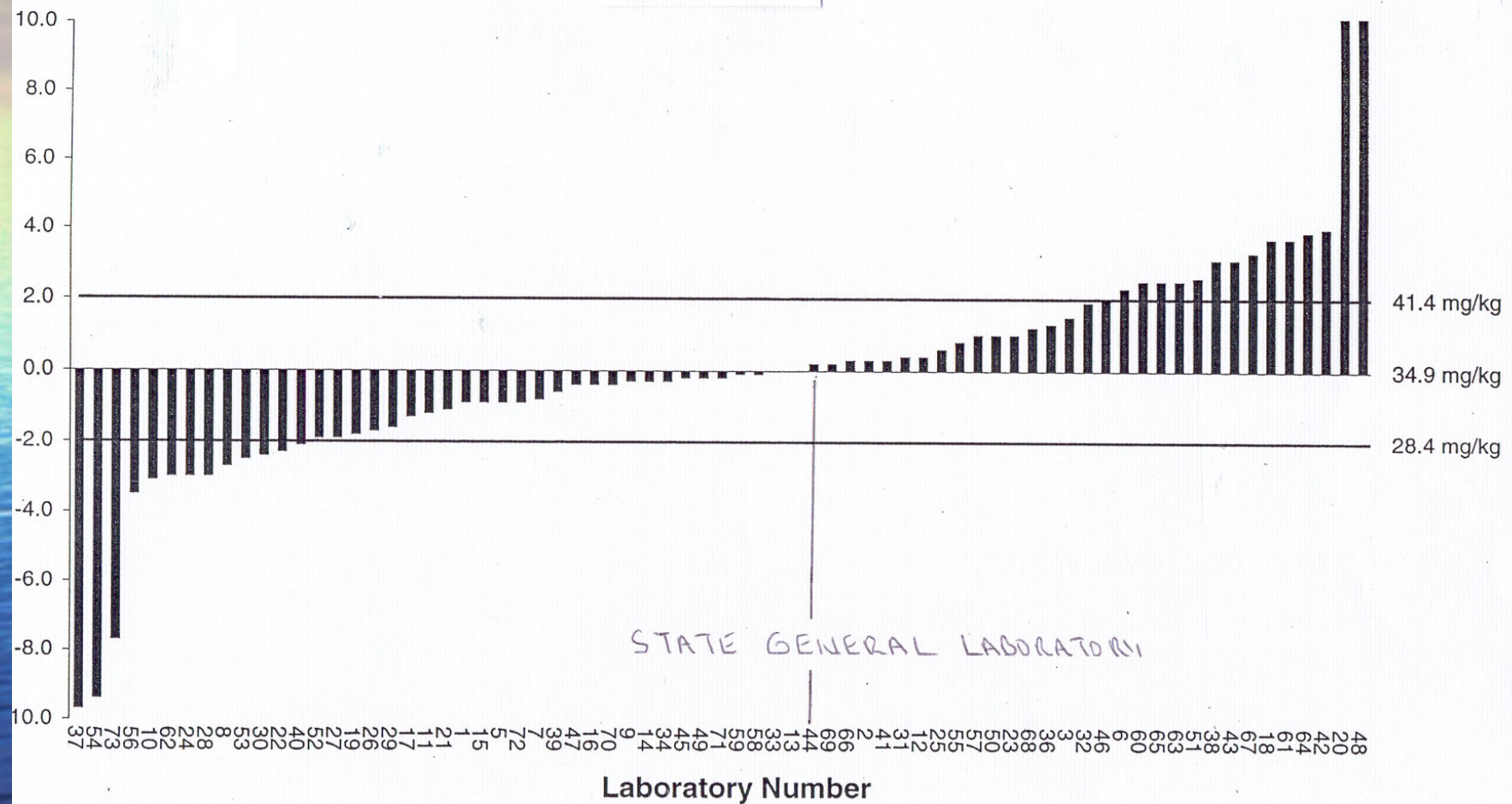


Figure 1: z-Scores for Histamine (34.9 mg/kg) in Canned Fish Test Material



2005

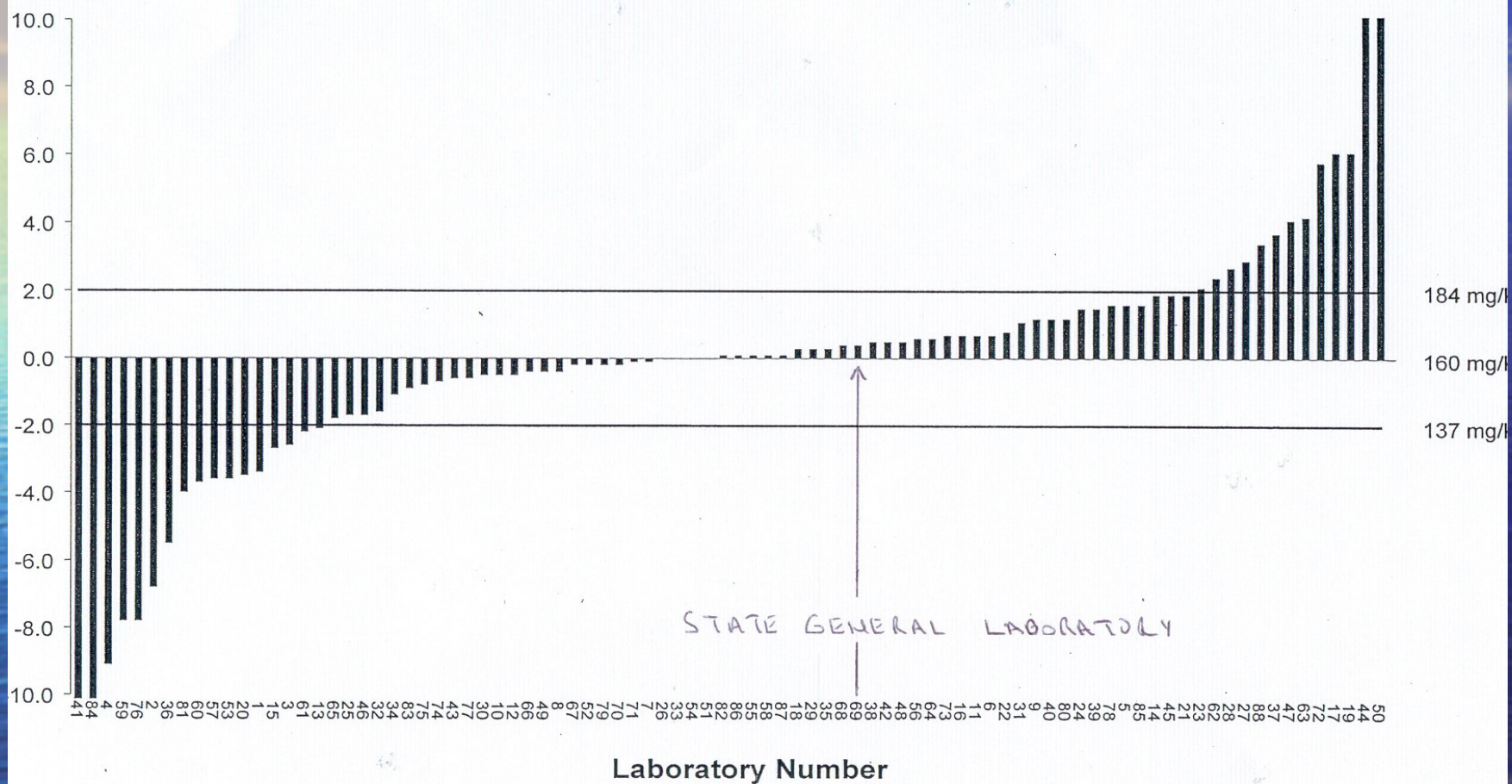


Figure 1: z-Scores for Histamine (160 mg/kg) in Canned Fish Test Material



2006

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