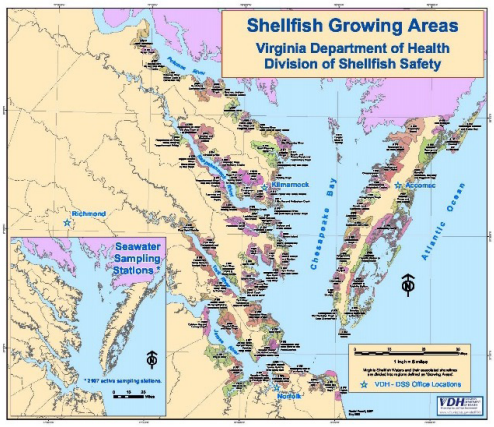
HUMAN HEALTH

SAFE SHELLFISH HARVEST: GROWING AREA CLASSIFICATION

WHERE ARE SAFE SHELLFISH HARVEST AREAS?

The Virginia Department of Health, Division of Shellfish Safety (DSS) actively monitors water quality criteria in Virginia shellfish harvesting waters. Waters are grouped into what the Division calls 'growing areas', defined as tidal salt waters capable of growing shellfish. There are just over 100 growing areas stretching from Dahlgren to Virginia Beach to Assateague. DSS classifies growing areas as either approved (open) for shellfish harvest or condemned (closed) for harvest based on extensive water sampling and monitoring for indications of fecal bacteria and pollution. All harvesters, commercial andf non-commercial (for personal consumption), are responsible for knowing the status of their growing area and to abide by harvest restrictions.



WHY ARE GROWING AREA CLASSIFICATIONS IMPORTANT?

Bivalve shellfish breathe and feed on microscopic food particles (algae) by pumping water through their gills. If hazards are present in the water, such as bacteria, viruses, heavy metals, or toxic substances, they are also filtered. While these hazards don't harm the shellfish, they can accumulate in the tissues faster than they are excreted and cause illness when shellfish are consumed raw or undercooked. Shellfish growing waters are classified based on extensive water sampling and harvest for consumption is only approved in the cleanest of waters in order to protect public health.

POLLUTION THREATS AND HOW THEY ARE MANAGED

Pollution sources, such as septic systems, animal feces, and storm water runoff can introduce human pathogens such as, fecal coliform bacteria and viruses (Norovirus, Hepatitis A, etc.) into the water. These hazards can accumulate in the shellfish tissues faster than they are excreted and cause illness when shellfish are consumed raw or undercooked. Risk is managed by the classification of growing areas by VDH Shellfish Safety. Areas of known higher risk, such as marinas and waste water treatment outflows are managed with precautionary harvest area closures, which can be seasonal or full time. Other growing areas classifications are reflective of the water monitoring, so it's important to understand the classification of your farm location and surrounding areas and to keep up to date as it changes. There are additional efforts by VDH Shellfish Safety to identify land-based sources of pollution which impact water quality.

CONTACTS:

VDH SHELLFISH SAFETY:
804-864-7480

Adam Wood
Growing Area Manager
Adam.Wood@vdh.virginia.gov

Daniel Powell
GIS Analyst & Classification Asst.
daniel.powell@vdh.virginia.gov

VIMS MARINE ADVISORY PROGRAM:

Karen Hudson
Aquaculture Extension Specialist
khudson@vims.edu
804-684-7742

• Link to VDH DSS: **https://www.vdh.virginia.gov/environmental-health/classification-of-shellfish-growing-areas/**

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NATURALLY OCCURRING THREATS AND HOW THEY ARE MANAGED

There are also naturally occurring threats **NOT associated with pollution**. Vibrio bacteria are naturally occurring and can be pathogenic, or cause human illness, through either eating undercooked seafood or an exposure of a wound to seawater. Consumption risk is managed by **harvest and handling controls** that focus on time and temperature – limiting harvest and handling times in warmer months and keeping harvested shellfish cool to limit the growth of bacteria. VDH DSS implements a **Vibrio control plan** for commercial harvest and harvesters must adhere to strict warm water harvest regulations (refer to the Virginia Aquaculture Tool, VMRC **Regulations**) Non-commercial harvesters (including oyster gardeners) can limit personal risk by following best management practices (refer to Best Practices for consuming oysters from the garden).

Another naturally occurring threat includes some species of algae known as Harmful Algae Blooms, or HABs. While most of the algal species in the water are harmless, these particular algal species have the ability to produce biotoxins under certain conditions. HABs have the ability to be harmful to harvesters through inhalation and skin contact as well as to consumers through consumption of fish or shellfish that have accumulated the toxin. It's important to note that Virginia has NOT had any human illness related to HABs from consumption to date, unlike other areas of the country. VDH Shellfish Safety has a **Biotoxin Control Plan** in place that includes extensive monitoring of shellfish growing areas.

- **VDH Factsheet for Watermen - Water Illness and Injury Preventaion**
- **VDH Harmful Algal Bloom Website**
- **VIMS Harmful Algal Bloom Website**

GROWING AREA CLASSIFICATIONS

Areas are classified as follows:

- Approved: open for harvest
- Conditionally approved: open for harvest unless a 'condition' has been met. If that condition is met, the area will be converted to closed (restricted) for a set duration of time.
  - Some areas normally open to harvest are temporarily placed in closed status due to a predictable pollution trigger which could be seasonal, in the case of marinas.
  - Rainfall-based conditionally approved waters are in the CLOSED status for 10 days if rainfall exceeds a rainfall threshold.
- Restricted: closed to the harvest of shellfish. However, commercial harvest may be allowed by special VMRC relay permit. Relaying is a process where shellfish from areas with only moderate levels of pollution can be moved to an approved area where they will purge the contaminants.
  - **Link to VMRC Regulation: Pertaining to the Relaying of Shellfish**
- Prohibited: areas with more significant pollution, such as heavy metals or toxins, that the relay process is not sufficient to purge. There is NO harvest of market shellfish, period.

All shellfish growing areas are evaluated annually for possible condemnation changes.
*** New leases cannot be obtained in Restricted or Prohibited waters (waters labeled as Condemned).*