

# NOAA Fisheries' Final Rule to Implement the Fishery Management Plan for Aquaculture in Federal Waters of the Gulf of Mexico

## Frequently Asked Questions

January 2016

*In January 2016, NOAA Fisheries issued a Final Rule to implement a regional permitting program to manage the development of aquaculture in federal waters of the Gulf of Mexico (Gulf). The program was proposed by the Gulf of Mexico Fishery Management Council (Council) through a regional Fishery Management Plan (FMP) developed under the Magnuson-Stevens Fishery Conservation and Management Act. The rule authorizes NOAA Fisheries to issue up to 20 Gulf Aquaculture Permits (GAPs) to produce up to 64 million pounds annually, limiting the production of individual permit holders to 20% of that total, or 12.8 million pounds annually. Permits are for an initial period of 10 years and can be renewed in 5-year increments.*

*NOAA Fisheries developed these FAQs to provide background information about aquaculture and some of the details in the new rule. For a copy of the rule and additional details on the NMFS aquaculture program in the Gulf, visit the NOAA Fisheries Southeast Region's [Aquaculture web site](#).*

## Background on Aquaculture in the United States

### Why is U.S. aquaculture development important?

Our oceans cover over 70 percent of the Earth's surface, but currently account for only 2 percent of human food. With limited arable land and freshwater, the world is turning to the oceans for additional food supply as global population is projected to increase to 9 billion by the year 2050. According to the United Nations Food and Agriculture Organization (FAO), "with capture fisheries production stagnating, major increases in fish food production are forecast to come from aquaculture" (FAO 2012).<sup>1</sup>

NOAA Fisheries and its partners have made good progress in ending overfishing in the U.S. through sound, science-based management practices, while ensuring seafood production and maintaining economic opportunities. However, these efforts alone will not significantly increase U.S. seafood supply to keep pace with consumer demand and interest in access to local sources of healthy and nutritious protein.

Despite possessing the world's largest Exclusive Economic Zone, the U.S. imports approximately 90 percent of the seafood consumed domestically by value. With a rising seafood trade deficit of more than \$14 billion, this reliance on imports moves potential seafood jobs overseas.

Seafood contains nutrients essential for human health. Nutrition guidelines issued in January 2016 by the Department of Health and Human Services and the U.S. Department of Agriculture (USDA) recommend that Americans should significantly increase their seafood consumption from the current level of one meal a week.

Aquaculture provides benefits that extend beyond increasing domestic seafood supply and supporting human nutrition. Marine aquaculture creates jobs from coastal to agricultural communities all along the value chain (feeds, equipment, processing, food service), helps keep working waterfronts alive, and complements commercial fishing.

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<sup>1</sup> Food and Agriculture Organization of the United Nations. 2012. The State of World Fisheries and Aquaculture.

### What is offshore aquaculture?

NOAA defines “offshore” aquaculture as aquaculture that occurs in federal waters. In the U.S., federal waters begin where state jurisdiction ends and extend out to 200 nautical miles (nm) offshore. In the Gulf, federal waters begin at 3 nm from the coast, except for Texas and the west coast of Florida where they begin at 9 nm.

### What legislation and policies support NOAA’s aquaculture program?

Congress recognized the importance of domestic aquaculture in meeting the future food needs of the U.S. when enacting the National Aquaculture Act of 1980. The Act declares that it is in the “national interest and national policy to encourage aquaculture development in the United States,” and has charged federal agencies, including NOAA through the Department of Commerce, to carry out this charge. The 2011 Department of Commerce and NOAA Aquaculture Policies affirm NOAA’s role in fostering marine aquaculture in the U.S. The NOAA Policy includes an appendix that specifically addresses how offshore aquaculture can be done sustainably.

