



# *North Carolina Shellfish Lease Program*

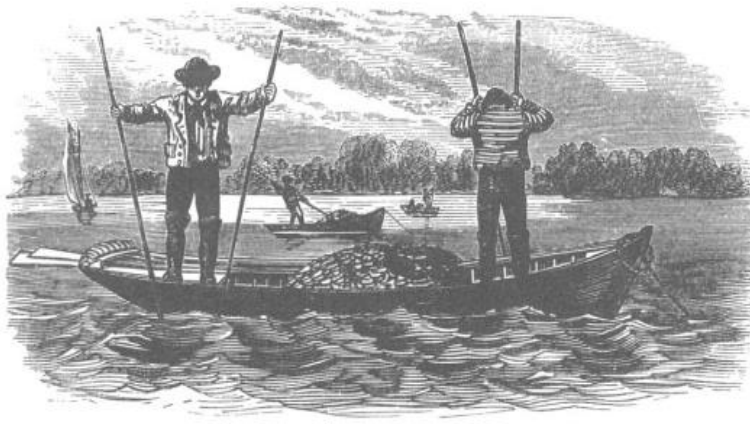
*NC DEPARTMENT OF ENVIRONMENTAL QUALITY*

NC Division of Marine Fisheries



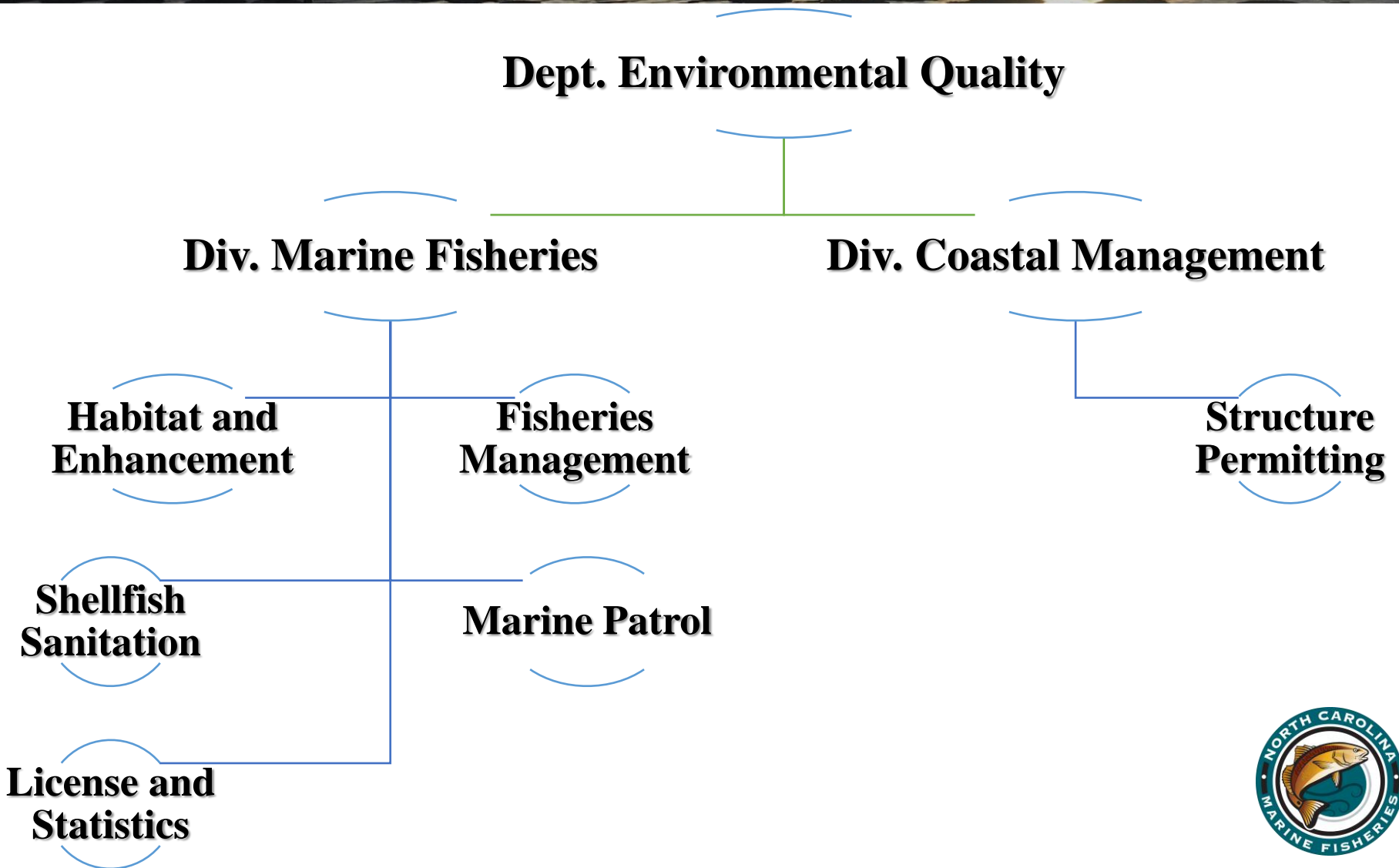
# Historical Foundations

- 1858- North Carolina permits the private use of public trust waters for shellfish cultivation
- 1989- Legislation passes to allow for the option to extend leasing rights to the water column above existing shellfish bottom leases
- 2019- SB 648 ('Shellfish Aquaculture Bill') passes, commissioning a user conflict study and directing rule/policy changes to address these conflicts
  - Enacted two shellfish leasing moratoriums (New Hanover County and Bogue Sound)
  - Also allowed for the creation of SEA's → study of SEA's in moratorium areas





# Department Organization



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## Dept. Environmental Quality

