

Decline of gross beta radioactivity in fishes at
Rongelap Atoll to March 1958.

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This report extends the observations on Rongelap fishes beyond that of Welander (1957) up to the spring of 1958 before the series of detonations of this year, and shows the trends on a log-log, rather than a semi-log basis.

Results appear separately in Table 1 and Figures 1 and 2 for liver, bone, and muscle of fishes at Kabelle and Rongelap Islands, and in Rongelap Lagoon chiefly in the vicinity of Rongelap Island.

Data are most plentiful for Kabelle Island where four full years are represented, while at the other localities shown observations were not begun until nearly a year after the detonation of March 1, 1954 at Bikini Atoll.

At Kabelle and Rongelap Islands the last two observations are for July 1957 and March 1958. It will be noted that the decline during this period was greater at Rongelap Island than at Kabelle Island, bringing the present levels in $\mu\text{c}/\text{kg}$ of wet tissue at south and north ends of the atoll to about 0.01 and 0.1 respectively.

Kelshaw Bonham
August 5, 1958

Rongelap Atoll Fish
uc/kg wet

Locality	Source of data	Date	Days after 3-1-54	Muscle	Liver	Bone
Kabelle I. Reef fish	43:14	3/26/54	25	2.7	200	13
	"	7/16/54	146	.5	22	2.9
	"	1/29/55	335	.083	3.2	.49
	"	10/21/55	600	.026	1.6	.12
	Cards	7/24/56	877	.045	1.35	.36
	Cards	7/18/57	1236	.028	.18	.074
	Cards	3/3-10/58	1470	.026	.22	.060
Rongelap I. Reef fish	43:15	1/25/55	331	.034	2.0	.30
	"	10/22/55	601	.009	.60	.070
	Cards	7/23/56	876	.097	1.34	.45
	Cards	7/17/57	1235	.020	.29	.021
	Cards	3/7/58	1468	.0062	.054	.054
Lagoon fish	43:15	12/54 and 1/55	307	.081	2.1	.28
	"	10/22 to 24/55	602	.014	.31	--
	Cards	2/28- 3/2/58	1460	.015	.077	.023

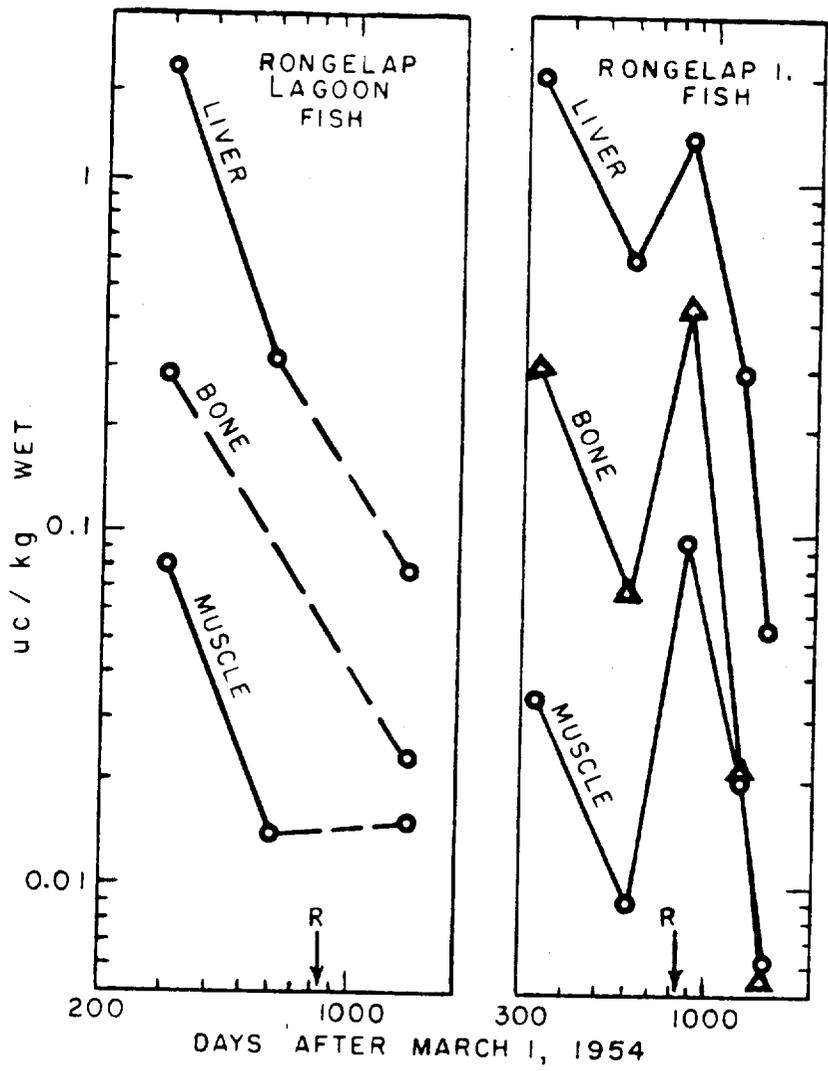


Fig. 2. Decline over a period 1 to 4 years after the March 1, 1954 detonation at Bikini Atoll, of the gross beta radioactivity as measured in methane flow counters using samples of tissues of lagoon and Rongelap Island reef fishes collected at the indicated times at Rongelap Atoll. Dashed lines indicate lack of observations immediately following the Redwing series (R).

