

December 31, 1958

Dr. John N. Wolfe, Chief
 Division of Biology and Medicine
 United States Atomic Energy Commission
 Washington 25, D. C.

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Dear John:

Rather than send the information about the Rongelap fish in a TWX we thought there would be less chance for error by calling you directly. For your record the information that was dictated to Patt by telephone on December 31 is as follows:

The average gross beta values for Rongelap fish in terms of microcuries per kilogram of wet tissue are as follows:

1. March 1958, Kabelle Island reef fish

muscle - 0.026
 whole fish - ~ 0.10

2. March 1958, Rongelap Island reef fish

muscle - 0.006
 whole fish - ~ 0.010

3. August 1958, Rongelap Island reef fish -(average maximum value)

muscle - 0.005

(This is an average of a group of fish for which the values from earlier collections have been a maximum).

4. Current average values are as low as or lower than values from any of the previous collections.

Isotopic composition of samples:

1. The estimated amount of K^{40} in muscle is approximately .003 $\mu\text{c}/\text{kg}$.

2. Zn^{65} is the principal gamma emitter in fish muscle. Maximum value from the August 1958 collection is 0.2 $\mu\text{c}/\text{kg}$.

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3. Traces of Co^{60} are also present.
4. The only other isotope expected in measurable amounts in fish muscle would be Fe^{55} .
5. Sr^{90} has not been found in fish muscle from samples collected in 1958 or 1957.

Also, while talking to Patt I discussed the next visit to Washington. Subject to your approval and convenience with your schedule, I shall plan on being at Germantown on January 14, 15 and 16 and will proceed with travel arrangements for this schedule unless I hear from you to the contrary.

The people concerned with the Rongelap program are meeting on Friday, January 2nd. After review of the accomplishments of the program a list of possible papers for presentation at the Montreal meeting will be promptly submitted for your selection.

Also, a draft of a program for marine biology and oceanography for the Alaska Harbor Project will be submitted prior to the ACBM meeting on January 9 and 10.

Best wishes for the New Year.

Sincerely yours,

Allyn H. Seymour
Assistant Director

AHS:mb

AVERAGE GROSS BETA ACTIVITY IN RONGELAP FISH MUSCLE COLLECTED AUGUST 1958

Family	Rongelap			Eniaetok			Kabelle		
	Av μ c/kg	No. **	Range	Av μ c/kg	No. **	Range	Av μ c/kg	No. **	Range
	wet			wet			wet		
Acanthuridae surgeonfish	.0061	(13)	.002-.008	.0056	(3)	.004-.008			
Apogonidae cardinalfish	.003	(1)					.0006	(1)	
Balistidae triggerfish	.005	(1)							
Belonidae needlefish							.004	(1)	
Blennidae blennies	.0023	(3)	.002-.003				.010	(1)	
Bothidae sole	.003	(1)							
Carangidae jacks	.017	(1)		.011	(2)	.006-.016	.008	(1)	
Carcharinidae sharks	.0035	(2)	.003-.004				.004	(1)	
Chaetodontidae butterflyfish	.003	(3)	.002-.004						
Dulidae tide poolfish	.004	(1)					.079	(1)	
Fistulariidae cornetfish							.004	(1)	
Sphyraenidae barracudas	.006	(3)	.006-.006				.0055	(2)	.005-.006

** pooled samples, containing 1 to 6 specimens.

Note: The correction factors were based on K^{40} . The use of correction factors based on Zn^{65} would elevate these values considerably. Determination of Zn^{65} levels are in progress.

