

Plastics-4: MAST-602, Fall 2008, Andreas Münchow

Amicus Curiae

Whereas ... the United States Congress passed the Ocean Dumping Act in 1972 that gave the Environmental Protection Agency (EPA) power to monitor and regulate the dumping of sewage sludge, industrial waste, radioactive waste and biohazardous materials into the nation's territorial water;

Whereas ... this act makes it illegal to dispose any plastic in all US waters;

Whereas ... physical mechanism that accumulate floating marine debris such as plastics exist in all oceans, hence this specific case has impacts beyond the Pacific;

Be it resolved ... that the United States Government represented by the National Oceanic and Atmospheric Administration (NOAA) and EPA can file this *amicus curiae* to raise awareness about aspect of the case that the court might otherwise miss:

- Most marine debris comes from people's mishandling of waste while on land;
- Seabirds and marine mammals are affected by ingestion of, and entanglement in marine debris;
- A plastic bag takes 10-20 years to degrade in the environment;
- A cigarette filter takes 1-5 years to break down in the environment;
- Prof. Dr. Kirwan of the University of Delaware verified the existence of coherent near surface flows in the Eastern Pacific from surface drifter deployments that compared well with independently determined dynamic topographies (Kirwan et al., 1978 in J. Phys. Oceanogr.);
- Extensive modern observing systems coupled with linear ocean dynamics document how the ocean circulation of wind-driven gyres and western boundary currents move, trap, and disperse marine debris in the Pacific Ocean.
- Ocean gyres are maintained by a vorticity balance between the wind-stress curl and the beta-effect, that is, the variation of the Coriolis parameter with latitude.