### What is the current state of the U.S. aquaculture industry?

Currently, the U.S. produces a relatively small amount of its seafood from aquaculture – only \$1.4 billion, weighing approximately 300,000 metric tons (661 million pounds) in 2013. Domestic aquaculture only makes up about 6 percent of total U.S. seafood production by volume and 20 percent by value. Despite its small size, regionally U.S. marine aquaculture is important. In many fishing and coastal communities, aquaculture creates jobs and supports other sectors such as seafood processing, feed and equipment manufacturing, and food service.

### What is the potential for offshore aquaculture development in the U.S.?

A recent study by the FAO concluded that the U.S. is the country with the greatest potential for offshore aquaculture when considering environmental and economic factors (Kapetsky et al. 2013).<sup>2</sup>

### Are there currently any aquaculture operations in federal waters of the U.S.?

Currently, there are no commercial finfish or shellfish aquaculture operations in U.S. federal waters; however, commercial finfish aquaculture companies in Hawaii are using open ocean aquaculture technologies, including submersible cages, in exposed locations in state waters. Three shellfish operations received permits for shellfish aquaculture in federal waters off California and Massachusetts, but have not yet begun operations. In 2015, there were 18 permit holders for live rock aquaculture in federal waters off the coast of Florida.

In addition to the open ocean commercial fish farms in Hawaii state waters, there are several coastal finfish aquaculture operations in less exposed sites in state waters of Maine and Washington. Shellfish aquaculture (oyster, clams, and mussels) is practiced in most coastal states.

### Is U.S. aquaculture environmentally sustainable?

Aquaculture as practiced in the U.S. is a resource efficient and environmentally responsible form of food production that can create jobs in coastal communities and help maintain working waterfronts. Finfish farming in the U.S. has a strong environmental track record. For example, salmon farming practices at over a dozen farm sites in Maine utilize proper siting to avoid sensitive ecological habitats, use local genetic strains, utilize genetic marking to track any escapes (few, if any, in 8 years), use efficient feeds and underwater cameras to monitor feeding, employ vaccinations to avoid the need for antibiotics, fallow between crops to allow the benthos to recover from any nutrient impacts, and experimentally apply

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<sup>2</sup> Kapetsky JM, Aguilar-Majarrez J, Jenness J. 2013. A global assessment of offshore mariculture potential from a spatial perspective. Rome, Food and Agriculture Organization of the United Nations. Technical Paper No. 549.

Integrated Multi-Trophic Aquaculture (in this case growing algae and mussels next to salmon net pens) to help assimilate nutrients from the salmon operation (Rust et al. 2014).<sup>3</sup>

## Information about the Gulf Aquaculture Rule

### Who may apply for a Gulf Aquaculture Permit?

Applicants must be U.S. citizens or permanent resident aliens.

### When and how can someone apply for a Gulf Aquaculture Permit?

NOAA Fisheries will begin accepting permit applications when the rule becomes effective on February 12, 2016. Application forms and guidance documents will be available on the NOAA Fisheries Southeast Region's [Aquaculture web site](#) at that time.

### What steps are being taken to streamline the federal permitting process?

NOAA Fisheries is working with other federal permitting agencies on a coordinated permitting process. Through this effort, we have identified ways to reduce duplication and are developing products to assist prospective applicants (e.g., permit applicant guide). These materials will be made available on the NOAA Fisheries Southeast Region's [Aquaculture web site](#) when the rule becomes effective on February 12, 2016.

We are also working with other federal agencies to develop a Memorandum of Understanding which will outline the various permitting and consultation responsibilities of each agency.

NOAA Fisheries will continue to work with other federal agencies to further streamline and simplify the permitting process.

### What species may be grown?

The rule allows culture of all species native to the Gulf that are managed by the Council, with the exception of shrimp and corals. Examples of allowable species include red drum, cobia, jacks, snappers, and groupers.

### Does the rule allow any non-native or genetically engineered species?

No. The rule specifically prohibits non-native, genetically engineered, and transgenic species from being cultured.

