NC Shellfish Lease and Aquaculture Program

NC DEPARTMENT OF ENVIRONMENTAL QUALITY

NC Division of Marine Fisheries

June 2, 2021
Shellfish Lease and Aquaculture Program
Overview

• History
• Background
• Authority and Standards
• Application Process
• Types of Shellfish Leases
• Current Statistics
• Challenges
• Legislative Update
• Current Efforts
Shellfish Lease and Aquaculture Program

History

• North Carolina has provided for the private use of public trust waters for shellfish cultivation for over 150 years

• 1989 legislation expanded that role to include shellfish water column leases above existing shellfish bottom leases
Background

Shellfish Lease and Aquaculture Program

Dept. Environmental Quality

Div. Marine Fisheries

- Shellfish Lease and Aquaculture
- Shellfish Sanitation
- License and Statistics
- Fisheries Management
  - Marine Patrol

Div. Coastal Management

- Structure Permitting
Shellfish Lease and Aquaculture Program

Background

Section Chief  
Jacob Boyd

Permits Coordinator  
Zach Harrison

Habitat Supervisor  
Anne Deaton

Program Coordinator  
Owen Mulvey-McFerron

Program Assistant  
Marla Chuffo

Biologist  
Teri Dane

Technicians  
Anthony Frost, Dustin Walters, Scottie Tripp and Andrew Wells
Public Trust Doctrine

• Generally, all “navigable waters” and the lands beneath them are subject to the Public Trust Doctrine

• Public trust rights are primarily a common law doctrine and are also in North Carolina General Statute and Constitution

• The state can create certain exceptions for uses of public trust waters (i.e. shellfish leases)

• Viewshed is not a public trust right acknowledged under North Carolina common law
NC General Assembly
  • Shellfish Bottom and Water Column Lease Minimum Standards (N.C.G.S. 113-202, 202.1)

NC Marine Fisheries Commission
  Shellfish Leases and Franchises (MFC Rules 15A NCAC 03O .0200)

US Army Corps of Engineers
  Nationwide #48 Regional Permit
Shellfish Lease Minimum Standards

• Suitable for the cultivation and harvesting of shellfish in commercial quantities
• Must not contain a natural shellfish bed
• Will be compatible with other public uses including navigation, fishing and recreation
• Will not impinge upon the rights of riparian owners
• Any additional standards, established by the MFC in duly adopted rules
• Must not include an area closed to shellfish harvest
Shellfish Leases and Franchises

- Standards and definitions
- Application processing
- Production requirements
- Marking
- Riparian property consent if within 100 feet of developed shoreline
- Renewal
- Reporting
- Cancellation/termination
- Transfer
- Protection of private shellfish interest
Nationwide Permit #48 Regional Conditions

- Prior Notice of Construction (PCN)
- 1/3 of waterbody
- SAV - Submerged aquatic vegetation
- 250 feet minimum from USCG navigational aid
- Not in USACE setbacks or marked/unmarked channels
- Consistency/applicable CAMA permits
- 20-foot buffer from marsh for water column/cage use
NWP #48 authorizes

- Installation of buoys, floats, racks, trays, nets, lines, tubes, containers, and other structures into US navigable waters

- Discharges of dredged or fill material into US waters necessary for shellfish seeding, rearing, cultivating, transplanting, and harvesting
Shellfish Lease and Aquaculture Program
State Aquaculture Permits

- Aquaculture Operation Permit
- Aquaculture Collection Permit
- Aquaculture Seed Transplant Permit
- Introduction and Transfer Permit
- Mechanical Harvest Permit
- Polluted Area Relay Permit
- Seed Oyster Management Area Permit
- Under Dock Oyster Culture Permit
Shellfish Lease and Aquaculture Program

Shellfish Lease vs Franchise

Shellfish Lease

- Over public trust waters
- Cannot be on productive bottom
- Rent charged

Franchise

- Over recognized submerged lands claim
- Can be on productive bottom
- No rent for bottom lease
Shellfish Lease and Aquaculture Program