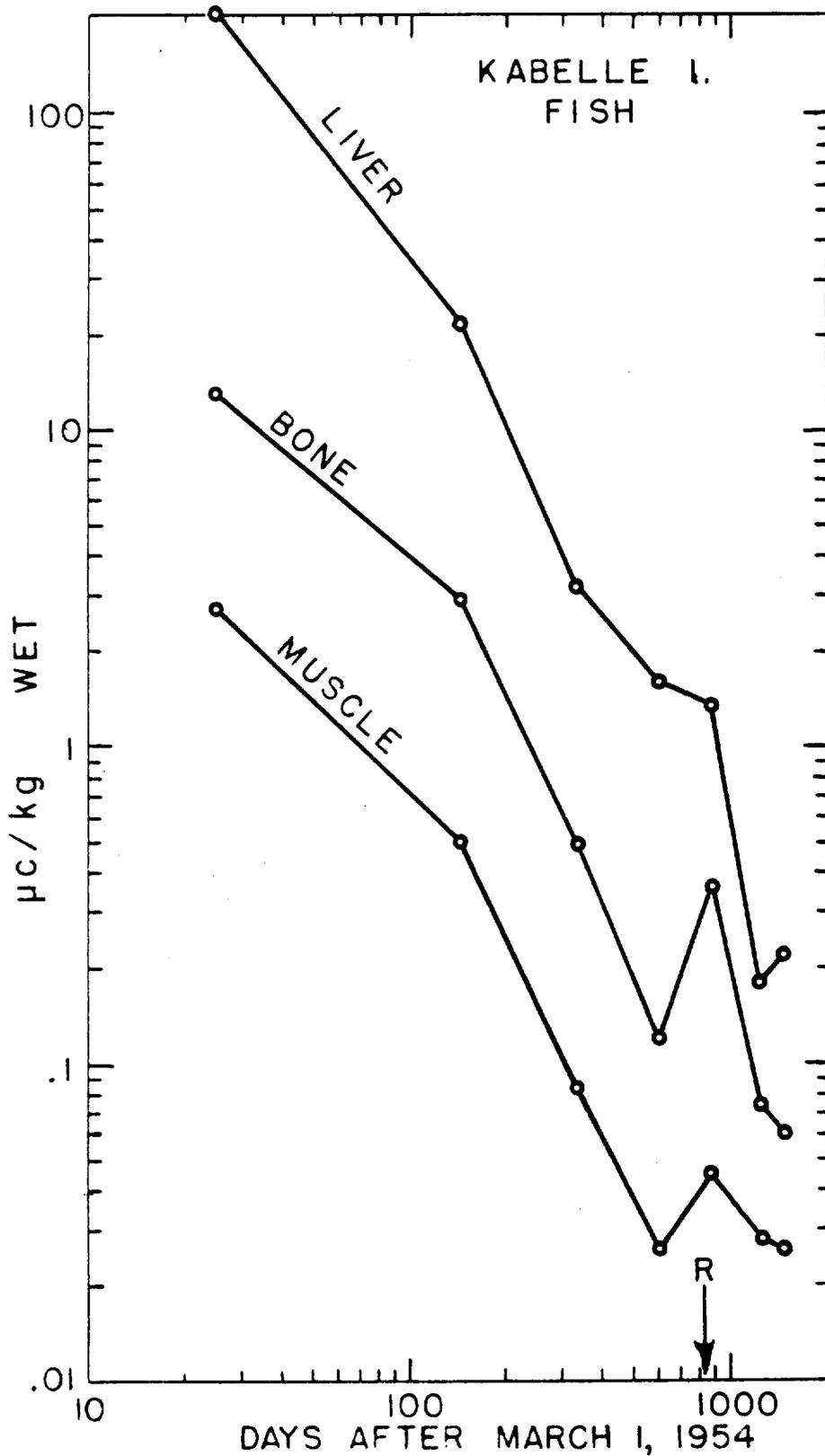


Fig. 1. Decline over a 4-year period following the March 1, 1954 detonation at Bikini Atoll of gross beta radioactivity as measured in methane flow counters using samples of tissues of reef fishes collected at the indicated times at Kabelle I., Rongelap Atoll. "R" shows the time of the Redwing series.