### Div. Marine Fisheries

### Div. Coastal Management

Habitat and Enhancement

Fisheries Management

Structure Permitting

Shellfish Sanitation

Marine Patrol

License and Statistics



# *Habitat and Enhancement Staff*

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*George Stilson*



# *Public Trust Doctrine*

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- Common law doctrine, also in North Carolina General Statute and Constitution
  - “Right to navigate, swim, hunt, fish, and enjoy all recreational activities in the watercourses of the State [and]... the right to freely use and enjoy the State’s ocean and estuarine beaches and public access to the beaches” N.C. GEN. STAT. § 1-45.1 (1985)





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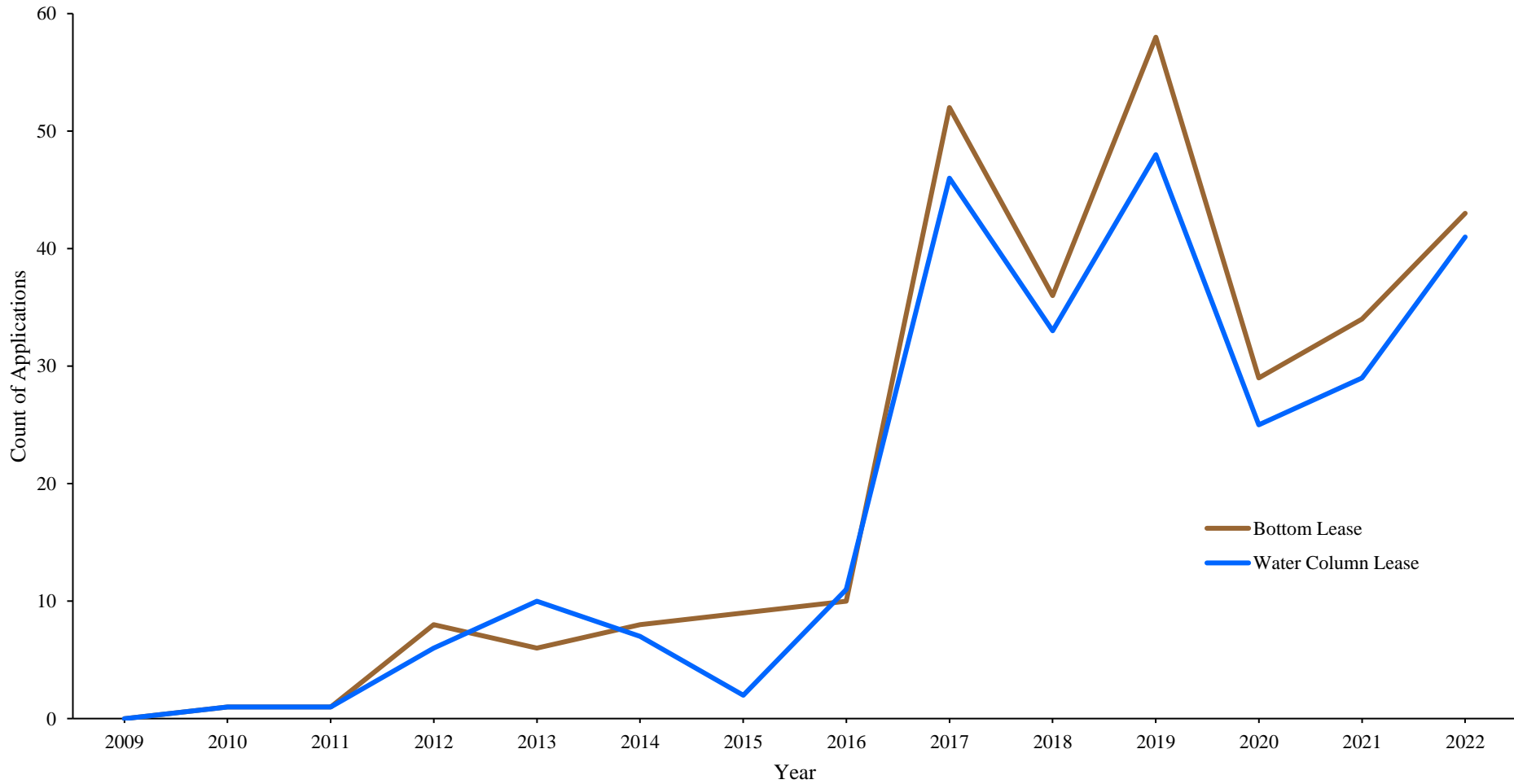
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- Viewshed is **not** a public trust right acknowledged under North Carolina common law



