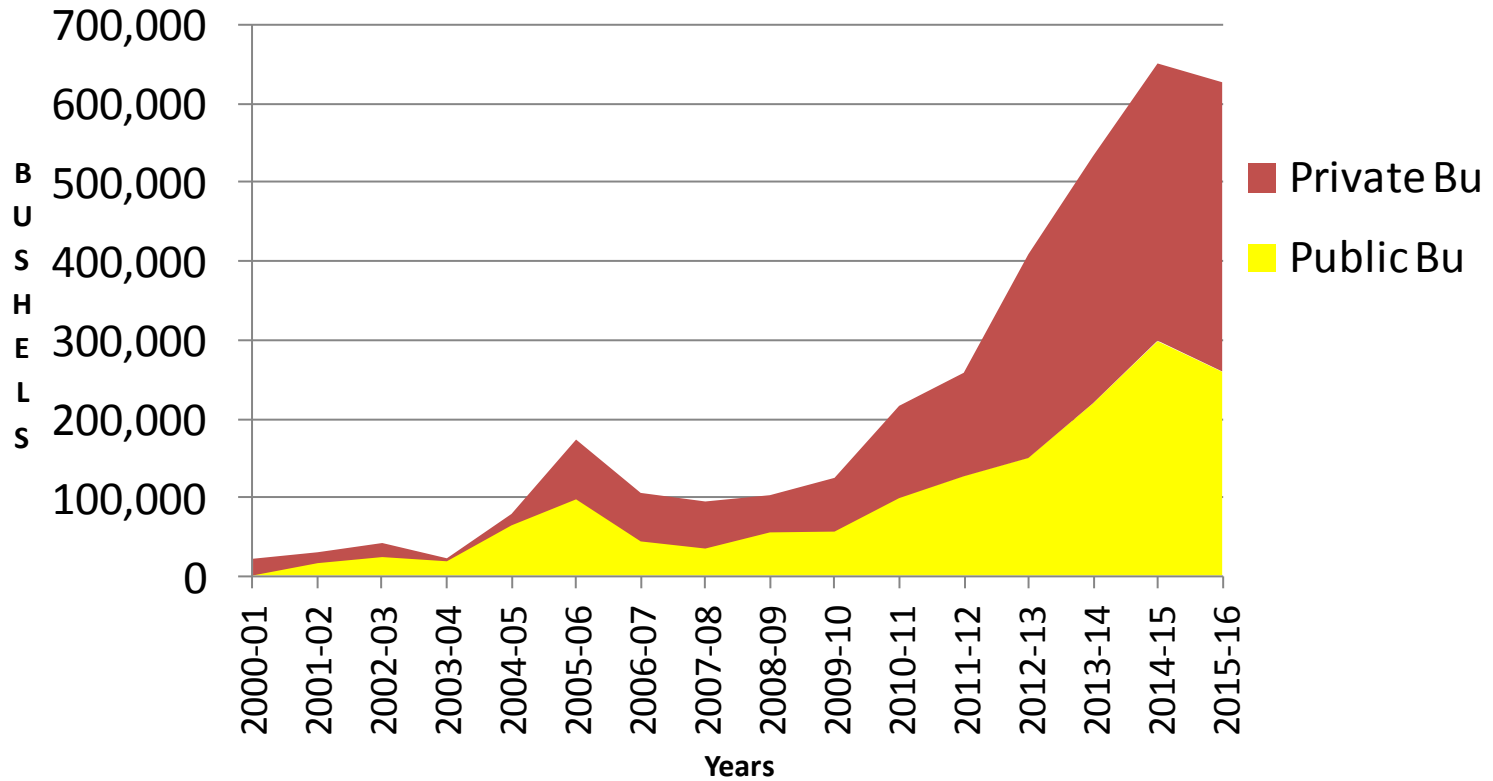


Virginia Oyster Management

Presentation given to Maryland's Oyster
Advisory Commission by Jim Wesson,
Virginia Marine Resource Commission,
on 10/17/2016

PUBLIC VS PRIVATE OYSTER HARVEST



EFFORT CONTROL

Options to Reduce Effort

- Reduce daily catch limit
- Shorten the season lengths
- Shorten the harvest day
- Quotas for areas or individuals
- Change gear
- Reduce the number of licenses

