August 20, 1997

Governor Pete Wilson
First Floor, State Capitol
Sacramento, CA 95814

Secretary Douglas P. Wheeler
The Resources Agency
1416 9th Street
Sacramento, CA 95814

Director Jacqueline E. Schafer
California Department of Fish and Game
1416 9th Street
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Dear Governor Wilson, Secretary Wheeler and Director Schafer,

We are scientists with research experience in marine ecology and/or biological invasions. We write to urge you to take needed action to reduce the risk of introducing non-indigenous parasites, diseases and other organisms into California waters via aquaculture activities. This threat, and the need for a more effective government response, is demonstrated by the ongoing release of the parasitic African sabellid worm into California coastal waters by the commercial abalone farming industry, and by CDFG's tardy and still inadequate response to this problem.

The African sabellid worm was introduced into California abalone farms by the mid- to late-1980s with imported South African abalone. These worms infest and weaken the shells of California abalone, reducing growth rates and production, and causing deformities. Experiments by Carrie Culver and Armand Kuris at U. C. Santa Barbara show that these worms can infest many types of native marine snails, not just abalone.

Infested abalone were freely transferred between facilities, spreading the African worm to virtually all California abalone farms by 1993, with the resulting infestations bankrupting some growers. In 1994 researchers determined that the problem was caused by a non-indigenous parasite. However, CDFG took no action whatsoever to prevent the release of this parasite into California waters until December 1996, when CDFG notified growers that it would be stopping the direct out-planting of abalone into California waters; requiring screens on pipes that discharge water from on-shore abalone farms into the ocean; requiring growers that rear abalone in cages and barrels in the ocean to stop dumping empty shells, kelp and other debris that may harbor worms into the ocean; and requiring growers to notify CDFG when abalone were being transferred between facilities, so that CDFG could inspect the shipments. CDFG also stated that it would not issue a 1997 aquaculture registration to any grower who did not have an approved plan for eradicating the worm. As of this writing, however, no plans have yet been approved.
More recently, CDFG issued a press release claiming that it is requiring the "complete eradication of sabellid infestations from all aquaculture facilities." However, CDFG has not yet set any deadlines for achieving this goal, while it continues to allow practices that virtually guarantee the ongoing release of the African worm. Growers may continue rearing infested abalone in cages and barrels in the ocean, which freely releases larval worms into the environment. Screened discharges from on-shore facilities, although greatly minimizing the release of adult worms, may still carry larval worms into the ocean. In addition, some growers are attempting to cleanse their facilities by selling off their infected stock; the worm may then be released into the ocean via unscreened discharges from the holding tanks of live seafood distributors or retailers, or by discarded shells.

As worrisome as this situation is, such gaps in management are unfortunately not confined to the sabellid worm problem or to the abalone industry. Aquaculture activities in general are inadequately regulated to prevent the introduction of harmful non-indigenous organisms into the California environment. On numerous occasions, in many parts of the world, aquaculture activities have imported and released harmful parasites, diseases and predators with devastating effect on fish and shellfish populations. Outbreaks of diseases and parasites have also been reported from California aquaculture facilities, which are often poorly isolated from the environment.

We believe that CDFG’s management of aquaculture should be based on the following principles:

- Aquaculture facilities should be responsible for conducting their activities so as to prevent the accidental release of non-indigenous organisms.
- Aquaculture should whenever possible be based on native, local stock.
- Importing stock and transferring stock between regions should be minimized, and any transfers should be thoroughly inspected for non-indigenous organisms.
- Stock infested with non-indigenous organisms should be kept thoroughly isolated from the environment. If such isolation is impossible, the stock should be destroyed.
- Parasites or disease syndromes found in aquaculture stocks that are not known from the local environment should be managed as non-indigenous organisms.
- Proposals to import non-indigenous organisms for aquaculture purposes should receive complete public review before such imports are allowed.
- Participation on CDFG advisory bodies or committees that deal with aquaculture management should not be limited to members of the aquaculture industry, but should include parties that could be affected by the release of non-indigenous organisms, such as sport and commercial harvesters and environmental protection organizations, along with independent scientists familiar with the affected environment or with expertise in biological invasions.

In 1996 researchers found the African sabellid worm established in the ocean in California at a site adjacent to an abalone farm. In South African waters the worm sometimes achieves high abundance. If it becomes as abundant in California, its ability to infest and harm a variety of native marine snails could have a substantial impact on California’s marine ecosystems. We urge you to take immediate steps both to manage
this particular parasite, and to institute changes in the overall management of aquaculture that are needed to protect the California environment from future introductions of harmful exotic organisms.

Sincerely,

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