



## CALIFORNIA OCEAN PROTECTION COUNCIL

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### MEMORANDUM

TO: California Ocean Protection Council

FROM: Drew Bohan, Executive Policy Officer, Ocean Protection Council  
Rebecca Pollock, Project Manager, State Coastal Conservancy

DATE: February 8, 2007

RE: [Resolution on preventing and reducing marine debris](#)

### REQUESTED ACTION

Staff recommends that the Ocean Protection Council (OPC) adopt the attached resolution that identifies the council's position on priority methods to prevent and reduce marine debris.

### SUMMARY

Despite international agreements, annual organized clean-up events, efforts to minimize land-based sources of litter, and various education and outreach initiatives, the problem of marine debris is escalating. In addition to harming marine wildlife, marine debris impacts California's ocean tourism-based economy and may pose human health risks.

OPC staff has been working with other state government departments for the last six months. Together, we have developed a list of top priority solutions to the problem of marine debris. These solutions are listed in the attached resolution that staff urges the OPC to adopt.

### BACKGROUND

Marine debris is an issue of global concern because of its alarming ubiquity and serious impacts to ocean and coastal ecosystems. Because California is a large coastal state dependent on its ocean and coastal resources, marine debris is particularly relevant to Californians. In its triennial review of the California Ocean Plan, the State's water quality control plan for ocean waters, the State Water Resources Control Board identified plastic debris regulation as a high priority issue. Reducing marine debris is also identified as a key objective in the OPC's five-year strategic plan.

Plastics account for 90 percent of all floating debris in the ocean, and 60 to 80 percent of all marine debris. Eighty percent of marine debris originates from land-based sources. The remaining 20 percent comes from ocean activities, such as fishing and shipping.

A study of Orange County beaches found that plastic was the biggest contributor to beach debris in the form of pre-production plastic pellets, foamed plastics and hard plastics. Other specific items included lids, caps, straws, and food wrappers and storage containers. In 2005 alone, 61,117 bottle caps were collected during California's Coastal Cleanup Day.

Beyond constituting the largest component of marine debris, plastics are a persistent problem because they have a long lifespan in the environment, breaking down into smaller and smaller pieces in the ocean but not biodegrading. Plastics harm wildlife – from turtles to seabirds – through ingestion, entrapment and entanglement. Certain plastics also contain potentially harmful constituents such as phthalates, bisphenol A, styrene, and vinyl chloride. Plastics also adsorb other potentially harmful constituents such as PCBs, polycyclic aromatic hydrocarbons (PAHs) and toxic derivatives of DDT. Plastic and other debris on beaches and along the coast threatens the state's \$46 billion ocean-based economy.

There is strong evidence that the quantity of plastic marine debris is increasing. Densities of micro-plastics have tripled during the last decade and in the Mid-Pacific Gyre, a large area of the ocean near Hawaii, the mass of plastic particles is six times the mass of plankton.

## ROLE OF THE OPC

In June 2006, the California Coastal Commission published a report entitled "Eliminating Land-based Discharges of Marine Debris in California: A Plan of Action from the Plastic Debris Project" (2006 Action Plan). The 2006 Action Plan represented the work of numerous stakeholders including state government agencies, industry representatives, environmental groups, and others. The plan provided 63 recommendations for reducing the problems caused by plastic marine debris.

In anticipation of the 2006 Action Plan's recommendations, the Chair of the California Integrated Waste Management Board, Rosario Marin, established the Anti-litter Task Force in December 2005. Upon publication of the Plan, the Task Force created a steering committee to review the Plan's recommendations and develop priorities. The proposed resolution is the culmination of the last six months of effort by the steering committee members, with participation of OPC staff.

Staff incorporated the steering committee's top six recommendations into the proposed resolution. The first recommendation is to expand the California Refund Value (CRV) to include those plastic materials commonly found in marine debris. The CRV and similar programs around the country have proven to be very effective at changing behavior.

States that have “bottle bills” like our CRV achieve a recycling rate of, on average, over 70 percent. In contrast, states that have no CRV achieve an average recycling rate of less than 30 percent.

Staff and the steering committee believe that this tool, which has been effective at promoting the diversion of bottles and cans from the waste stream to the recycling stream, can be used to divert marine debris from our beaches and ocean to an appropriate recycling or disposal center. Further work is needed to determine exactly which components of marine debris are most appropriate for the CRV system, but staff and the steering committee are confident that these logistical and administrative concerns can be adequately addressed.

Five other priority recommended solutions are described in the resolution. These include having OPC staff work closely with the Department of Toxic Substances Control to investigate biodegradable alternatives to plastic, and working with the Department of Transportation and its partners to expand and enhance the “Don’t Trash California” campaign.

## CONCLUSION

Marine debris is a significant and growing problem. Plastic makes up the vast majority of all marine debris and, because it does not readily biodegrade, continues to cause problems decades after it is introduced into the environment. The attached resolution represents the recommendations of a steering committee that spent the second half of 2006 determining the highest priority solutions to problems caused by marine debris.