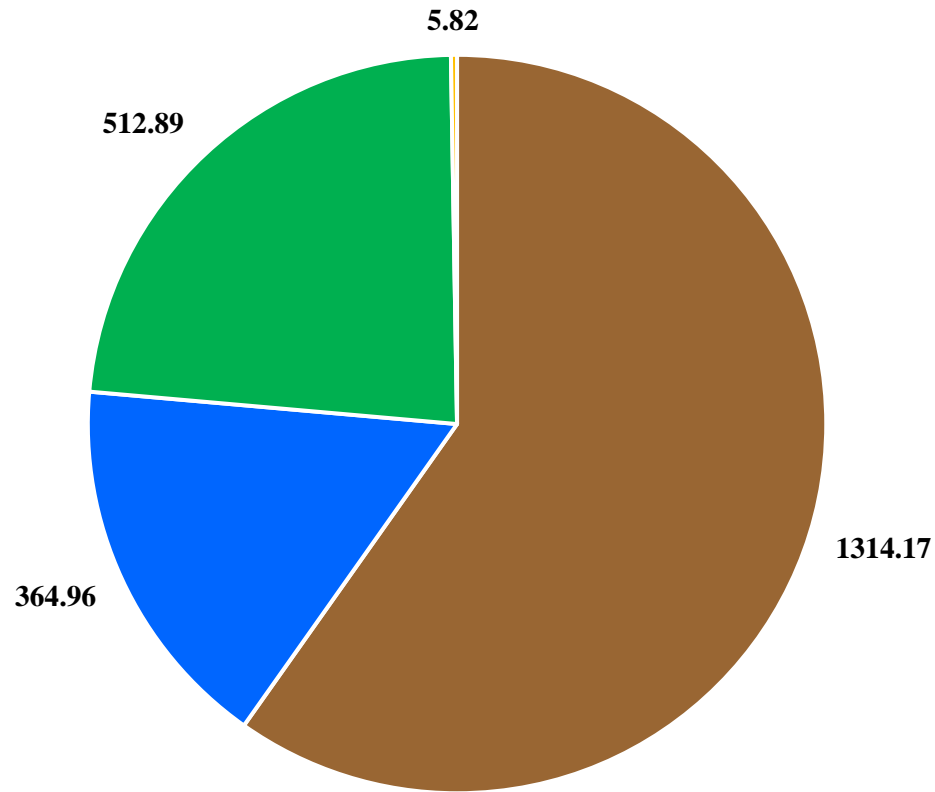
# Industry Growth and Evolution

## Number of Annual Shellfish Lease Applications

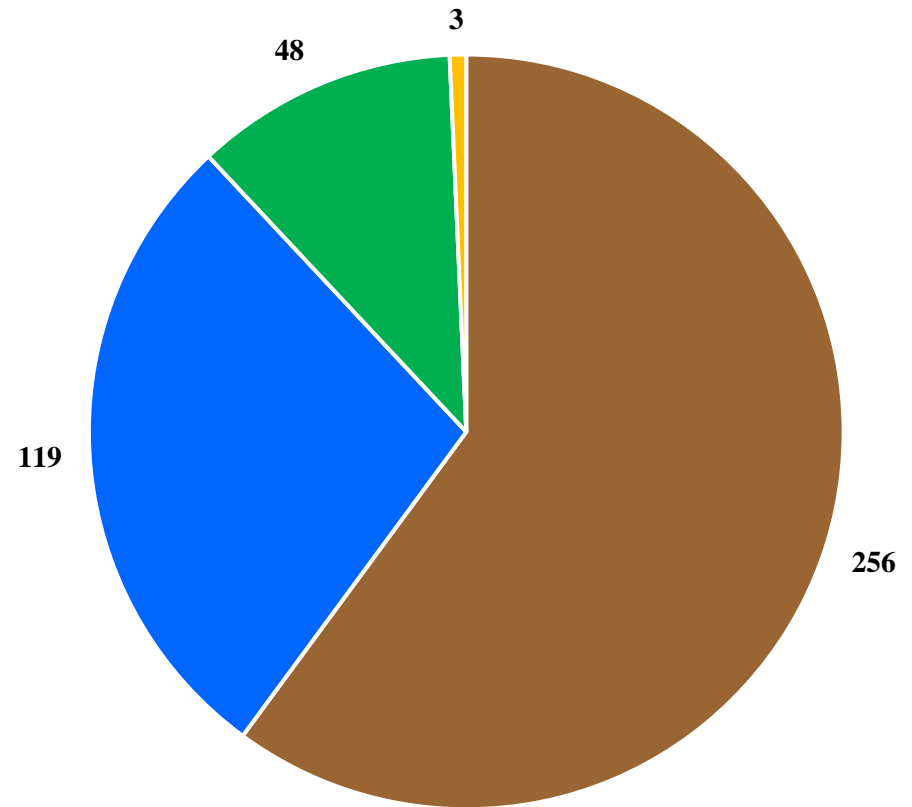


# Industry Growth and Evolution

### Leased Acres by Type



### Lease Count by Type



■ Bottom ■ Water Column ■ Franchise ■ Research





# Governing Authorities and Regulation



## 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 Permit #48 Regional Conditions



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## STATUTES



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NCSGA



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- Any currently held leases over 5 acres must meet production



NCSGA



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- Must meet any standards set by the MFC rulemaking process





# Marine Fisheries Commission Rules

- Standards and definitions
- Application processing
- Production requirements
- Lease marking
- Riparian property permission guidelines
- Renewal schedule and process
- Reporting requirements
- Cancellation/termination
- Lease transfer process
- Protection of private shellfish interest



# *Marine Fisheries Commission Rule Changes*

- Improve shellfish lease marking requirements
- Setback increased to 250' on developed shorelines