Shellfish Lease Types

2 Types of Shellfish Leases

Bottom

Extensive (spat on shell, cultch)

Intensive (bottom cages)

Water Column

Intensive (floating gear)
Shellfish Lease and Aquaculture Program
Shellfish Bottom Lease

- **Extensive (spat on shell, cultch)**
  - Low yield/acre, lower cost
  - Minimal equipment
  - Moderate labor
  - Volume market/bushel
  - Highly navigable

- **Intensive (bottom cages)**
  - Gear ≤18 in. off bottom
  - Higher yield/acre, higher cost
  - Significant equipment needs
  - Intensive labor
  - Volume market/bushel
  - Purchase oyster seed for grow out
  - Potential navigation limitation
**Shellfish Lease and Aquaculture Program**

**Shellfish Water Column Lease**

- **Intensive (floating gear)**
  - Amends a shellfish bottom lease
  - Gear >18 in. off bottom or floating gear
  - Mostly oysters
  - High yield/acre, higher cost
  - Significant equipment needs
  - Intensive labor
  - Half-shell market/count
  - Limits navigation
  - Purchase oyster seed for grow out
# Shellfish Lease and Aquaculture Program

## Current Statistics

<table>
<thead>
<tr>
<th>Shellfish Lease Type ¹</th>
<th>Total</th>
<th>Total Acreage ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franchise</td>
<td>48</td>
<td>513</td>
</tr>
<tr>
<td>Bottom</td>
<td>236</td>
<td>1,247</td>
</tr>
<tr>
<td>Water Column</td>
<td>101</td>
<td>303</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>385</strong></td>
<td><strong>1,760</strong></td>
</tr>
</tbody>
</table>

¹ Current as of March 18, 2021

² Total acreage only includes shellfish bottom and franchise because water column leases are over bottom lease
Shellfish Lease and Aquaculture Program
Current Statistics

<table>
<thead>
<tr>
<th>County</th>
<th>Total Shellfish Leases</th>
<th>Total Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyde</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaufort</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pamlico</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carteret</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Onslow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N. Hanover</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

North         South
Shellfish Lease and Aquaculture Program
Current Stats

# Shellfish Leases

0
10
20
30
40
50
60
70
80
90
100

North
South

Dare
Hyde
Beaufort
Pamlico
Carteret
Onslow
Pender
N. Hanover

Bottom
Water Column
Franchise
Shellfish Lease and Aquaculture Program

Current Statistics

- Shellfish Bottom Applications
- Shellfish Water Column Applications

Applications Received

Year


0 10 20 30 40 50 60 70
Shellfish Lease and Aquaculture Program
Current Statistics

Landings (bushels)

- Shellfish Lease/Franchise
- Wild Harvest

Year

0 20,000 40,000 60,000 80,000 100,000 120,000 140,000 160,000 180,000 200,000 220,000

20,000 40,000 60,000 80,000 100,000 120,000 140,000 160,000 180,000 200,000 220,000
Shellfish Lease and Aquaculture Program

Shellfish Lease Application Process

Joint Application
- DMF spatial data layer review
- Data entry and fee processed
- Management plan

Temporary Signs
- Mailed to applicant
- Notifies DMF when marked

Schedule Site Inspection
- Field sampling
- Verify marking/size

Compile Field Data
- Mapping
- Siting issues
- Issue resolution

Internal Review
- DMF Sections
- DCM
- DWR
- Address concerns

Summarize Internal Comments
- Director approves for public hearing
- Director requests modification or additional information

Public Comment
- 30 day public comment period
- 2-legal notices
- Formal public hearing

Final Consideration
- Summarize comments
- Address USACE/NMFS concerns
- Submit to Director
- Address any other concerns

Decision
- Lease approved
- Lease approved w/ conditions
- Lease denied
- Final marking verified

