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July 31, 1984

RR:0079

Mr. James W. Morrow, Chairman
Environmental Council
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Mr. Morrow:

Amendment to Exemption List
Item: Vegetation Clearing for Streams
Division of Water and Land Development
Department of Land and Natural Resources

In response to your letter of July 17, 1984, we have reviewed the revised amendment to the exemption list for the Division of Water and Land Development (DOWALD) of the Department of Land and Natural Resources and the specific questions raised during the Council discussion of the proposed amendment.

We have been assisted in this review by John Hylin, Agriculture Biochemistry; James Parrish, Hawaii Cooperative Fishery Research Unit; and Jacquelin Miller and Antonio De Oteyza, Environmental Center. We have also relied greatly on the advice of Barbara Siegel, Pesticide Hazard Assessment Project, who we understand has responded to you directly on this subject.

Revised-Amendment to exemption list

The modification to the exemption list as suggested by the Maui Chapter of the Sierra Club in their letter of July 8, 1984 and as now incorporated in the revised exemption seems quite appropriate. Our reviewers have suggested some minor modifications to the wording of the proposed exemption to further clarify that ROUNDUP will be applied solely to foliage not growing in waters, and that RODEO alone will be applied to vegetation growing in water. Items to be deleted are in brackets, and items to be added are underlined.

The herbicide ROUNDUP(,) will be applied directly to foliage growing on stream, canal, ditch and waterway banks, and to foliage growing in dry beds, to control overgrowth. No direct application to any body of water will be made.

The herbicide RODEO(,) will be applied directly to emergent foliage growing in fresh and brackish bodies of water.

Response to Questions Raised at the Council Meeting:

1. Is ROUNDUP an appropriate herbicide to use on banks? Yes.

Should the use of ROUNDUP be restricted to areas where there is no potential for runoff? Yes.

Should RODEO be used instead? Yes.

RODEO is a somewhat stronger herbicide (higher concentration of active ingredient) without the surfactant found in ROUNDUP. Assuming that there is no danger of the product getting into a stream, the more efficient product, ROUNDUP, would be preferred for use on banks. RODEO should be used near aquatic systems.

2. Under this exemption, should herbicide use be prohibited in certain streams on the other islands? Possibly.

We assume that some concern has been expressed by other agencies as to the use of these herbicides near pristine or relatively pristine streams and that the exclusion of the three streams on Oahu from the requested exemption reflects that concern. Because the proposed exemption will apply statewide, it would seem appropriate to apply the same criteria used in excluding the use of the herbicide in certain streams on Oahu to similarly pristine streams on the other islands. We suggest that DLNR and/or the U.S. Fish and Wildlife Service may be able to provide guidance as to what other streams ought to be considered for exclusion. Since our reviewers were not involved in selecting the Oahu streams to be excluded we are hesitant to make recommendations for the neighbor islands without knowledge of the rationale used for Oahu.

3. Would any endangered species be affected by allowing herbicides use under this exemption? Not directly but see following comments.

There are no Hawaiian stream species listed as endangered. However, we would suggest that DLNR or the U.S. Fish and Wildlife Service be asked to advise on the presence of endangered species that may use the areas to be treated as part of their habitat or feeding grounds with special consideration to birds that may feed in the weeds that are being cleared.

4. Has there been any additional information on the effects of the herbicides on larval stages of local stream fauna? Not to our knowledge.

We are not aware of any new information on possible effects of the herbicide RODEO on local stream fauna. However, in the information provided by the manufacturers of the herbicide (Monsanto), tests of toxicity to a type of zooplankton concluded that the product was "practically nontoxic". Nevertheless, there are possibly significant indirect impacts. We concur with Dr. Siegel's comment that deoxygenation could have a major effect on larval forms as could habitat reduction of nursery or feeding areas depending on the particular sites to be cleared.

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Perhaps the greatest area of concern that has been expressed by our reviewers is not with the use of the chemicals themselves but in their potential misuse by the personnel involved in their application. Training of personal on the use, handling, disposal of containers and personal safety should be most carefully stressed. Careless use or handling of the product could represent a far greater hazard than the use of the herbicide per se.

We would strongly recommend that the use of wick applicators be considered. Wick applicators (mop-like applicators) appear to have considerable advantages over the use of spray-type applicators. The drift of the herbicide is eliminated, thus reducing the contamination of the adjacent environment and would probably eliminate the need to withhold applications when winds exceed 5 mph as is required for spray applications ("Roundup Herbicide Bulletin No. 7, December 1980"). Furthermore, the mop type of equipment appears to provide a more selective, efficient and therefore economic way to apply the herbicide. It is our understanding that the Department of Horticulture of the University has carried out tests using wick applicators. Unfortunately the people involved are presently out of town until late August so we cannot be more specific at this time.

If we can be of any additional help please don't hesitate to call.

Yours truly,


Doak C. Cox
Director

cc: DOWALD, DLNR
Sierra Club, Maui Chapter
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James Parrish
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