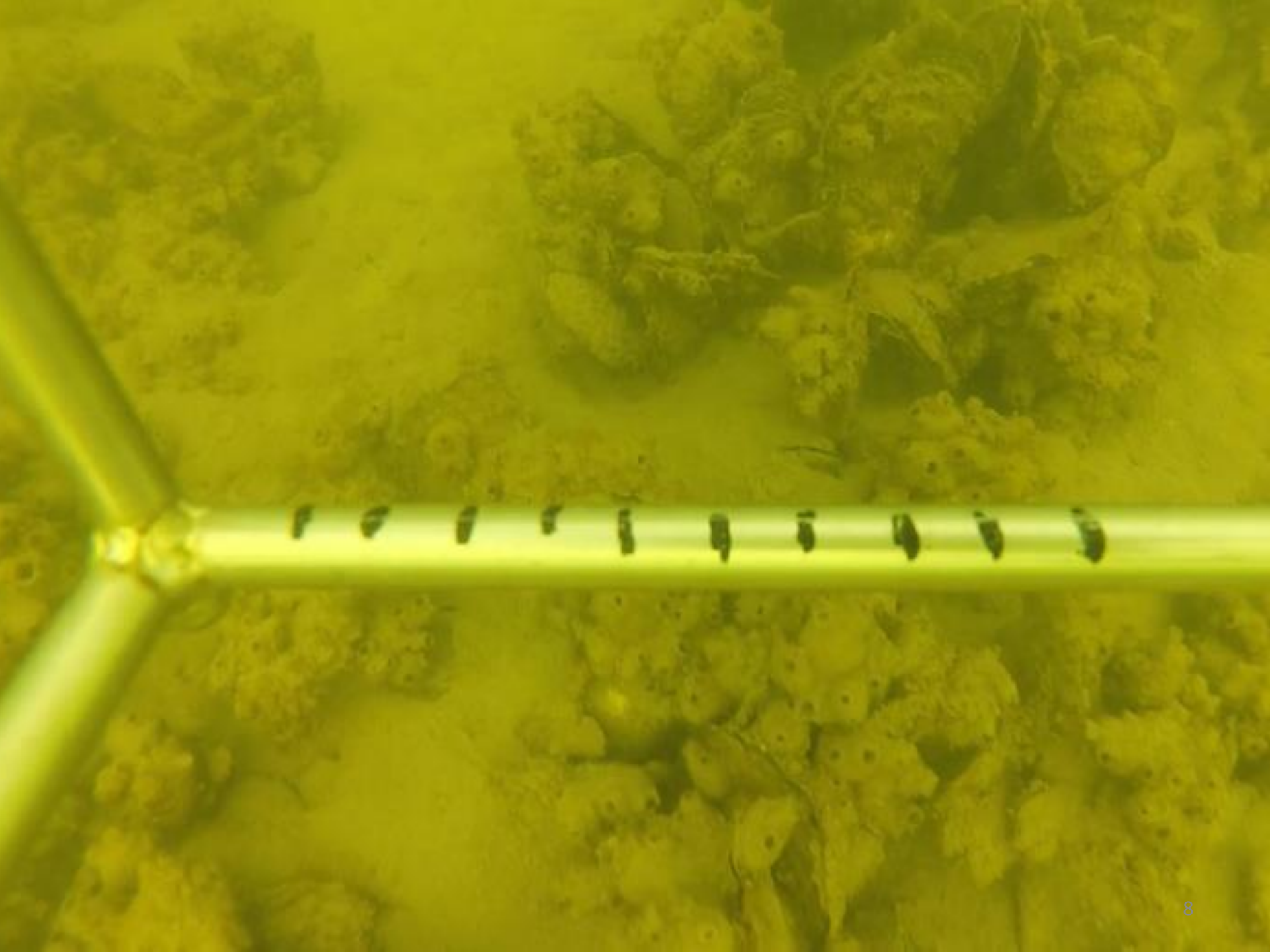


All Gear User Fee

- 2013 – 661
- 2014 – 877
- 2015 --991

Gear Licenses

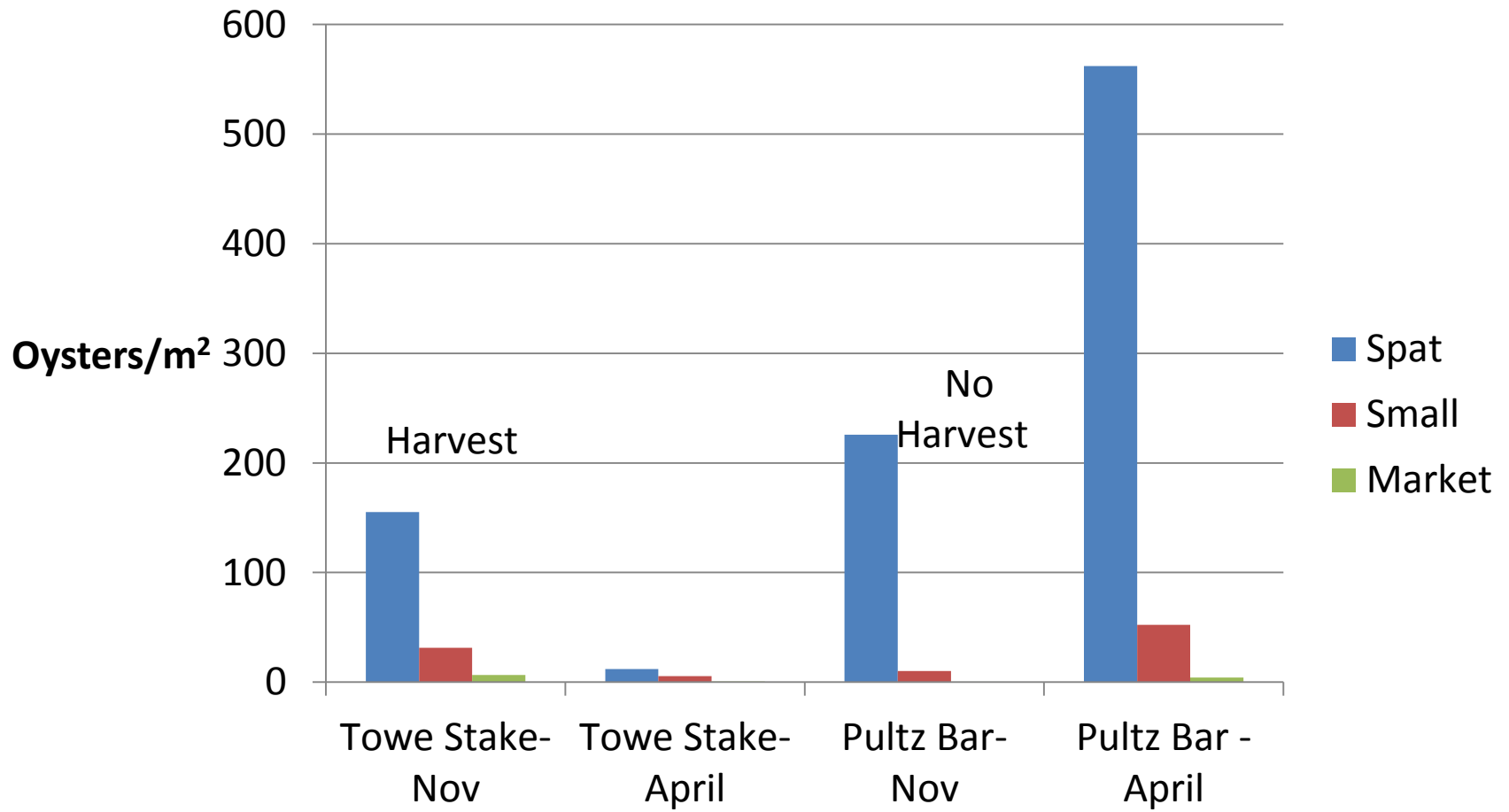
Gear	2014	2015	
Hand Scrape	653	908	
Oyster Dredge	305	377	
Oyster Patent Tong	7	44	