- Initiated 250' buffer between new lease applications and existing leases
- 'Cumulative Impact' language for final application decisions
- Increased training requirements for new applicants



# *Divisional Policy Changes*

- Riparian landowner notification policy
  - Encourage broader feedback through public comment process
- Storm Prep and Gear Management Plan required by new applicants
  - Address marine debris concerns, encourage gear management BMPs
- Shellfish Cultivation Lease Review Committee
  - Vetting process for lease decision appeals by the public



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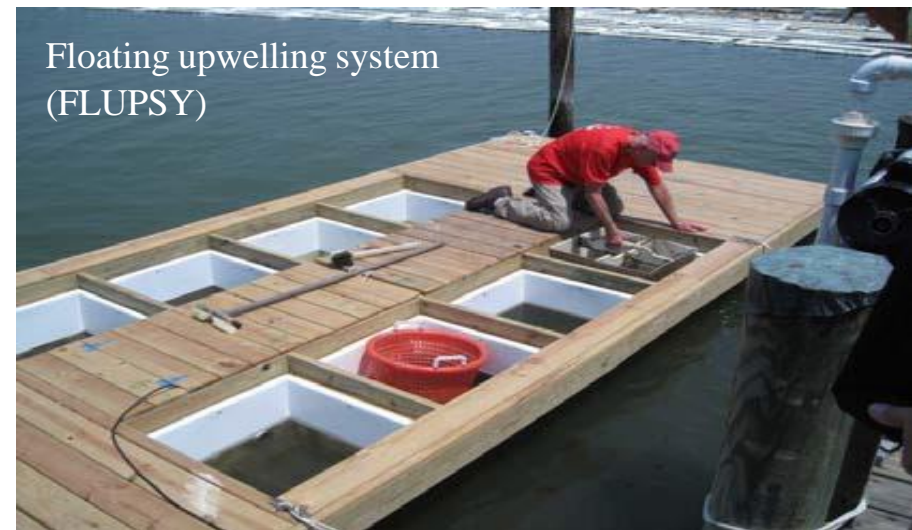




# US ACOE NWP #48

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

Floating upwelling system  
(FLUPSY)



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- 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

Floating upwelling system  
(FLUPSY)



# NWP #48 Conditions

- Submit Prior Notice of Construction (PCN)
- Less than 1/3 of waterbody coverage
- Less than 15% SAV coverage
- 250 feet minimum from USCG navigational aid
- 20-foot buffer from marsh for water column/cage use
- May not lease marked/unmarked channels
- Applicant must hold applicable CAMA permits