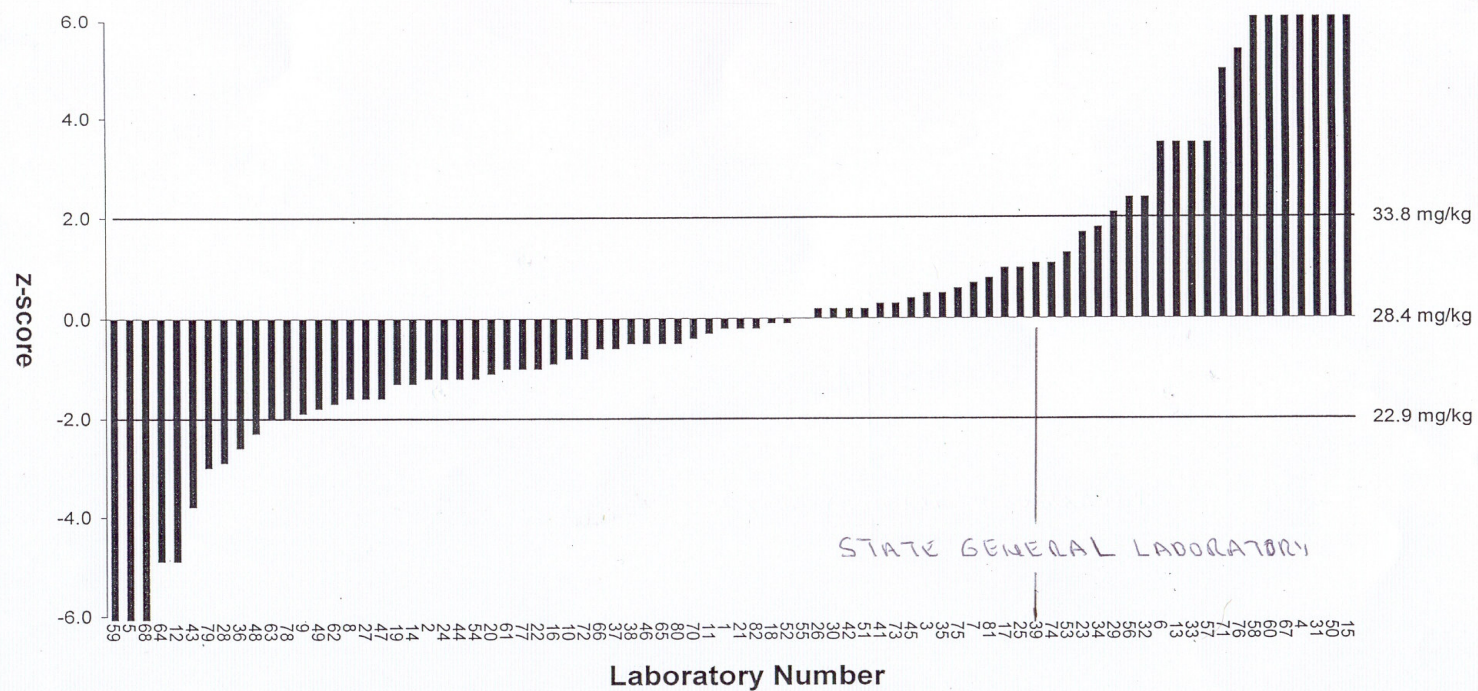


Figure 1: z-Scores for Histamine (28.4 mg/kg) in Canned Fish Test Material



# Bibliography

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2. Directive 91/493/EEC L268 24/09/1991 p.15-34
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