

Marine Diesel Fate and Persistence

F/V Kotobuki Maru No. 38

From: Ruth Yender, NOAA Scientific Support Coordinator

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Under the persistent very high-energy weather conditions that have prevailed at Midway Island since the estimated release of 2,640 gallons of marine diesel from the *F/V Kotobuki Maru No. 38* on December 28, 2006, there is nearly a zero probability that an oil slick, plume, or pool remains in the release area at this time. Model runs with NOAA's ADIOS oil weathering model indicate 2,640 gallons of a typical diesel fuel under the release conditions at Midway would have almost completely evaporated and dispersed within the first 6 hours of release (see table below).

Light refined products, such as diesel (or Fuel Oil No 2), typically have very high evaporation rates and do not tend to create persistent slicks. We would expect that even a heavier intermediate fuel oil (sometimes referred to as 'marine diesel') would be completely evaporated and dispersed by this time.

Note that it is possible that immediately after release the dispersed diesel may have caused some short-term exposure to coral and other marine biota in the immediate vicinity with some potential for toxicity in localized areas.

Small Offshore Spill

Oil Name = DIESEL FUEL OIL NO.2 (BONDED), TESORO

API = 34.5 Pour Point = 26 deg F

Wind Speed = constant at 15 knots Wave Height = computed from winds

Water Temperature = 70 deg F

Time of Initial Release = December 29, 1000 hours

Total Amount of Oil Released = 2,640 gal

Hours Into Spill	Released gal	Evaporated percent	Dispersed percent	Remaining percent
1	2,640	2	8	90
2	2,640	5	27	68
3	2,640	8	50	42
4	2,640	10	66	24
5	2,640	11	76	13
6	2,640	11	81	8