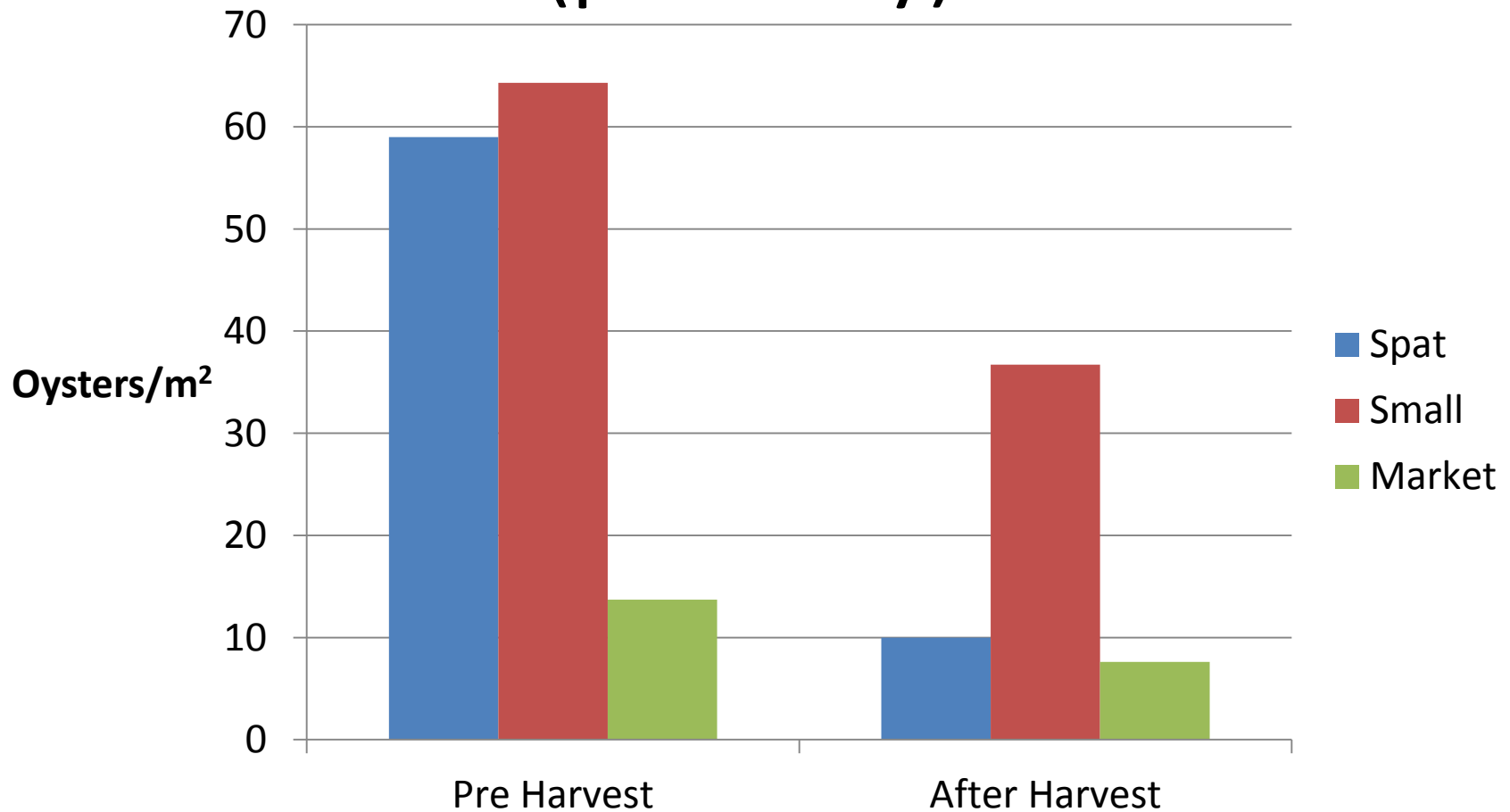




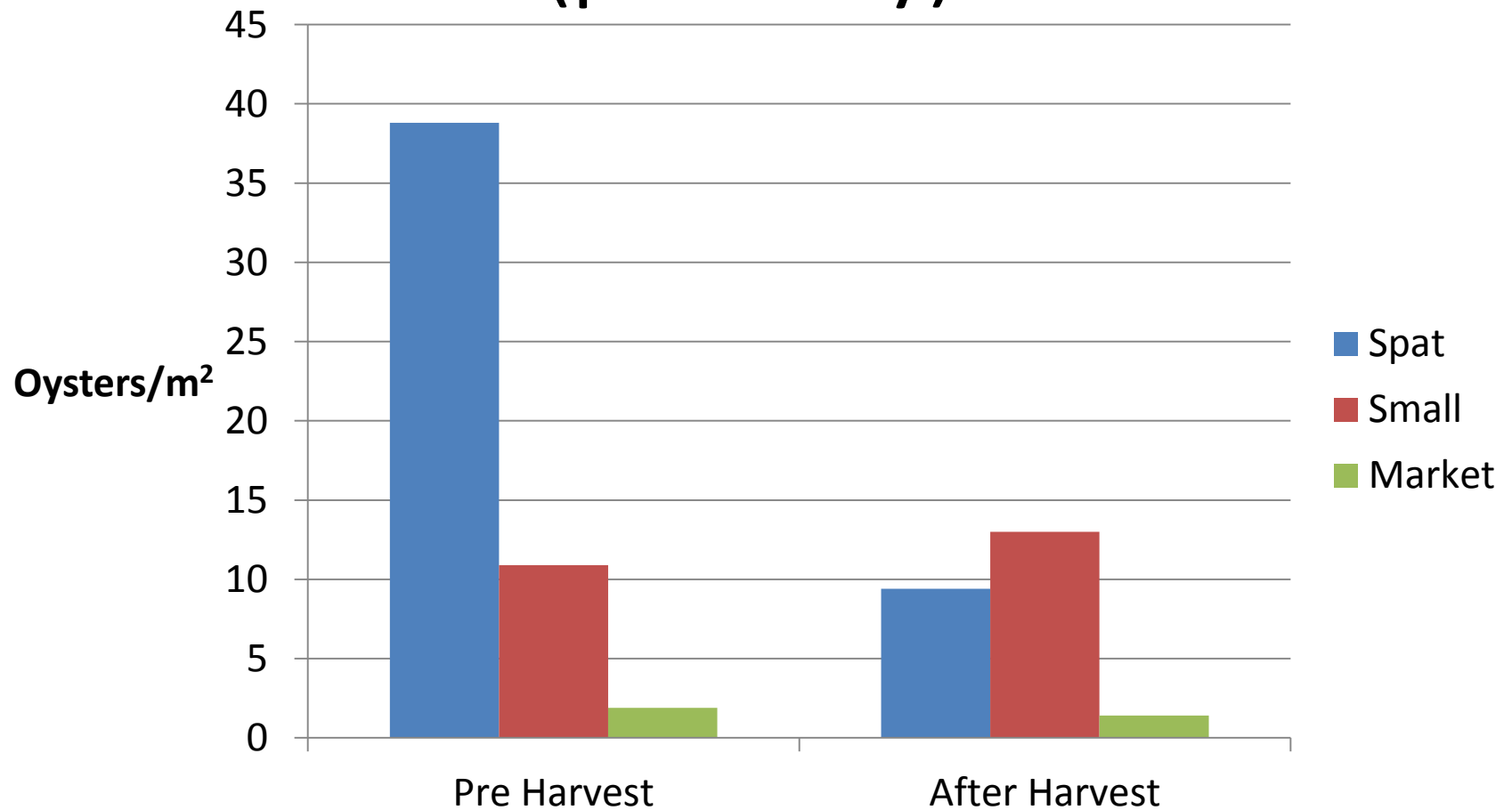
Mobjack Bay Handscape Area (pt survey)



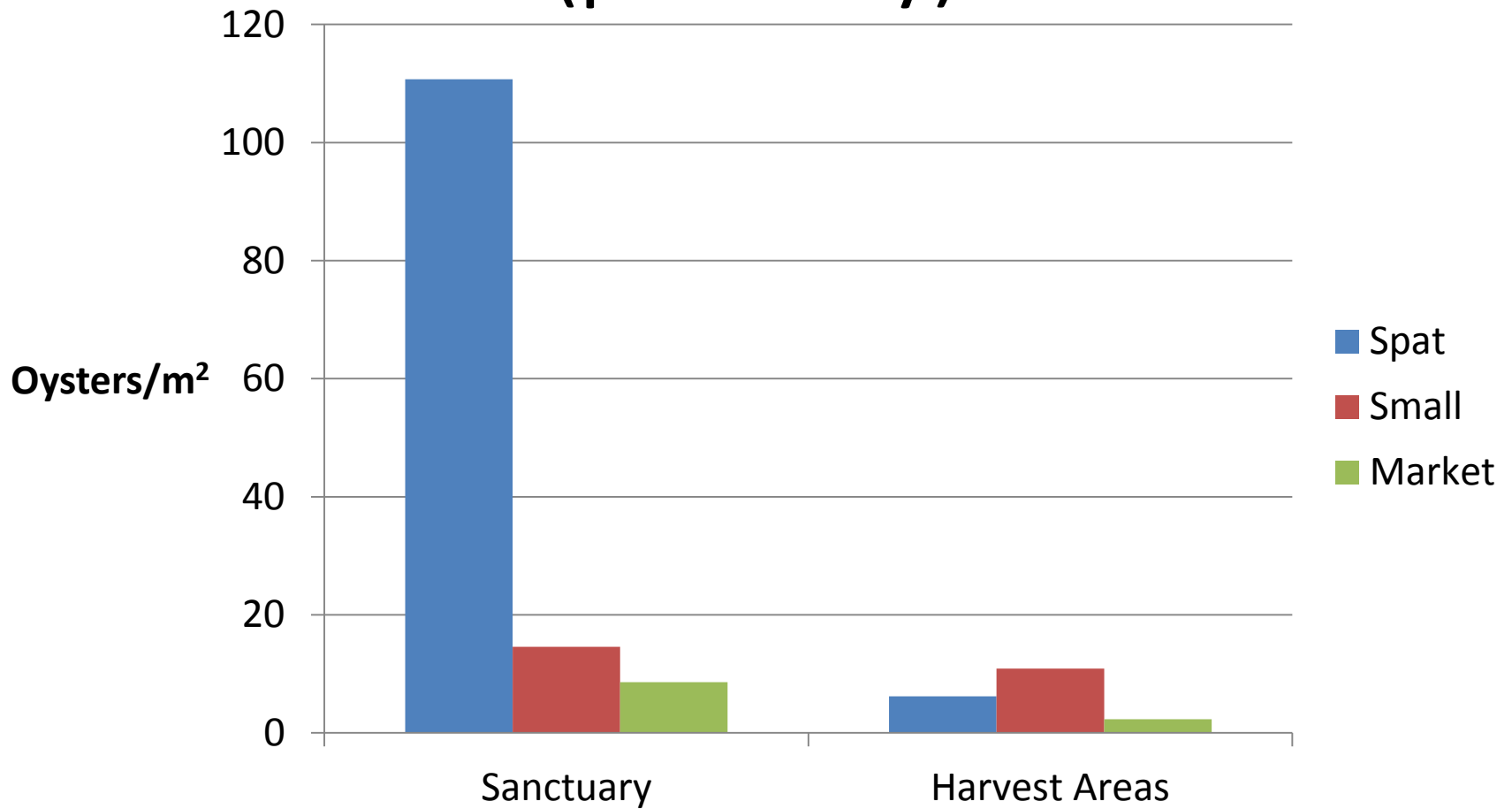
Great Wicomico River Cranes Creek Handscape Area (pt survey)