## **Shellfish Lease**

- Over public trust waters
- Cannot be on productive bottom
- Rent charged
- Must meet annual production requirements





# *Leases and Franchises*

## **Shellfish Lease**

- Over public trust waters
- Cannot be on productive bottom
- Rent charged
- Must meet annual production requirements

## **Franchise**

- Over recognized submerged lands claim
- Can be on productive bottom
- No rent charged
- Must meet annual production requirements



# Types of Shellfish Leases



Bottom

Water Column

Extensive  
(spat on shell, cultch)

Intensive  
(bottom cages)

Intensive  
(floating gear)





# Shellfish Bottom Leases

## • Extensive (spat on shell, cultch)

- Low yield/acre, lower cost
- Minimal equipment
- Moderate labor
- Volume market/bushel
- Highly navigable

## • Intensive (bottom cages)

- Gear  $\leq$ 18 in. off bottom
- Higher yield/acre, higher cost
- Significant equipment needs
- Most labor
- Volume market/bushel
- Purchase oyster seed for grow out
- Potential navigation limitation



**Spat on shell**



**Bottom Cages**

# Shellfish Water Column Leases

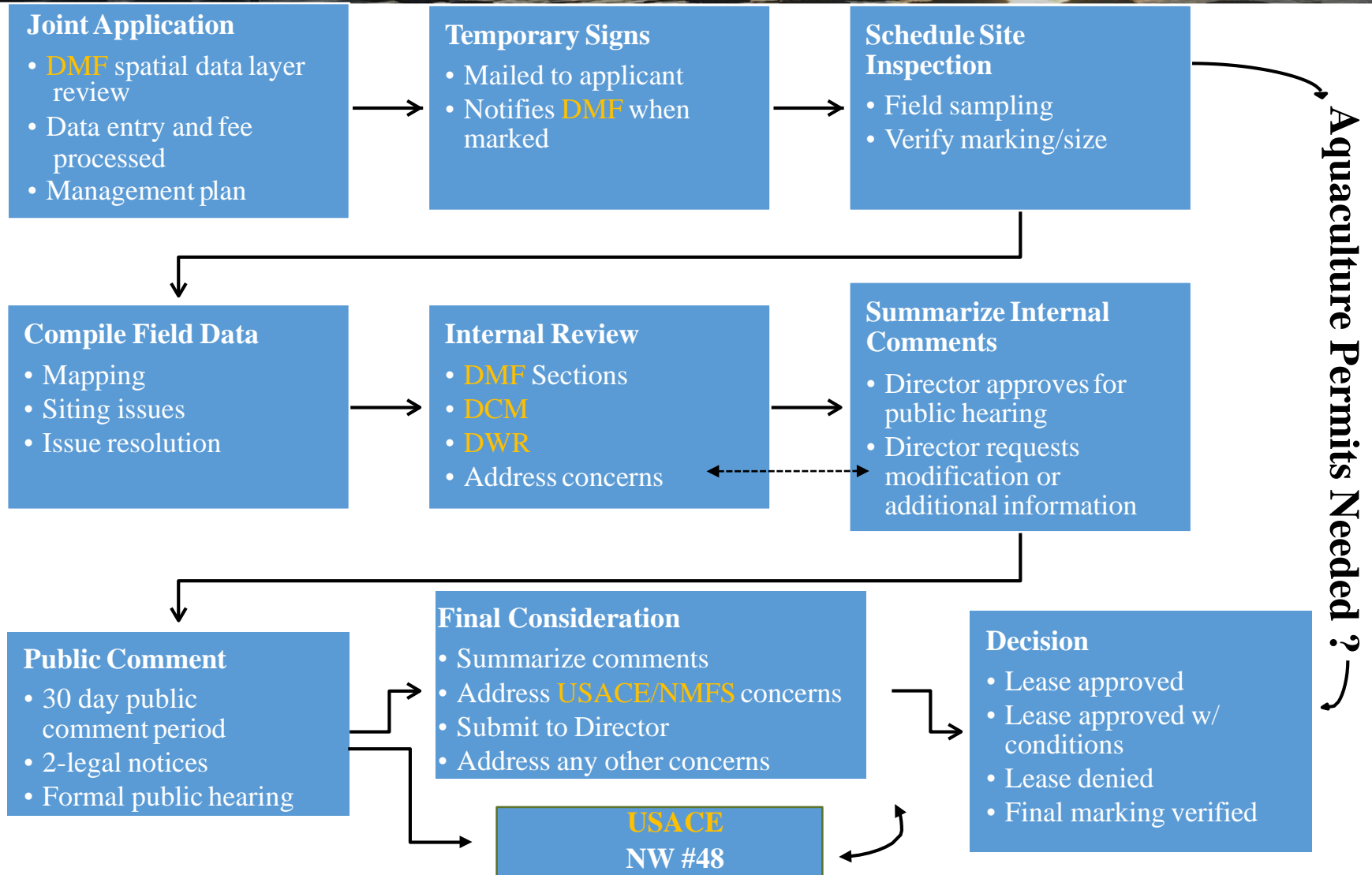
## • Intensive (floating gear)

