



# **COMPOSTING SEAFOOD PROCESSING RESIDUALS IN MAINE**

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# I. Introduction

Maine's commercial fishing industry plays a significant role in the state's economy; accounting for roughly 3 to 5 percent of its total annual income. Increased competition for finite resources, development of stricter regulations on harvest volumes and fishing equipment, and having to cope with ever growing disposal costs all collectively impact this fragile industry. Traditionally, seafood residuals have been re-sold as lobster bait or distributed for use in fish meal production and pet food rendering. These outlets work well if the waste stream is steady and volumes are predictable.

However, seasonal fluctuations and last minute crises often overwhelm these facilities, creating the need for back-up options. Additionally, due to the putrescible and odorous nature of seafood residuals, there are very few disposal facilities willing to accept this product.

Composting provides a low tech, cost-effective option, which transforms a "waste" product into a beneficial soil amendment that is stable and odor free. However, composting seafood residuals requires diligent management to prevent problems with odors, leachate and animal (vector) attraction.

During the 1990s, Maine experienced a boom in the seafood composting industry going from two (2) licensed facilities in 1990 to 17 facilities in 1999. This growth in composting may be attributed to state mandated closure of municipal landfills, soaring disposal fees associated with Maine's privately operated landfills and fishing industry movement away from the environmentally costly practice of ocean disposal.

Currently, 19 facilities compost seafood residuals in Maine. The feedstocks composted include: fin fish cuttings (herring, dog fish, ground fish); shell fish (clams, scallops, mussels and whelks); and, crustaceans (lobsters, crabs and sea urchins). Each of these residuals poses a unique set of challenges.

All of Maine's facilities receive tipping fees which range from \$20 to \$30 dollars per ton on average. Maine's landfills currently charge \$65 to \$100 per ton, and ocean disposal costs up to \$45 per ton. Even with the cost of trucking added, composting usually ends up being a better deal for most seafood processors.

## A. Why do it ?

### 1. Lower Costs

Composting is a relatively inexpensive management method as compared to the cost of disposing the same materials at either landfills or incinerators. In addition, managing seafood waste through composting benefits us all by extending the limited life of in-state landfills, and by making the best use of expensive in -state incinerator capacity and technology.

### 2. Environmental Benefits

Diverting seafood processing residuals to composting sites reduces the potential for water and air pollution from landfills, and reduces air emissions, residue, and incinerator ash that must be landfilled as a special waste. The use of compost can improve soil quality, reduce water consumption in the landscape, and reduce non-point source pollution from the overuse of chemical fertilizers.

### 3. Improve public relations and education

Informing and educating citizens to the benefits of a properly managed and promoted community compost program is a readily accessible demonstration of "waste to resources" that positively engages the residents and businesses with tangible benefits back to the community.

### 4. Make a useful and desirable commodity

Composting turns waste materials into a valuable end product. Citizens, local businesses and public works departments can be both the suppliers of additional carbon and nitrogen feed stocks, and the end users of the compost.

## B. Why now?

### 1. Composting has proven a track record throughout the State

While there is ongoing research to improve methods of composting and to expand the uses of compost, composting has been part of the Maine waste management scene for more than a decade. Composting has been promoted at the state level through a variety of grant programs that funded master composting training, home composting education and equipment, pilot and demonstration projects and community level leaf and yard trimming composting operations.

### 2. Composting has encouraging standing in regulation

In November of 1998, The Maine Department of Environmental Protection published the new Solid Waste Management Rules and Regulations. These provide a clear and consistent framework for environmentally sound compost operations.

### 3. Ready access to good technical assistance