

Determining the Best Method of State Regulation of Seaweed as a Food Product



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ISSUE

- The National Sea Grant Law Center (NSGLC) has been working on identifying regulatory hurdles impeding the expansion of the domestic seaweed industry.
- Due to a lack of federal guidance on the food safety risks of seaweed in its whole form, states are unsure of how to proceed with their own laws and regulations.
- As states begin to tackle this problem, inconsistencies may emerge in state regulatory programs that could pose challenges for the industry, especially with respect to interstate sales.
- As a result, the NSGLC is working to develop a model state framework for the regulation of the sale of seaweed as food in its whole form.

RESEARCH

In its research, the NSGLC identified a common question- whether to regulate seaweed more like seafood or more like a plant.

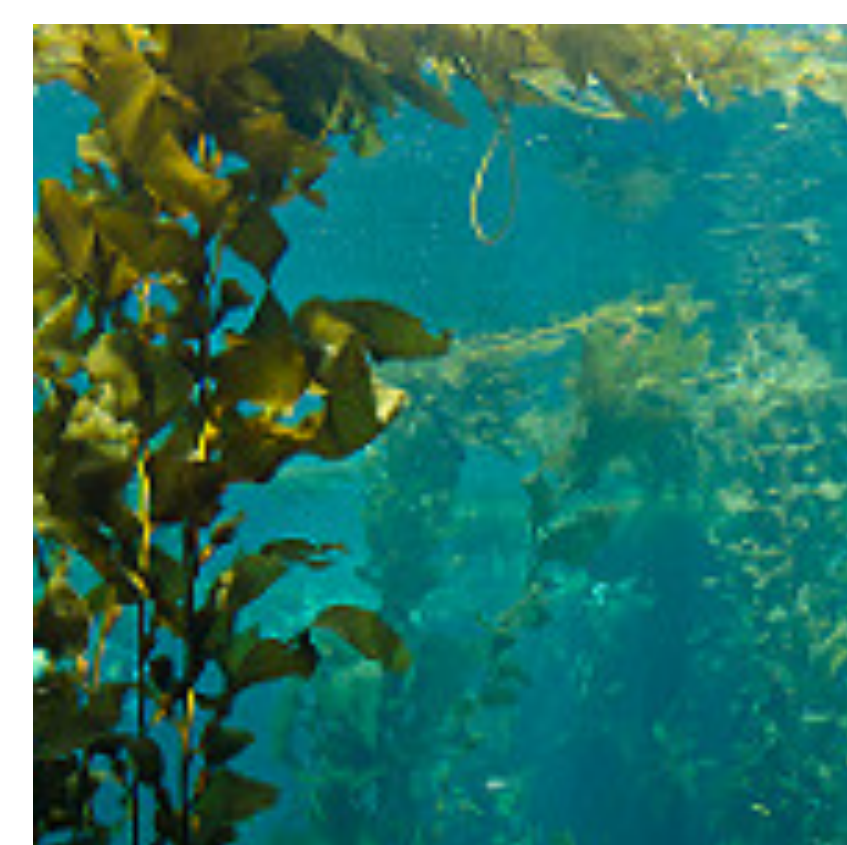
To date, the NSGLC has researched:

- The current federal regulatory framework for seaweed.
- How states are approaching the regulation of farmed seaweed as a food source.
- Two potential models:
 - Seafood HACCP Plans; or
 - FSMA Produce Safety Rule.

Next Step:

Are there other potential models?

New or emerging food sources with a model to use?



FEDERAL REGULATORY GAP

Seaweed in its whole form has not been approved on the federal level as a food product.

USDA regulates the classification of farmed kelp and other algae as organic, but:

- Not when sold in its whole form
- Only as an ingredient in livestock feed, fertilizer, or food for human consumption

The FDA has approved some seaweeds as additives:

- Kelp (21 CFR 172.365)
- Brown Algae (21 CFR 184.1120)
- Red Algae (21 CFR 184.1121)

STATE REGULATORY GAP

The NSGLC has completed an inventory of state aquaculture provisions related to seaweed. While several states have implemented regulations governing facets of seaweed aquaculture, no state has adopted a formal method of food safety inspection for farmed seaweed.

The states included in this inventory were:

- West Coast: Alaska, Washington, Oregon, California
- East Coast: Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island

The NSGLC is in the process of developing a compilation of state laws for seaweed harvesting, possession, shipping, transporting, buying and selling.