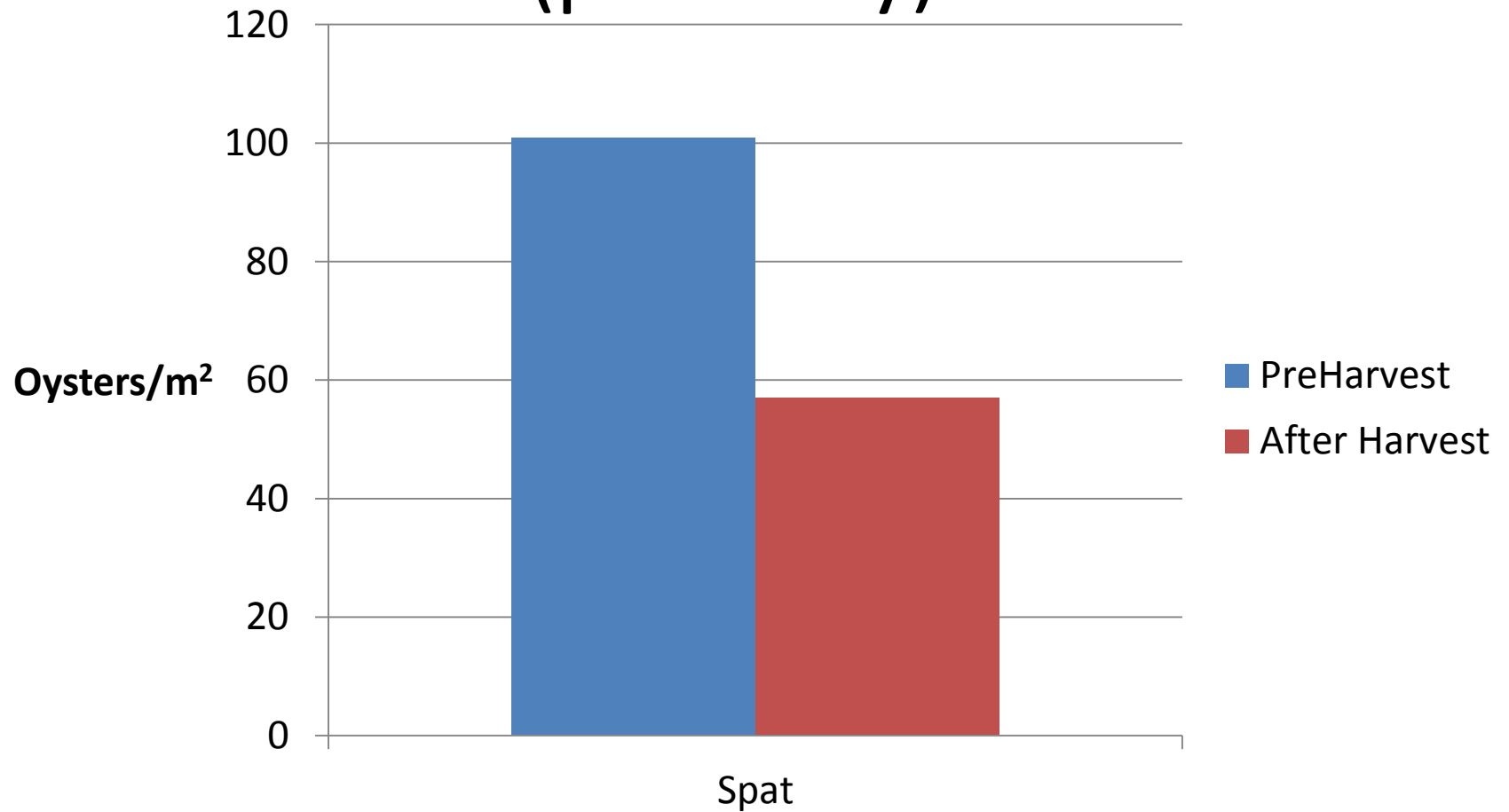
Tangier Sound Johnson's Rock Dredge Area (pt survey)



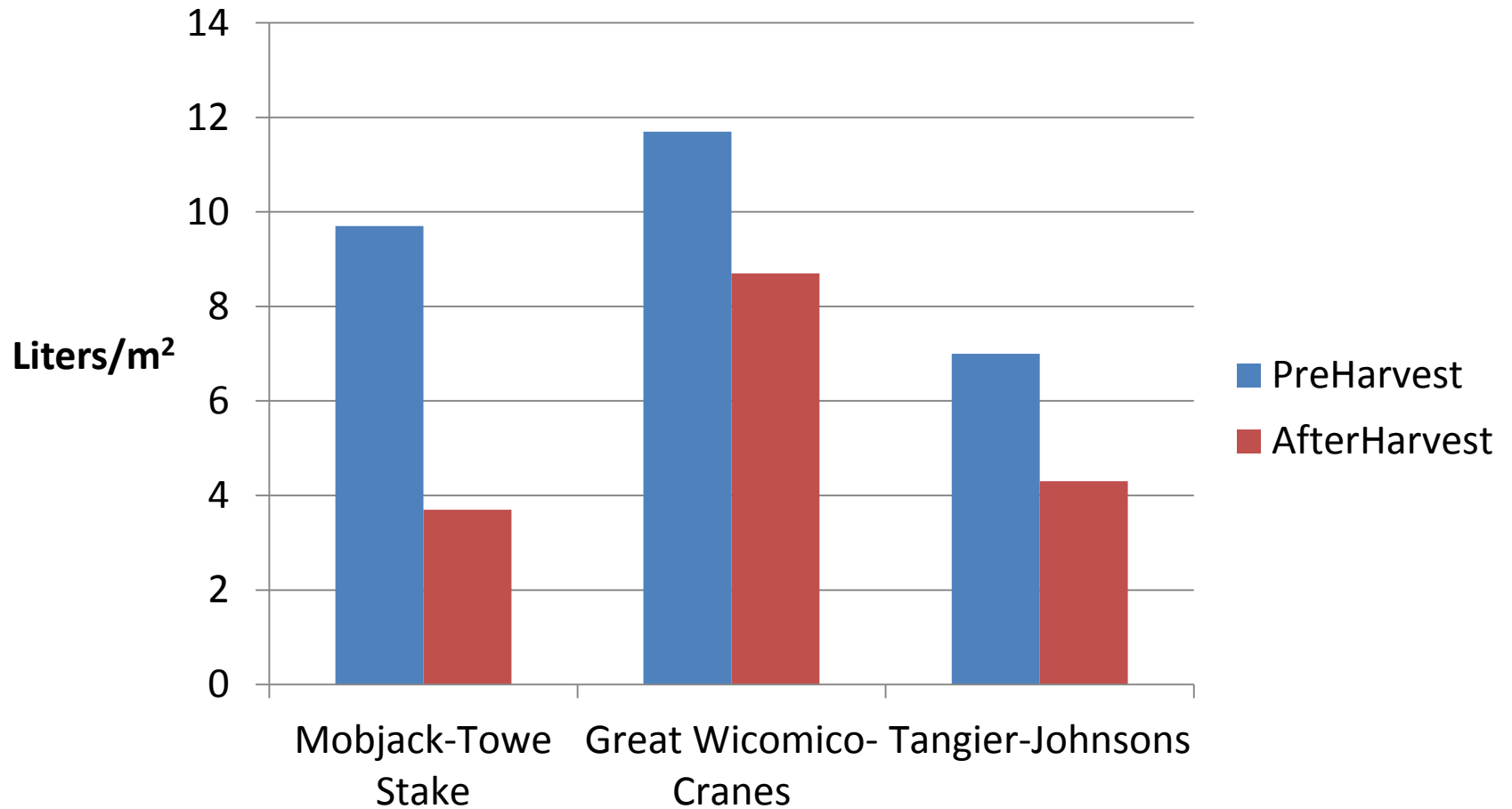
Rappahannock River Temple Bay Handscape Area 5 (pt survey)



James River Hand Scrape Area (pt survey)



Cultch Brown Shell



Harvest By Dredge or Handscrape

- Always reduces the number of oysters for all size classes
- The smaller the oyster, the greater the impact
- Always reduces the quantity and quality of shell available for future spatset

Table 4. Reported harvest and effort information combined from the **last two hand scrape gear seasons**, October 1, 2013 through April 30, 2015.