### What types of permits are required for offshore aquaculture in the Gulf?

The rule requires aquaculture operations in federal waters of the Gulf to obtain Gulf Aquaculture Permits (GAPs). GAPs will be issued through the NOAA Fisheries Southeast Regional Office and will authorize permittees to deploy and operate offshore aquaculture facilities and sell cultured species harvested from offshore aquaculture facilities. GAP permit holders will also be authorized to: (1) harvest (or designate hatchery personnel or other entities to harvest) wild broodstock of an allowable aquaculture species native to the Gulf for aquaculture purposes, and (2) possess or transport allowable aquaculture species in, to, or from an offshore aquaculture facility in federal waters of the Gulf.

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<sup>3</sup> Rust MB, Amos KH, Bagwill AL, Dickhoff WW, Juarez LM, Price CS, Morris, Jr. JA and Rubino MC. 2014. Environmental Performance of Marine Net-Pen Aquaculture in the United States. *Fisheries*. 39(11): 508-524

Before NOAA Fisheries can issue a GAP, applicants are required to secure other applicable federal permits necessary to operate offshore aquaculture facilities, such as the Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System permit and the Army Corps of Engineers' (Army Corps) Section 10 permit. These other federal permits are not required as part of NOAA Fisheries' GAP application.

### What environmental safeguards has the rule put in place?

The regulatory system established by the rule is a comprehensive and state of the art management system based on decades of experience with marine aquaculture and lessons learned. As part of the rulemaking process for the rule, NOAA Fisheries prepared a Programmatic Environmental Impact Statement evaluating the potential environmental impacts of a range of alternatives including potential impacts to water quality, wild stocks, and fishing communities. In addition to meeting NOAA Fisheries requirements to obtain a GAP, potential applications will need permits from the Environmental Protection Agency and the U.S. Army Corps of Engineers and meet the requirements of those permits.

The rule and associated requirements with EPA and Army Corps permits, as well as the U.S. Food and Drug Administration (FDA) and EPA regulations on use of drugs and chemicals, contain many safeguards intended to prevent or mitigate, to the extent practicable, environmental impacts. These safeguards are designed to prevent potential impacts, which could include increased nutrient loading, habitat degradation, fish escapement, competition with wild stocks, entanglement of endangered or threatened species and migratory birds, spread of pathogens, user conflicts, economic and social impacts on domestic fisheries, and navigational hazards.

### How will the use of drugs, pesticides, and biologics be regulated?

The use of drugs, pesticides, and biologics falls under the purview of the FDA, EPA, and USDA. NOAA's rule requires that permittees comply with all applicable federal regulations for the use of drugs, pesticides, and biologics.

### Will the public be able to comment on Gulf Aquaculture Permit applications?

Yes. Once NOAA Fisheries' Southeast Regional Administrator determines that an application warrants further consideration, notification of receipt of the application will be published in the *Federal Register* with a brief description of the proposal. The public will then be given up to 45 days to comment.

Each GAP application would also be considered at a Council meeting, with an opportunity for the applicant to appear in support of the application. After the public comment period ends, the Southeast Regional Administrator will notify the applicant in writing of the decision to grant or deny the GAP, and, if denied, the reasons for the denial. The Southeast Regional Administrator will also publish a notice in the *Federal Register* upon approving or denying a permit.

### Where can Gulf offshore aquaculture operations be located?

The rule specifically prohibits marine aquaculture operations from being sited in habitat areas of particular concern, marine reserves, marine protected areas, special management zones, permitted artificial reef areas, and coral reef areas under the jurisdiction of the Council.

NOAA Fisheries will evaluate each proposed site on a case-by-case basis, based on information provided in the applicant's baseline environmental survey such as depth, current speeds, substrate, etc. NOAA Fisheries may deny use of a proposed site if the site poses significant risks to Essential Fish Habitat, or to endangered or threatened species; would result in user conflicts with commercial or recreational fishermen or with other marine resource users; would pose risk to the cultured species due to low dissolved oxygen or harmful algal blooms; is not of sufficient depth for the approved aquaculture system; is characterized by substrate and currents that would inhibit the dispersal of wastes and effluents; or is otherwise inconsistent with the aquaculture FMP's objectives or applicable Federal laws.

