

REPORT ON THE "SEA BEAUTY" INCIDENT

On June 5, 1969, the freighter "Sea Beauty", carrying thousands of tons of bagged urea, ran aground on the reef just north-west of North West Cape.

Some eight days later the Department received information that efforts to refloat the freighter had failed and that it was proposed by the salvage team to dump urea into the sea in the effort to free the stranded ship. An opinion received on that day indicated that urea in seawater causes calcium precipitation. The Department relayed the message to the salvage team that as little urea as possible be jettisoned and then only on an outgoing tide.

The Commissioner for the area, Mr. J. Murdoch, informed on June 16, that salvage experts estimated that a total of about 60 thousand bags of urea must be dumped before there was any likelihood of refloating the "Sea Beauty". He also stated that observations showed that the urea dissolved very quickly once it was dumped in the water. The urea was contained in 56 pound linen bags with the inside plastic bag not sealed at one end. The suggestion that the fertilizer be jettisoned on an ebb tide only was made to minimize the risk to the Exmouth Gulf fishery and the marine life on the reefs off North West Cape.

The Department had no precise biological data on which it could evaluate the precise water pollution that would result from this jettisoned fertilizer cargo. In its concern, a consensus of opinion revealed that:

1. Urea easily metapolized,
2. It would be well diluted before reaching prawning area
3. It was unlikely to have long term effect
4. Short term effect may be beneficial to prawn fishery
5. Effects might be drastic on reef fishes

On Tuesday, June 17, the Department's patrol vessel "Dampier", stationed at the time in the Exmouth Gulf area, was placed on duties, relating to the stranded freighter. The P.V. "Dampier" was to remain in the area until cargo dumping was completed or the freighter refloated, and observe

dumping operations and record visual effects of same. Crew members made foot patrols of beach areas from Bundegi Reef to 3 miles west of the old Vlaming Head Lighthouse. During these patrols not one fish or any other form of marine life was observed to be dead or effected in any way as a result of the urea being jettisoned. At the actual site where the "Sea Beauty" was aground, 30 to 40 green turtles were feeding in the water, with no apparent change from the normal behaviour pattern.

Reports from officials who boarded the freighter during the period it was aground, indicated the presence of fish, including sharks, among the burst urea bags. Some also reported that Chinese crew members were catching and eating fish without any apparent ill effects.

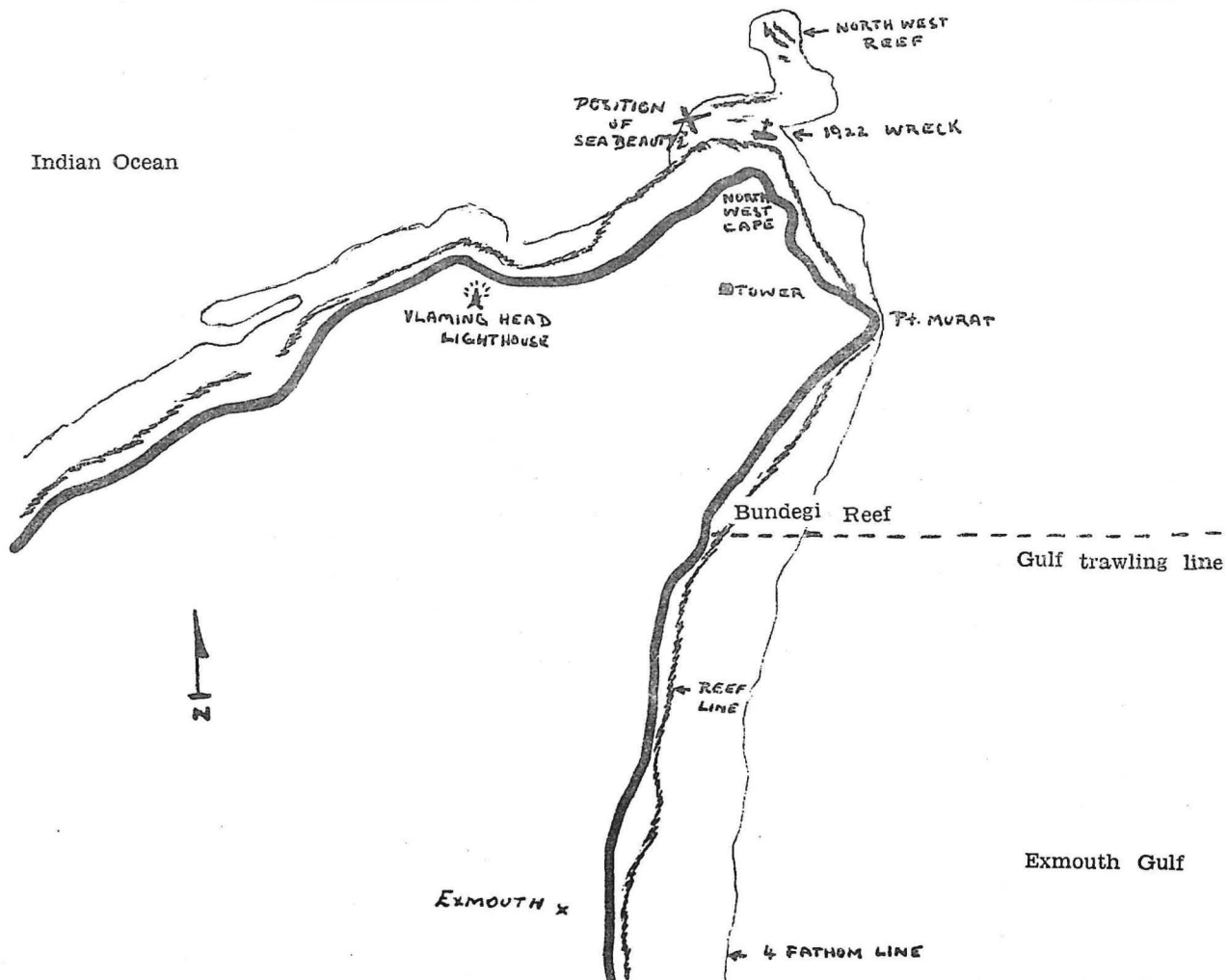
Observations of the dumping of the urea into the sea revealed the following process. As the bags would hit the water they would sink a few feet and then rise to the surface. Shortly thereafter the bags would burst with the urea dissolving almost immediately. The strong tidal rips present in this particular area, dispersed any traces of urea very quickly. Mr. E.J. Forster, the skipper of the P.V. "Dampier", stated that bags picked up alongside the freighter, which had been in the sea for approximately one minute, had lost about one quarter of the urea content.