Average Number of Harvest Days Reported (2013/14 and 2014/15 Seasons)	Number of Individuals	Average Bushels Reported (2013/14 and 2014/15 Seasons)	% of Potential Effort for January 2016 and later	% of Reported Harvest (fall 2013-Spring 2015, combined)
Eligible* But Did Not Buy License	357	0	31	0
0	52	0	5	0
1-9	82	4,045	7	2
10-14	50	4,798	4	3
15-19	62	8,191	5	4
20-29	128	23,742	11	13
30-39	122	29,137	11	16
40-49	101	32,089	9	17
50-59	82	30,263	7	16
60-69	42	18,530	4	10
70-79	43	21,914	4	12
80-89	20	12,274	2	7
90+	3	2,553	0	1
Total	1,144	187,538	100	100

603

409

52%

36%

194

9%

16%

9%

541

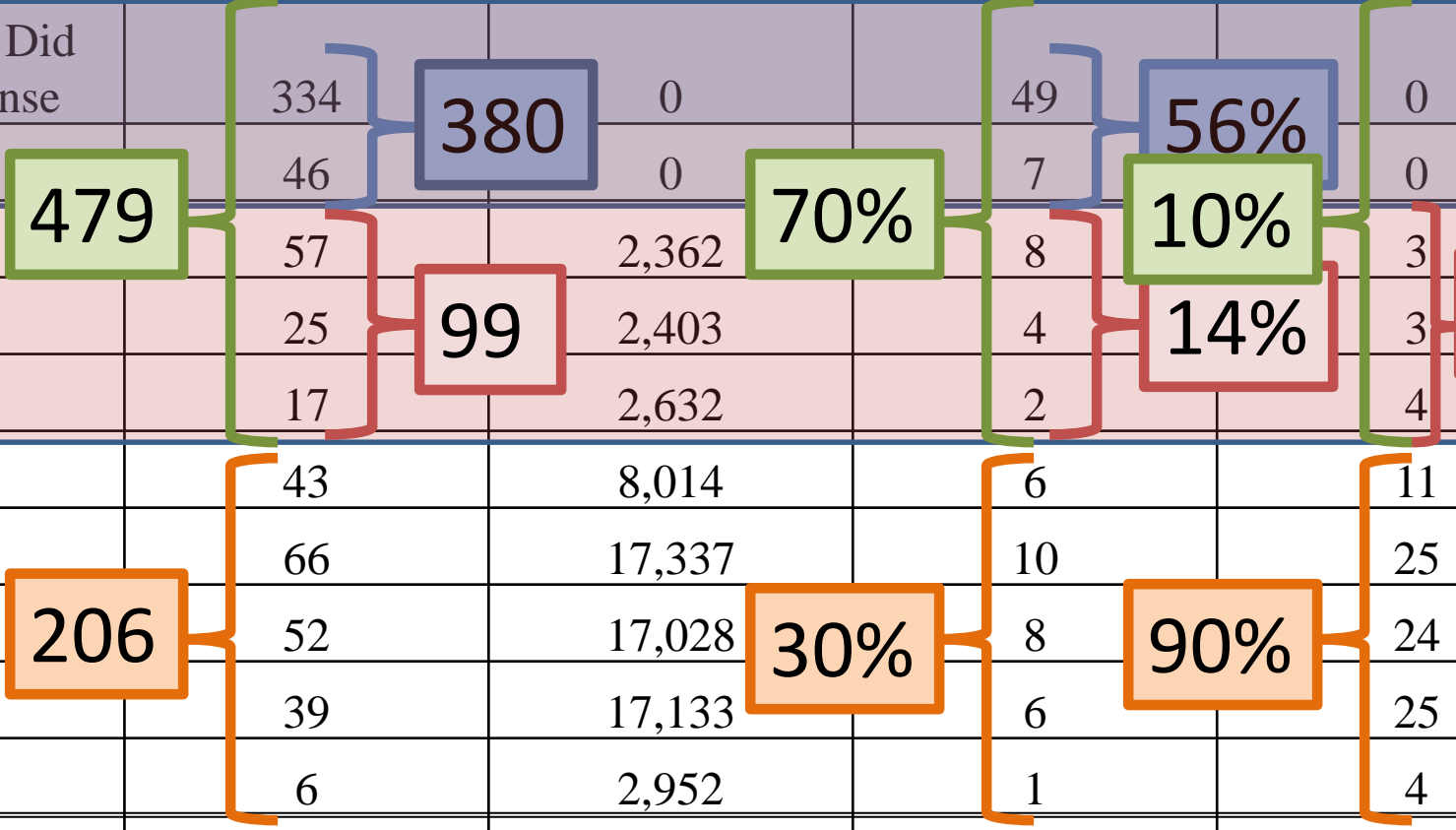
48%

91%

*Eligible includes all individuals who have ever purchased a hand scrape gear license

Table 6. Reported harvest and effort information from the last two oyster dredge gear seasons from October 1, 2013 through April 30, 2015.

Average Number of Harvest Days Reported (2013/14 and 2014/15 Seasons)	Number of Individuals	Average Bushels Reported (2013/14 and 2014/15 Seasons)	% of Potential Effort	% of Reported Harvest (fall 2013-Spring 2015, combined)
Eligible* But Did Not Buy License	334	0	49	0
0	46	0	7	0
1-9	57	2,362	8	3
10-14	25	2,403	4	3
15-19	17	2,632	2	4
20-29	43	8,014	6	11
30-39	66	17,337	10	25
40-49	52	17,028	8	24
50-59	39	17,133	6	25
60-69	6	2,952	1	4
Total	685	69,861	100	100



*Eligible includes all individuals who have ever purchased a oyster dredge gear license

“PERTAINING TO RESTRICTIONS ON OYSTER HARVEST”

CHAPTER 4 VAC 20-720-10 ET SEQ.

- 4 VAC 20-720-15. Control Date and Agents.
-
- A. The Commission hereby establishes July 1, 2014, as the control date for management of all public oyster fisheries in Virginia. Participation by any individual in any public oyster fishery after the control date **will not be considered** in the calculation or distribution of oyster fishing rights should entry limitations be established. **Any individual entering the public oyster fishery after the control date will forfeit any right to future participation in the public oyster fishery** should further entry limitations be established by the Commission.

Control Date

July 1, 2014

- Total Individual User Fees – 1124
- Before Control Date- 742
- After Control Date- 382

Effort Control

- After Control Date- 382
- Remove from Oyster Fishery- 382
- Remaining in Fishery, January 2017
 - 1124 user fees – 382 = 742

“PERTAINING TO RESTRICTIONS ON OYSTER HARVEST”

CHAPTER 4 VAC 20-720-10 ET SEQ.

- **4 VAC 20-720-80. Quotas and harvest limits.**
- **E. Beginning February 23, 2016, payment of the oyster resource user fee that allows any harvester to use one or more gear types to harvest oysters or possess any bushel limit, as described in this section, shall be limited to those individuals who previously paid an oyster resource user fee. Beginning on May 1, 2016, payment of the oyster resource user fee shall be limited to those individuals who previously paid an oyster resource user fee and those persons who wish to obtain an oyster hand tong license for the purpose of harvesting seed oysters.**