- Amends a shellfish bottom lease
- Gear >18 in. off bottom or floating gear
- Half-shell market/count
- High yield/acre, higher cost
- Significant equipment needs
- Intensive labor
- Purchase oyster seed for grow out
- Limits navigation





# Shellfish Lease Application Process



# *Shellfish Lease Citing Criteria and Resources*

## **Criteria**

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



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## **Resources**

- Consultation with DMF, DCM, NC Sea Grant
- NC Shellfish Growers Association, other growers
- The North Carolina Shellfish Siting Tool –UNCW
- NCDMF Shellfish Aquaculture Tool







**Legend**

**Leases**

- Water Column
- Bottom
- Franchise
- Research Sanctuary
- Terminated
- Proposed - Bottom
- Proposed - Water Column

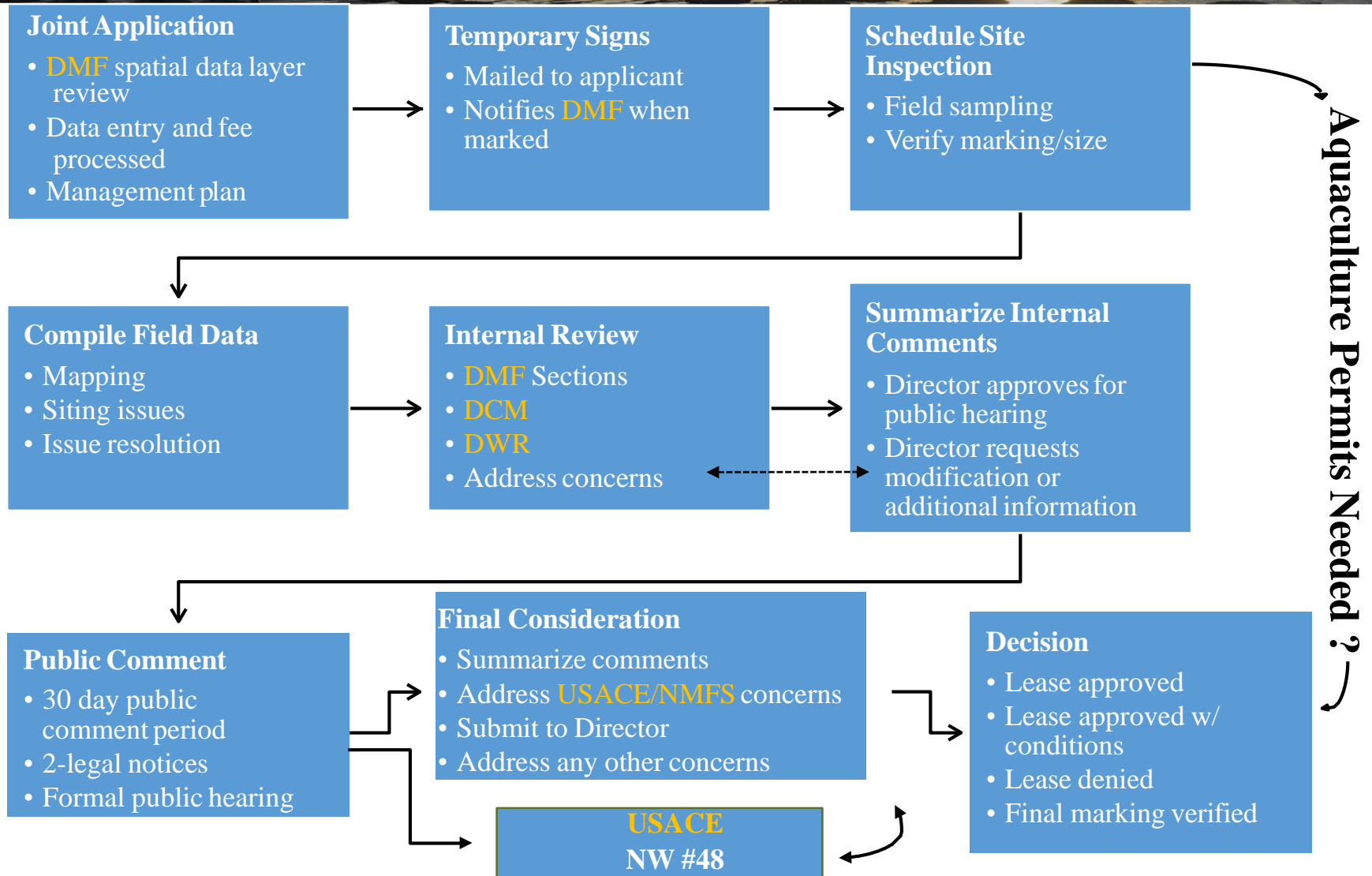


# Shellfish Aquaculture Tool

<https://arcgis/0v8nDu>



# Shellfish Lease Application Process



# Site Investigation

- Random grid (25 samples/acre)
- Shellfish presence/density
- SAV presence/density
- Measure buffers
- Verify markers, acreage
- Other factors:
  - Nearby habitat
  - Navigation,
  - Docks
  - Unmarked channels
  - Public Trust usage
  - Adequate water depth





# Site Investigation

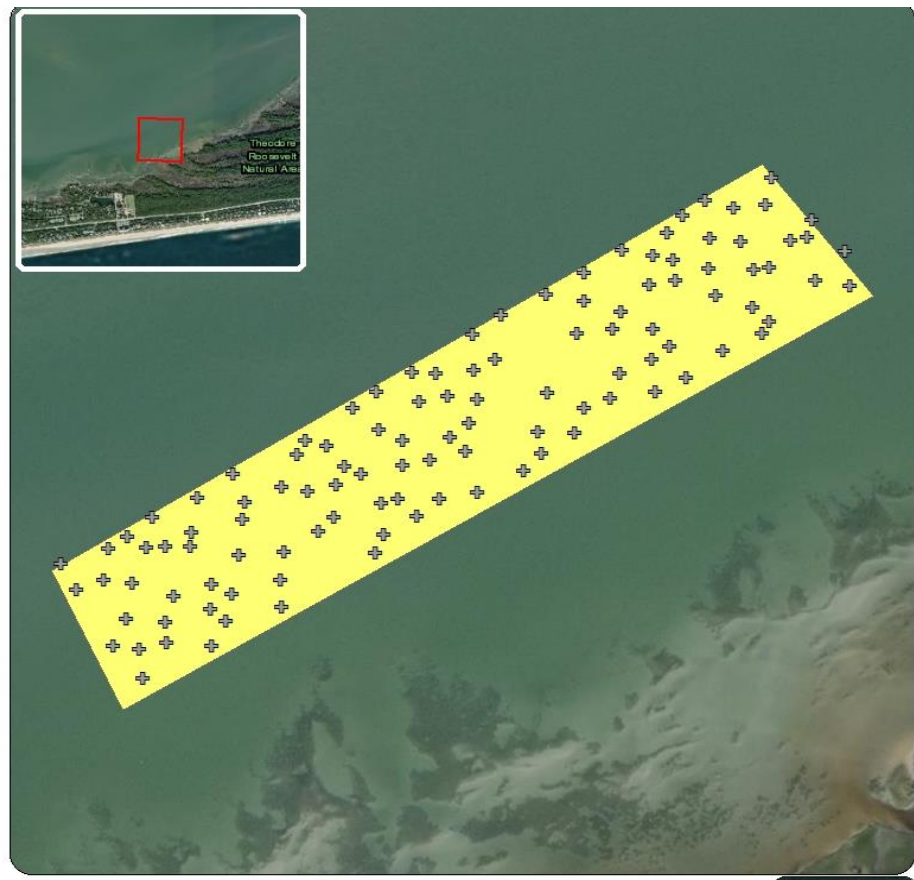
## 1m<sup>2</sup> Hydraulic Patent Tongs