Family	Rongelap			Eniaetok			Kabellie		
	Av $\mu\text{c}/\text{kg}$ wet	No. **	Range	Av $\mu\text{c}/\text{kg}$ wet	No. **	Range	Av $\mu\text{c}/\text{kg}$ wet	No. **	Range
Gobiidae gobies							.003	(1)	
Holocentridae squirrelfish	.0037	(6)	.002-.006	.004	(1)		.0048	(2)	.001-.006
Lutjanidae snappers	.004	(7)	.003-.006	.005	(4)	.004-.006	.0048	(2)	.003-.004
Mugilidae mullets	.008	(1)					.012	(1)	
Mullidae goatfish	.0015	(3)	.001-.015	.006	(3)	.004-.010	.018	(2)	.006-.018
Muraenidae eels	.002	(1)					.013	(1)	
Pomacentridae damselfish	.0025	(6)	.001-.004	.002	(1)		.008	(1)	
Poeciliidae parrotfish	.0035	(4)	.002-.005				.01	(2)	.006-.026
Scorpaenidae snappers and hawkfish				.0114	(5)	.005-.023	.008	(1)	
Serranidae groupers	.0056	(11)	.001-.009				.0044	(8)	.002-.007
Siganidae rabbitfish	.012	(1)		.003	(1)				
Tetraodontidae puffers	.004	(1)		.008	(1)				
Urophycidae morish idols	.004	(1)							

Note: The correction factors were based on K^{40} . The use of correction factors based on Zn^{65} would elevate these values considerably. Determination of Zn^{65} levels are in progress.

** pooled samples, containing 1 to 6 specimens.

collected at Rongelap Atoll in August 1958,

Table 3. Total gamma activity in fish tissues, expressed as c/m/g dry weight,

Family and Collection locale	T I S S U E					
	Bone	Muscle	Liver	Gill	Gonad	Stomach
<u>Acanthuridae</u>						
Rongelap I.	0	0	114	0	0	37
Eniaetok I.	0	0	16	0	-	34
<u>Blennidae, Gobiidae, Duhliidae</u>						
<u>Muraenidae, and Mugilidae</u>						
Rongelap I.	0	0	0	0	0	15
Kabelle I.	0	7	63	48	219	84
<u>Carcharidae</u>						
Rongelap I.	0	0	2	6	1	21
Kabelle I.	0	0	3	0	0	19
<u>Chaetodontidae, Pomacentridae</u>						
<u>and Zanclidae</u>						
Rongelap I.	0	0	20	0	14	37
Kabelle I.	0	0	-	-	0	58
Eniaetok I.	0	0	0	0	-	52
<u>Carangidae</u>						
Rongelap I.	1014	64	2023	1348	1208	547
Kabelle I.	46	16	395	336	--	876
Eniaetok I.	0	45	151	24	190	42
<u>Belonidae and Fistularidae</u>						
Kabelle I.	31	5	104	0	122	53

Table 3. - continued

Family and Collection locale	T I S S U E					
	Bone	Muscle	Liver	Gill	Gonad	Stomach
<u>Holo-centridae</u>						
Rongelap I.	0	0	893	0	--	72
Kabelle I.	0	0	0	0	--	100
Eniaetok I.	0	0	-	0	--	0
<u>Lutjanidae</u>						
Rongelap I.	0	0	67	0	50	38
Kabelle I.	11	0	620	24	47	29
Eniaetok I.	0	0	0	0	--	26
<u>Mullidae</u>						
Rongelap I.	153	5	538	245	--	614
Kabelle I.	540	52	204	383	--	752
Eniaetok I.	239	3	394	242	--	847
<u>Scaridae</u>						
Rongelap I.	0	0	0	0	5	15
Kabelle I.	22	7	222	448	-	119
<u>Scombridae</u>						
Kabelle I.	27	0	-	0	81	37
Eniaetok I.	36	6	72	43	74	349
<u>Serranidae</u>						
Rongelap I.	0	0	225	3	-	50
Kabelle I.	0	0	639	0	-	19
<u>Siganidae, Tetradontidae, Balistidae, and Bothidae</u>						
Rongelap I.	388	4	73	643	-	50
Eniaetok I.	0	0	37	9	36	24
<u>Sphyraenidae</u>						
Rongelap I.	71	6	787	37	454	194
Kabelle I.	29	6	191	47	62	51