USACE NW #48
Shellfish Lease and Aquaculture Program

Siting Criteria and Resources

Criteria

• Wave energy, depth, current
• Boating, fishing, recreation conflicts
• Adjacent land use
• Water quality (salinity, dissolved oxygen, etc.)
• Restrictions, closures, moratoriums

Resources

• Consultation with DMF, DCM, NC Sea Grant
• NC Shellfish Growers Association, other growers
• The North Carolina Shellfish Siting Tool -UNCW
  http://uncw.edu/benthic/sitingtool/
• NCDMF Shellfish Aquaculture Tool
Shellfish Aquaculture Tool

https://arcg.is/0v8nDu
Shellfish Lease and Aquaculture Program
Formal Site Investigation

• Random grid method
• Shellfish presence
• Submerged aquatic vegetation (SAV)
• Measure buffers
• Verify markers, acreage
• Other factors
  • Nearby habitat, navigation, docks, unmarked channels, fishing activity, adequate water depth, other potential problems
Shellfish Lease and Aquaculture Program
Formal Site Investigation

SAV Sampling

[Diagram showing the proposed lease area with marked locations for SAV sampling.]

Acreage: 4.78

Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet
Shellfish Lease and Aquaculture Program
Formal Site Investigation

Patent Tongs
Shellfish Lease and Aquaculture Program
Marking Requirements

- Corners marked with stakes:
  - 3 – 4 in. diameter
  - Extending ≥ 4 ft. high water
  - Shellfish lease # and leaseholder name
  - Shellfish water column leases (2 anchored yellow buoys)
- Boundary markers every 50 – 150 ft.
Shellfish Lease and Aquaculture Program

Contracts

<table>
<thead>
<tr>
<th>Fee</th>
<th>Bottom</th>
<th>Water Column</th>
</tr>
</thead>
<tbody>
<tr>
<td>1^{st} yr. - rent prorated June 30</td>
<td>$1 per acre</td>
<td>$100 per acre</td>
</tr>
<tr>
<td>Annual rent</td>
<td>$10 per acre</td>
<td>$100 per acre</td>
</tr>
<tr>
<td>Renewal fee (10 yr. contract)</td>
<td>$100</td>
<td>$100</td>
</tr>
</tbody>
</table>
# Shellfish Lease and Aquaculture Program

## Production Requirements

**Type** | **Production** | **Prior (per acre)** | **After (per acre)**
---|---|---|---
**Bottom** | **Produce:** | 10 bu. | 20 bu.
| | **Plant:** | 25 bu. seed **OR** 50 bu. cultch | **OR** 15,000 seed: *Extensive* 23,000 seed: *Intensive*
| **Water Column** | **Produce:** | 40 bu. | 50 bu.
| | **Plant:** | 100 bu. seed **OR** cultch | **OR** 23,000 seed

*July 1, 2019*
Shellfish Lease and Aquaculture Program
Benefits

• Increase commercial production of shellfish
• Supports working waterfront communities
• Ecosystem services
  • Habitat
  • Water quality
• Spawning potential to enhance natural population (diploid)
Shellfish Lease and Aquaculture Program

Challenges

- Negative public perception
- Substantial increase in user conflicts
- Increase in legal challenges
- Public health issues

- Limited staff and funding
- Experience level of applicants varies
- Seed/nursery availability
- Storm events/climate change
Shellfish Lease and Aquaculture Program
Public Perceptions
Shellfish Lease and Aquaculture Program

User Conflicts

• Shellfish leases can often conflict with public trust uses making balancing issues and determining compatibility challenging.

• Increase in user conflicts and legal challenges with expansion of industry and use of the water column.

• Many user conflict cases brought by riparian owners - “viewshed”.