On Sunday, June 22, the P.V. "Dampier" conducted tests to ascertain the possibility of ocean pollution by the jettisoned urea. These tests were made possible with the supply of a chemical kit by the Director, Government Chemical Laboratories.

During the journey from Learmonth anchorage, urea bags were observed floating inside the Gulf along the beach from Point Murat to North West Cape. En route to the "Sea Beauty" pollution tests were made. On arriving alongside the freighter further tests were conducted. In a control test urea was placed in a test tube with water and a positive colour result was noted. When using the control solution a similar positive result was obtained. However, all the sea tests made produced a negative result as shown below. The tests on board the P.V. "Dampier" were conducted by a University Zoology Ph.D. student, aided by members of the crew.

RESULTS OF THE TESTS NEAR "SEA BEAUTY"

Date	Sample	Time (p.m.)	Tide	Position of Sample	Res-ult	Water Temp. °C	Wind Direction
22.6.69	1	3.15	Almost slack	$\frac{3}{4}$ mile S.E. Pt. Murat (14 miles S.E. of ship)	-ve	Bottom 23.8	Light Southerly
"	2	3.25	"	Midway between Pt Murat & N.W. Cape (9 miles S.E. of ship)	"	"	"
"	3	3.35	"	$\frac{1}{2}$ mile S.E. of ship	"	"	"
"	4	3.43	"	$\frac{1}{4}$ mile S.E. of ship	"	"	"
"	5	3.50	"	100 yds. north of ship	"	"	"
"	6	3.55	Slack	50 ft. north of ship	"	"	"
"	7	4.15	"	50 ft. south of ship	"	"	"
"	8	4.30	"	$\frac{1}{2}$ mile N.W. of ship	"	24.2	"



METHOD USED FOR TESTING

* Put approximately 1" of sea water in test-tube, add $\frac{1}{2}$ dropper (marked) of urea and place in hot water (not boiling) for 4 minutes. Pink colour indicates at least 50 pp m urea.

* Also supplied to personnel testing was a control solution containing 100 pp m of urea. This was for trial test purposes, i.e. use 1" depth in the test tube of this solution instead of sea water to show the pink.

The vessel moved in a straight line directly towards and away from the "Sea Beauty", testing the sea water at intervals, recording the results obtained.

On Thursday, June 26, exactly three weeks after going aground, the "Sea Beauty" was refloated. Apparently a total of 1,800 tons of bagged urea had to be jettisoned by the salvage team.

The Department in its efforts to obtain information on the effect of the jettisoned urea cargo expended considerable time and manpower. Apparently no immediate ill effects on the marine life could be detected by the investigation team. Long-term effects either on the Exmouth Gulf fishery or on the marine life of the area are very unlikely. However, only time will tell.



WHAT IS THE DIFFERENCE BETWEEN A SEA AND AN OCEAN?

The terms "sea" and "ocean" are often used interchangeably in referring to salt water. However, from a geographic point of view, a sea is a body of water that is substantially smaller than an ocean or is part of an ocean.

The term "seven seas" dates back to ancient times, referring to the seas known to the Mohammedans before the 15th century. These were the Mediterranean Sea, the Red Sea, the East African Sea, the West African Sea, the China Sea, the Persian Gulf, and the Indian Ocean.

In more recent times, Rudyard Kipling popularized the expression "seven seas" by using it as the title of a volume of poems. There has been a tendency to divide the world's ocean into seven oceans to retain this legendary number. The popular division is Arctic, North Atlantic, South Atlantic, North Pacific, South Pacific, Indian, and Antarctic. However, International Hydrographic Bureau at Monaco does not accept the existence of an Antarctic Ocean. Actually, of course, all limits of oceans are arbitrary, as there is only one global sea. The International Hydrographic Bureau subdivisions are primarily for the purpose of filing Notices to Mariners and have little to do with natural boundaries.

The International Hydrographic Bureau lists 54 seas; some are seas within seas. The Mediterranean Sea contains seven seas so one could sail the seven seas (of the Mediterranean) without ever venturing into an ocean. ("Questions About The Oceans," U.S. Naval Oceanographic Office.)