# Site Investigation

## SAV Sampling



Proposed Lease Area

Acreage: 4.78

Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet



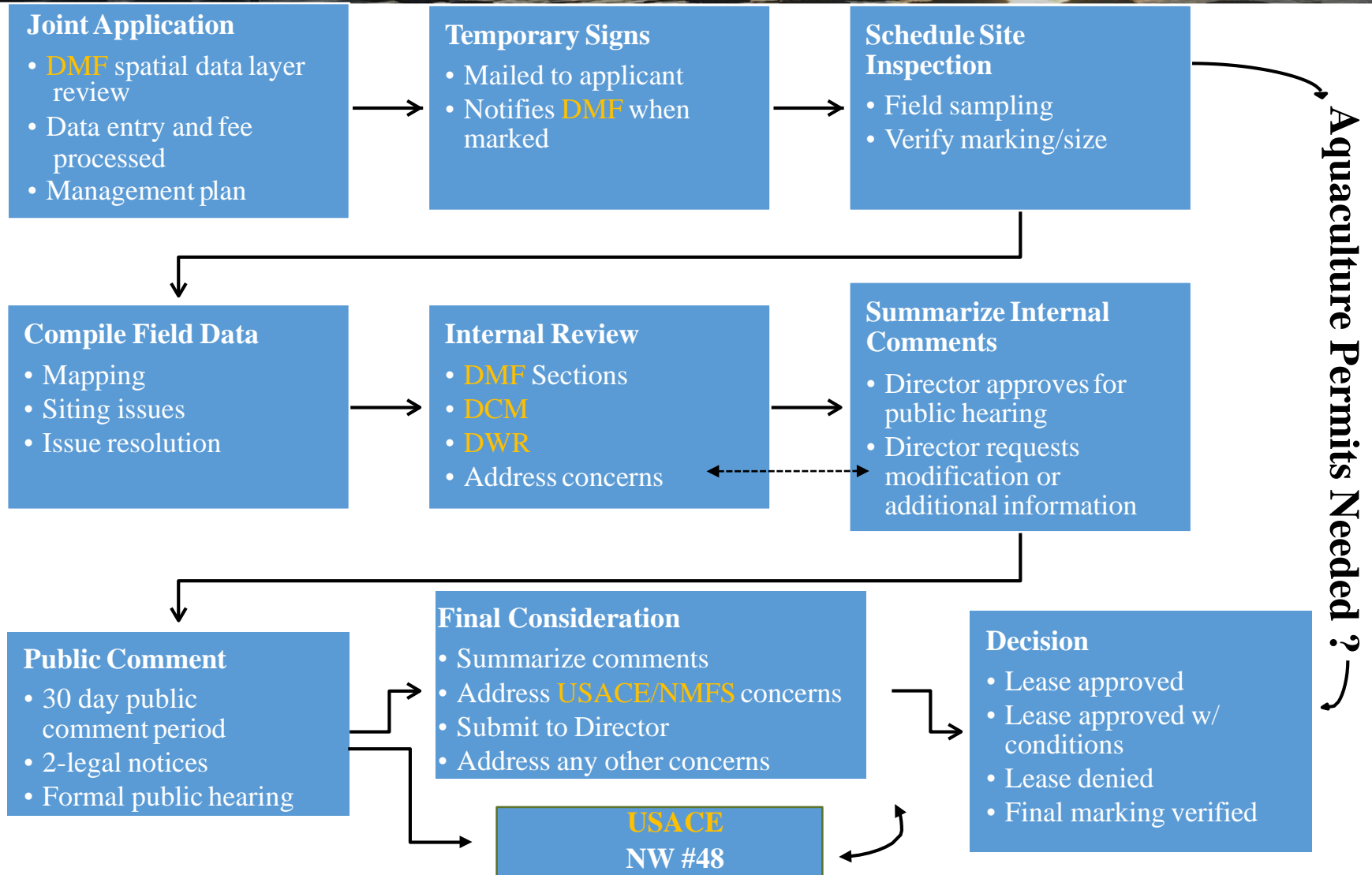
- ⊕ Sample with NO SAV
- ⊕ Sample WITH SAV
- Proposed Lease Area

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- 12" of reflective tape visible from  
360°
- Boundary markers every 50-150 ft.



# *Fees and Rent*



<b>Fee</b>	<b>Bottom</b>	<b>Water Column</b>
1 <sup>st</sup> yr. - rent prorated June 30	\$1 per acre	\$100 per acre
Annual rent	\$10 per acre	\$100 per acre
Renewal fee (10 yr. contract)	\$100	\$100



# Minimum Commercial Production Requirements

July 1, 2019

Type	Production	Prior (per acre)	After (per acre)
Bottom	Produce:	10 bu.	20 bu.
	Plant:	25 bu. seed <b>OR</b> 50 bu. cultch	15,000 seed: <i>Extensive</i> 23,000 seed: <i>Intensive</i>
Water Column	Produce:	40 bu.	50 bu.
	Plant:	100 bu. seed <b>OR</b> cultch	23,000 seed





# *Benefits of Shellfish Leases*

- Increase availability of fresh, local shellfish



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- Ecosystem services (habitat, water quality)
- Spawning potential to enhance natural population (diploid)





# Questions?

## **Shellfish Lease and Aquaculture Program**

<http://portal.ncdenr.org/web/mf/habitat/enhancement/shellfish-leases>

## **Shellfish Aquaculture Tool:**

<https://arcg.is/0LD5zS>

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