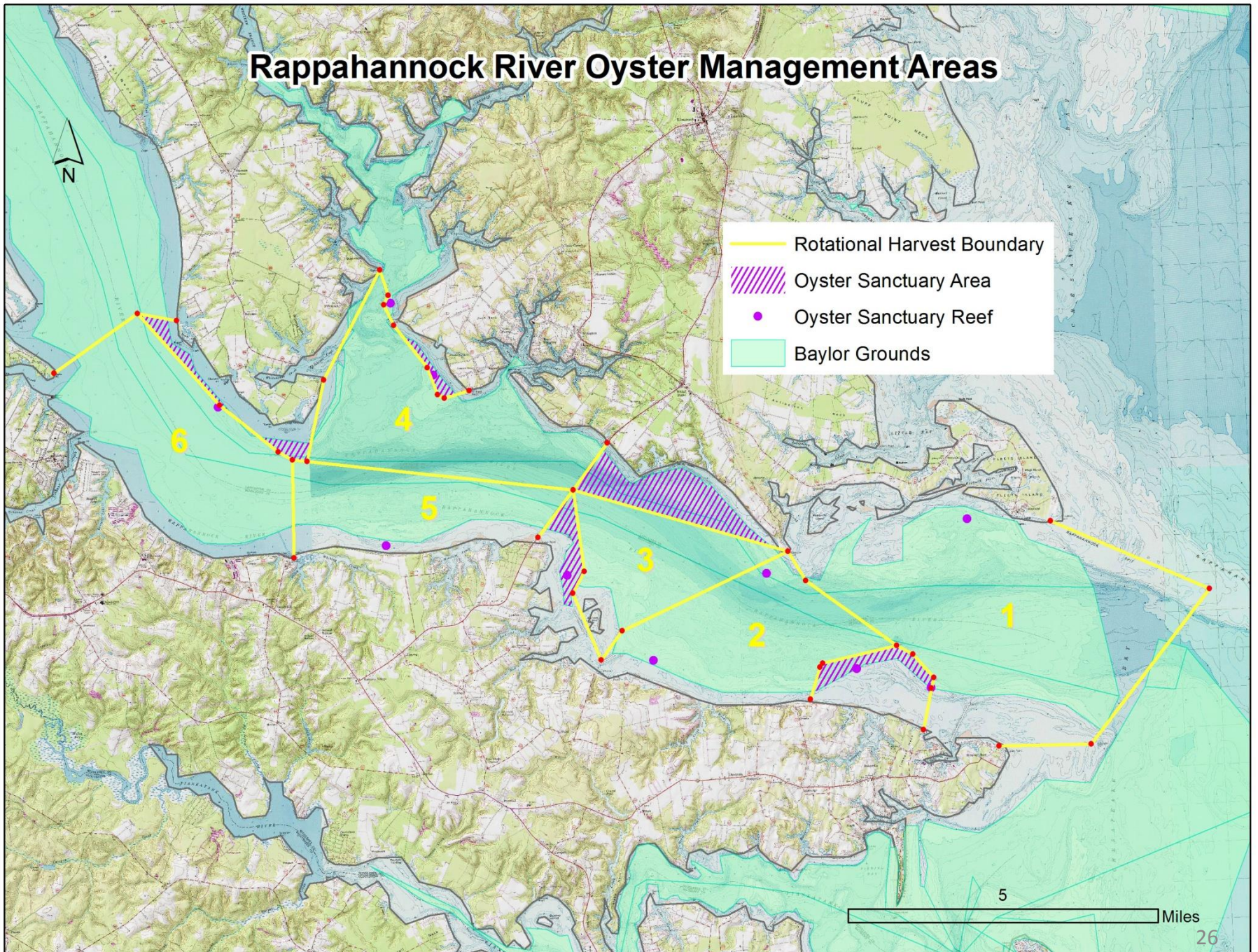
Effort Control Scenarios

Maintain Freeze

- 1124 Individuals with User Fees(2016)
- Must Purchase Your User Fee to Maintain Eligibility Status by April 30, 2017.
- After April 30, 2017, if an Individual Does Not Purchase User Fee in Any Given Year, He(She) is Out
- No New Sales of User fees until Reach 600
- To get in the Fishery until 600 is reached:
- Immediate Family Transfers or,
- Can Buy A User Fee if Purchased From an Individual with Greater Than 40 Days of Activity the Previous Calendar Year

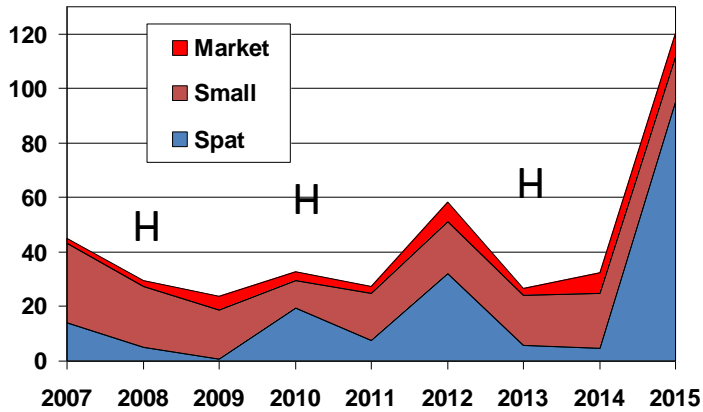
ROTATION

Rappahannock River Oyster Management Areas

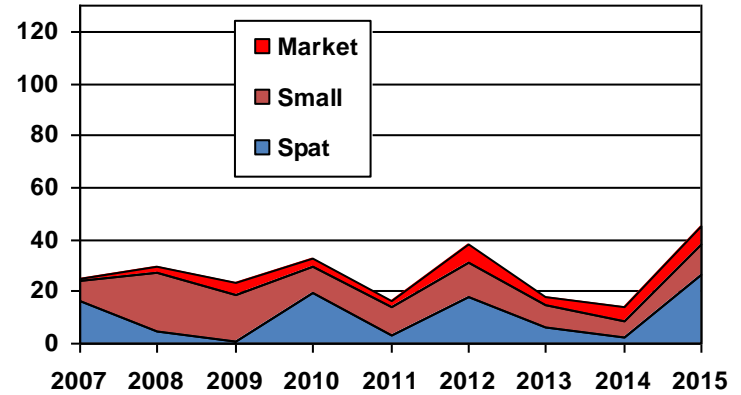


Rappahannock River Area 4 (oys/m²)