• Viewshed is not a public trust right traditionally acknowledged under North Carolina common law.
General Assembly’s legislative findings and declaration of policy:

- Shellfish cultivation provides economic and ecological benefits to North Carolina
- Policy is to encourage development of shellfish leases in ways that are *compatible* with other public uses

A multifaceted approach is required to address user conflict issues
Shellfish Lease and Aquaculture Program
Challenges Summary

- Industry Expansion
- More User Conflicts
- Increased Litigation

Slow and Challenging Process
Shellfish Lease and Aquaculture Program
Challenges Summary

Balancing Act!!

Ecological benefits
Compatibility
User conflicts
Negative perception
Litigation
Encourage development

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Session Law 2019-37 (Shellfish Aquaculture Bill)

• An act to provide further support to the shellfish aquaculture industry in North Carolina

• Includes requirements for adopting rules
Shellfish Lease and Aquaculture Program
Legislative Update

- User Conflict Study
- Pamlico Sound Pilot Project
- Increase Production Requirements
- Transplanting of Seed Prohibited Waters

Shellfish Aquaculture Bill

- Shellfish Aquaculture Enterprise Areas
- Shellfish Cultivation Lease Review Committee
- Terminated Leases and Gear Cleanup
Shellfish Cultivation Lease Review Committee (SCLRC)

**Purpose:**

- To determine appropriateness of a contested case hearing for a person other than a shellfish lease applicant who is aggrieved by a shellfish lease decision

- Three members appointed by the MFC Chair
  - One MFC member who serves as the hearing officer
  - Two public members
    - One with expertise or other relevant experience in shellfish aquaculture
    - One with expertise or other relevant experience with respect to coastal property or property assessment
## Shellfish Lease and Aquaculture Program
### Legislative Update

<table>
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<th>Type</th>
<th>Production</th>
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|                    | Plant:     | 25 bu. seed OR 50 bu. culch | 15,000 seed: *Extensive*  
|                    |            |                  | 23,000 seed: *Intensive* |
| **Water Column**   | Produce:   | 40 bu.           | 50 bu.           |
|                    | Plant:     | 100 bu. seed OR cultch | 23,000 seed |

- *Extensive*: traditional cultch on bottom
- *Intensive*: use of any gear type bottom or floating
Shellfish Lease and Aquaculture Program

Legislative Update

New Hanover County Area Moratorium

Date: 7/8/2019

Bogue Sound Moratorium

Date: 6/26/2019
User Conflict Study rule changes to reduce user conflicts

1. Add shellfish lease cumulative impact language

2. Add 250-foot buffer between shellfish leases

3. Increase 100-foot buffer from developed shorelines to 250 feet

4. Enhance training requirements to include user conflict information

5. Modify marking requirements for visibility/navigation concerns:
   a. Max of eight corner markers from 3-inch to 12-inch diameter
   b. Yellow light reflective tape
Shellfish Lease and Aquaculture Program
Rules Update

New Proposed Shellfish Lease

Impact

Cumulative Impact

Impact

Future Actions

Impact

Existing Shellfish Leases

Impact

Existing Other Uses

Impact

Navigation

Impact
Shellfish Lease and Aquaculture Program
Current Efforts

- User Conflict Study – recommendations
- Shellfish Aquaculture Enterprise Areas (SEAs)
  - SEAs Moratorium Areas Study
- Shellfish Aquaculture Storm Management Plan
- Further recommendations for rule and/or statute changes
- Cumulative impact language implementation plan
Shellfish Lease and Aquaculture Program
Current Efforts

- Assess Pamlico Sound Shellfish Aquaculture Pilot Project
- Interstate Aquaculture Workgroup
- Inventory state aquaculture information
- Shellfish Aquaculture Training Program
- Collaboration and stakeholder outreach
- Continue important partnerships (NC Sea Grant, CCC, NOAA, NCCF)
Shellfish Lease and Aquaculture Program:
http://portal.ncdenr.org/web/mf/habitat/enhancement/shellfish-leases

Shellfish Aquaculture Tool:
https://arcg.is/0LD5zS

Frequently Asked Questions (FAQs):
http://portal.ncdenr.org/web/mf/2020-shellfish-lease-faq

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