NOAA scientists and partners have developed models, tools, and protocols to assist in the evaluation of permit applications and in the monitoring of impacts of offshore aquaculture operations.

### How does the rule address the potential spread of disease from the farm to wild stocks?

The rule includes requirements to reduce the risk of pathogens and parasites spreading from cultured organisms to wild stocks. Prior to stocking cultured animals in an aquaculture system (e.g., cages and net pens), permit holders must obtain a health certificate signed by a certified aquatic animal health expert stating the cultured animals are free of reportable pathogens. Once cultured organisms are stocked in an aquaculture system for grow-out, permit holders must report all findings or suspected findings of pathogens to NOAA Fisheries within 24 hours of diagnosis.

NOAA Fisheries, in coordination with the USDA, may order the removal of all cultured organisms upon a determination by a certified aquatic animal health expert that a suspected pathogen exists and poses a threat to the health of wild aquatic organisms.

### How will environmental impacts be evaluated and monitored?

The rule includes monitoring, recordkeeping, and reporting requirements to assist NOAA Fisheries in administering and reviewing permits and evaluating environmental impacts.

Permit applicants are required to conduct a baseline environmental survey of their proposed site as part of the application process. If NOAA Fisheries approves an application, the permittee is required to conduct routine monitoring and inspections of the site based on NOAA Fisheries protocols and procedures developed in coordination with other federal agencies. Permittees also must comply with monitoring and reporting requirements specified in applicable permits from other federal agencies (e.g., EPA).

### What law enforcement provisions are included in the rule?

The rule includes numerous recordkeeping, reporting, and operational requirements to assist law enforcement personnel in identifying violations of wild fisheries and aquaculture rules, such as:

- Prohibiting possession of wild fish or invertebrates at or within the boundaries of an aquaculture facility's restricted access zone, with the exception of authorized broodstock
- Prohibiting possession of wild fish or invertebrates aboard an aquaculture operation's transport and service vessels, vehicles, and aircraft, except when authorized by NOAA Fisheries to harvest broodstock
- Providing current valid copies of state and federal permits pertaining to operation of the aquaculture facility, as well as hatchery permits for fingerlings
- Notifying NOAA Fisheries at least 30 days prior to changes in hatcheries
- Notifying NOAA Fisheries at least 72 hours prior to harvest and landing
- Providing applicable bill of lading for any cultured organisms transported for sale
- Gear stowage requirements for vessels transporting cultured organisms to or from an offshore aquaculture facility
- Submitting a request to NOAA Fisheries for broodstock collection at least 30 days prior to the proposed date of broodstock harvest
- Providing NOAA Fisheries with information on hatchery personnel, vessels, and aircraft involved in aquaculture operations
- Requiring cultured species to first be landed at a U.S. port
- Requiring cultured fish to be maintained with heads and fins intact until landing
- Restricting the hours when species cultured at an aquaculture facility in federal waters of the Gulf can be landed ashore to between 6 a.m. and 6 p.m., local time

### What happens if there is a hurricane or other type of natural or man-made catastrophe?

The rule requires that each aquaculture facility submit an emergency disaster plan with their application package. The emergency disaster plan will include details pertaining to preparation of aquaculture systems, equipment, and cultured organisms for a disaster such as a hurricane, tsunami, harmful algal bloom, or chemical or oil spill. NOAA Fisheries may also choose to modify time schedules and methods for recordkeeping and reporting in the event of a natural catastrophe.

### Where can I find additional information?

Information on the Gulf aquaculture program can be found at the NOAA Fisheries Southeast Regional [Aquaculture website](#), or by contacting the Regional Aquaculture Coordinator at [nmfs.ser.aquaculture@noaa.gov](mailto:nmfs.ser.aquaculture@noaa.gov).