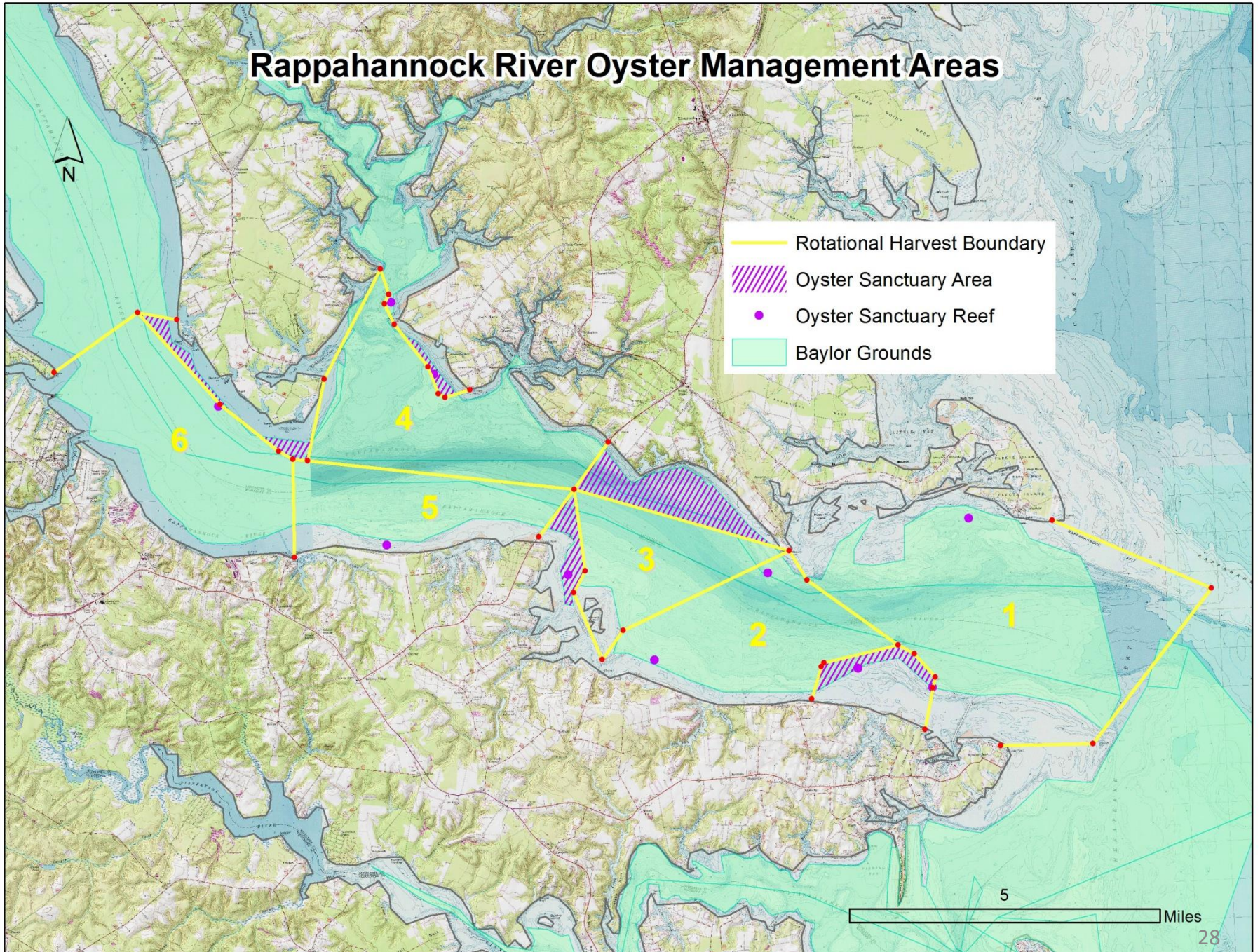
Harvest Area



Sanctuary

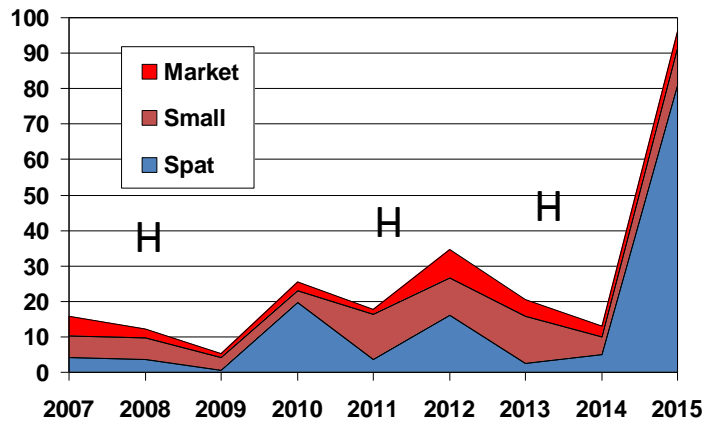


Rappahannock River Oyster Management Areas

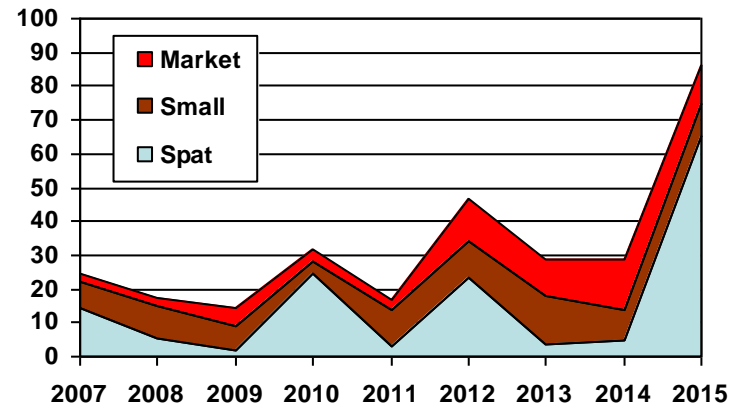


Rappahannock River Area 2 (oys/m²)

Harvest Area



Sanctuary



Pocomoke and Tangier Sounds Rotation Areas

MD-VA State Line
37° 54.61360' N
75° 53.97396' W

Great Fox Island House
37° 53.69465' N
75° 53.88988' W

37° 53.36335' N
75° 56.55896' W

Area 1

Area 2

Red "8"
37° 52.45833' N
75° 49.40000' W

Green "C-1"
37° 52.10000' N
75° 47.80833' W

Flashing Red (2+1)
37° 50.95333' N
75° 46.64167' W

Area 2



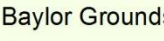
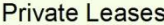
Area 1

37° 48.4715943' N
75° 46.9955932' W

37° 48.77578' N
75° 53.59941' W

37° 48.44291' N
75° 56.48836' W

Area 1

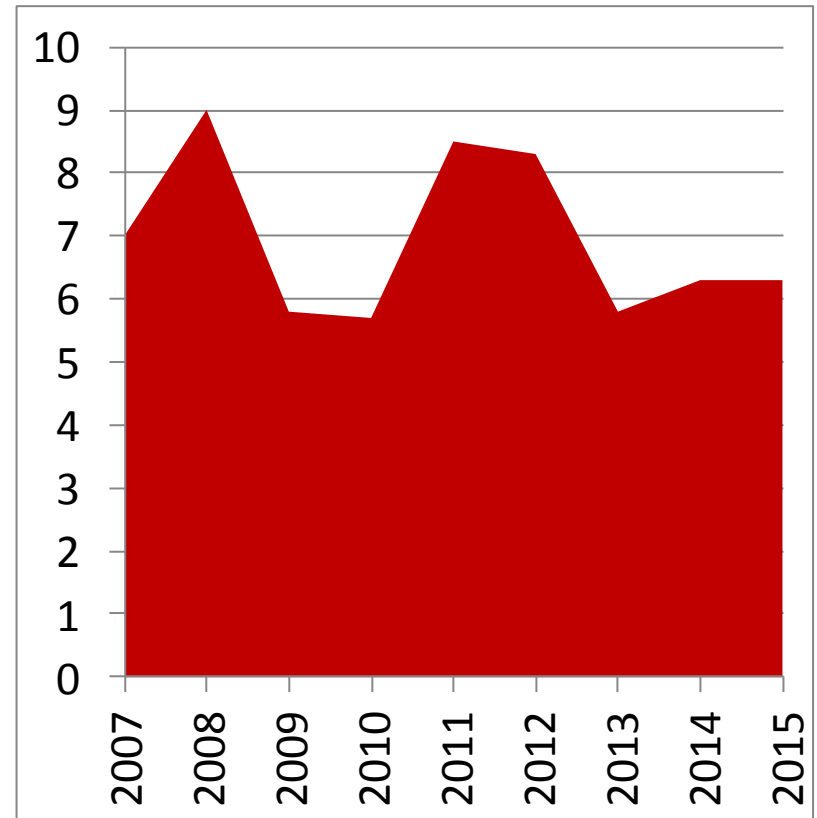
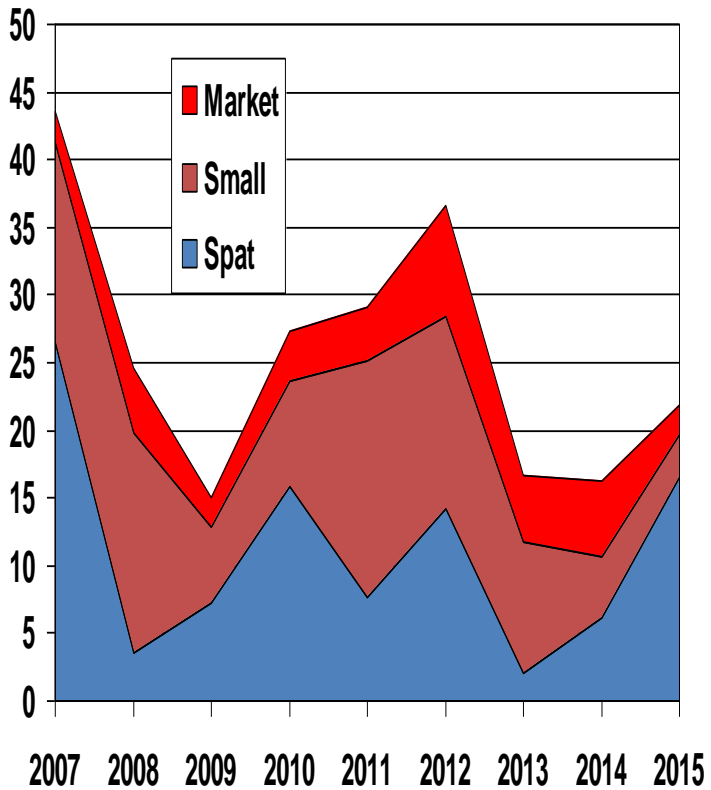
-  Rotation Area 1
-  Rotation Area 2
-  Baylor Grounds
-  Private Leases