The states and provinces included in this review were:

- West Coast: Alaska, California, Hawaii, Oregon, Washington
- East Coast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island
- Provinces: British Columbia



Navigating the Kelp Forest: Current Legal Issues Surrounding Seaweed Wild Harvest and Aquaculture

Catherine Janasie and Amanda Nichols

Seaweed and kelp have traditionally had more uses, including both food sources and food additives. Commercially, East Asia is the leader in seaweed and kelp production. However, there is a growing interest in kelp aquaculture and wild harvest activity in the United States, which presents economic benefits and novel legal considerations. The Maine seaweed and kelp industry currently generates \$20 million annually, making it one of the state's most valuable commodities. Seaweed and kelp aquaculture offers other areas could help reduce traditional fisheries that are being negatively impacted by changing ocean conditions. In addition to these economic benefits, a commercial seaweed and kelp industry could also have significant ecological impacts: seaweed can help stabilize shorelines, reduce levels of nitrogen and phosphorus, and green off oxygen, helping to improve water quality.

The seaweed and kelp industry in the United States is still quite small compared to production in East Asia, and faces several layers of federal and state regulatory uncertainty. Seaweed and kelp aquaculture and harvesting occur offshore, so state and federal laws and regulations are not always clear. The U.S. Food and Drug Administration's (FDA) and U.S. Department of Agriculture (USDA) regulate the production of seaweed and kelp products. If the United States can successfully address these issues, it could pave the way for a new marine algae industry that could greatly benefit the public sector and the environment.

The public sector's regulatory burden is significant. In 2010, the U.S. government spent over \$1 billion on the regulation of seaweed and kelp products. Current FDA and USDA regulations for seaweed and kelp aquaculture are outdated and do not clearly apply to all aspects of commercial seaweed and kelp aquaculture. The FDA's regulatory framework for seaweed and kelp aquaculture is based on the Food Safety and Inspection Service's (FSIS) regulatory framework for meat and poultry products. The FDA's regulatory framework for seaweed and kelp aquaculture is based on the Food Safety and Inspection Service's (FSIS) regulatory framework for meat and poultry products. The FDA's regulatory framework for seaweed and kelp aquaculture is based on the Food Safety and Inspection Service's (FSIS) regulatory framework for meat and poultry products.

POTENTIAL MODEL: SEAFOOD HACCP PLAN

Hazard Analysis Critical Control Point (HACCP) is an internationally recognized system that reduces the risk of safety hazards in food.

- Requires that potential hazards are identified and controlled at specific points in the process- known as critical control points
- Prepared for each process or product

Goal: Make sure the hazards are eliminated or controlled to ensure acceptable levels in the food product

Issue: We know what to put in a seafood HACCP plan, but seaweed is a different food source and food safety science for seaweed is still developing

- Would this model adequately address food safety concerns with seaweed?

POTENTIAL MODEL: FSMA PRODUCE SAFETY RULE

The Produce Safety Rule (PSR) contains standards for the safe growing, harvesting, packing, and holding of fruits and vegetables grown for human consumption.

Goal: Reduce the presence of potentially dangerous bacteria in the food supply

Issue: There are some requirements that could be applicable to seaweed, but there are also key differences in cultivation. The identity of the regulating body is also unclear.

Potential applicable requirements:

- Agricultural Water Quality
- Employee Health & Hygiene
- Equipment, Tools, and Buildings
- Animals

| HACCP/FSMA PSR Comparison for Connecticut | | |
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| | HACCP | FSMA PSR |
| Plan Requirements | Preventative control plans are written separately per identified hazard and for each point in a process where a hazard may be best controlled, and include critical limits necessary to control the hazard, monitoring requirements, corrective actions, recordkeeping, and verification requirements. | Written plan is more comprehensive and detailed, including preventative controls, methods for monitoring them, and corrective actions for when the controls fail. Using FSMA subjects a facility to a greater degree of regulation with regards to making their records available to and registering with its regulatory agency. |
| Plan Revisions | Does not specify a frequency for reanalyzing hazards and writing a new plan. Under the requirements for HACCP as applied to shellfish, hazards must be re-analyzed when a change to the process or product is proposed, or new state or federal regulations are adopted. | Requires the facility to reanalyze hazards at least every three years or when a significant change occurs or the regulatory agency gives notice of a change in scientific understanding. |
| Fees | Does not mention a fee for assuring compliance. | Facilities will be charged an annual fee for inspections and face potential fees if they fail to comply with a mandatory recall. |
| Regulator | Department of Agriculture Bureau of Aquaculture: kelp intended to be sold as a raw agricultural commodity under a seaweed producer license Department of Consumer Protection Food and Standards Division: kelp that is packaged or processed under a food manufacturing license | Unclear. For other food products, the current jurisdiction is: Department of Agriculture: implements the PSR in the state Department of Consumer Protection Food and Standards Division: regulates those who make and sell food in the state. |