5

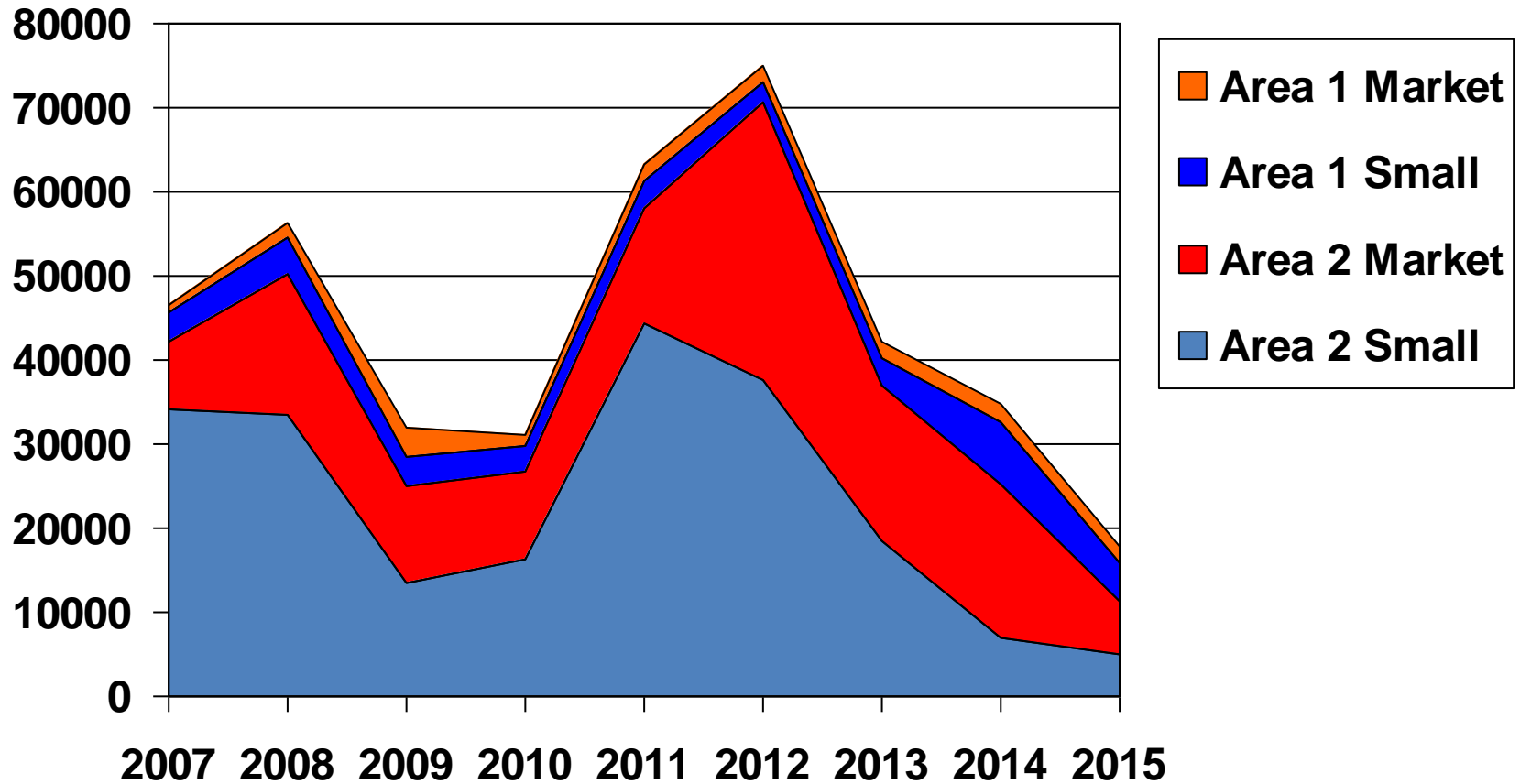
Miles

Tangier-Pocomoke Area 2 (Stocks and Cultch/m²)

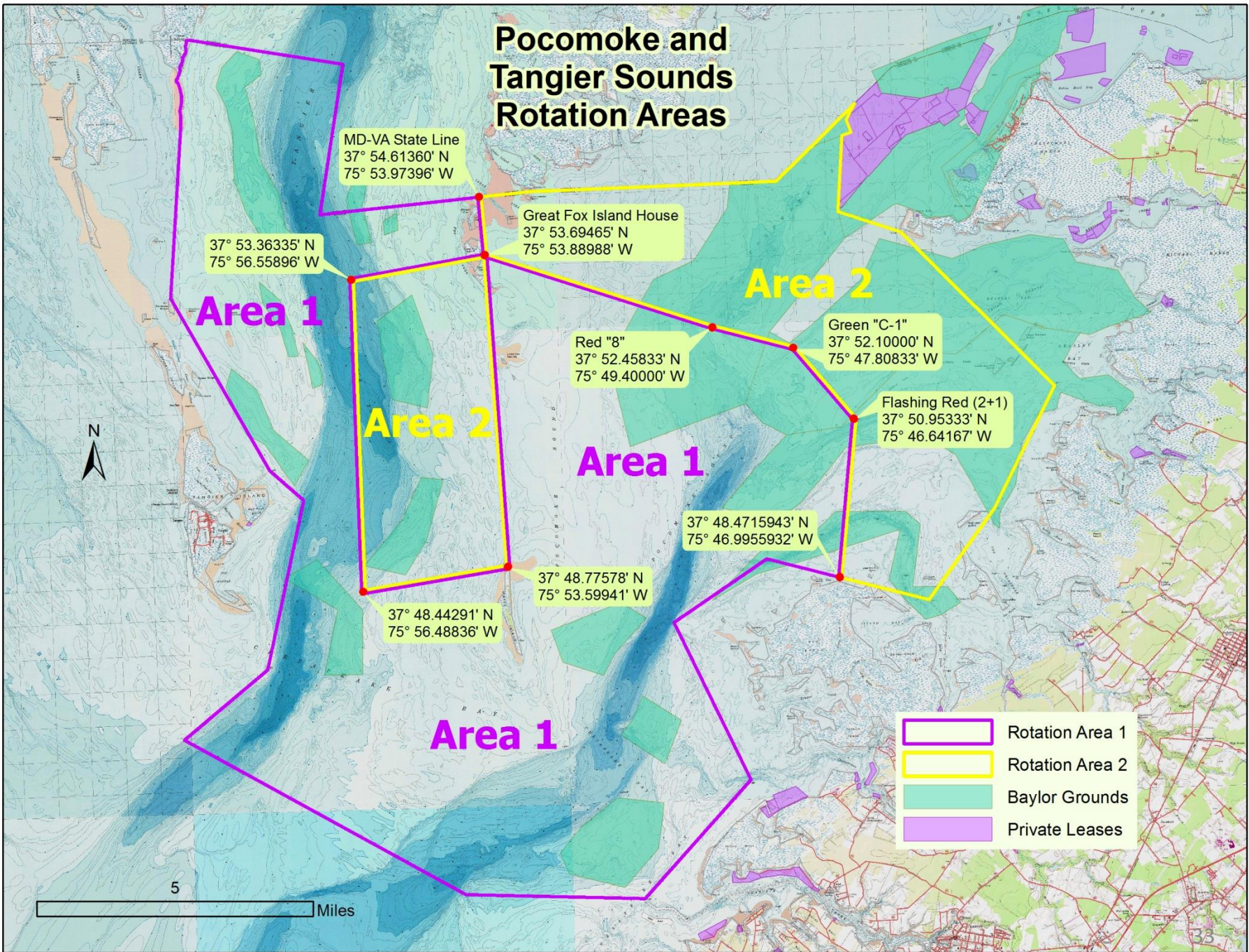


Tangier-Pocomoke Harvest Rotation Areas

Standing Stocks (bu)



Pocomoke and Tangier Sounds Rotation Areas

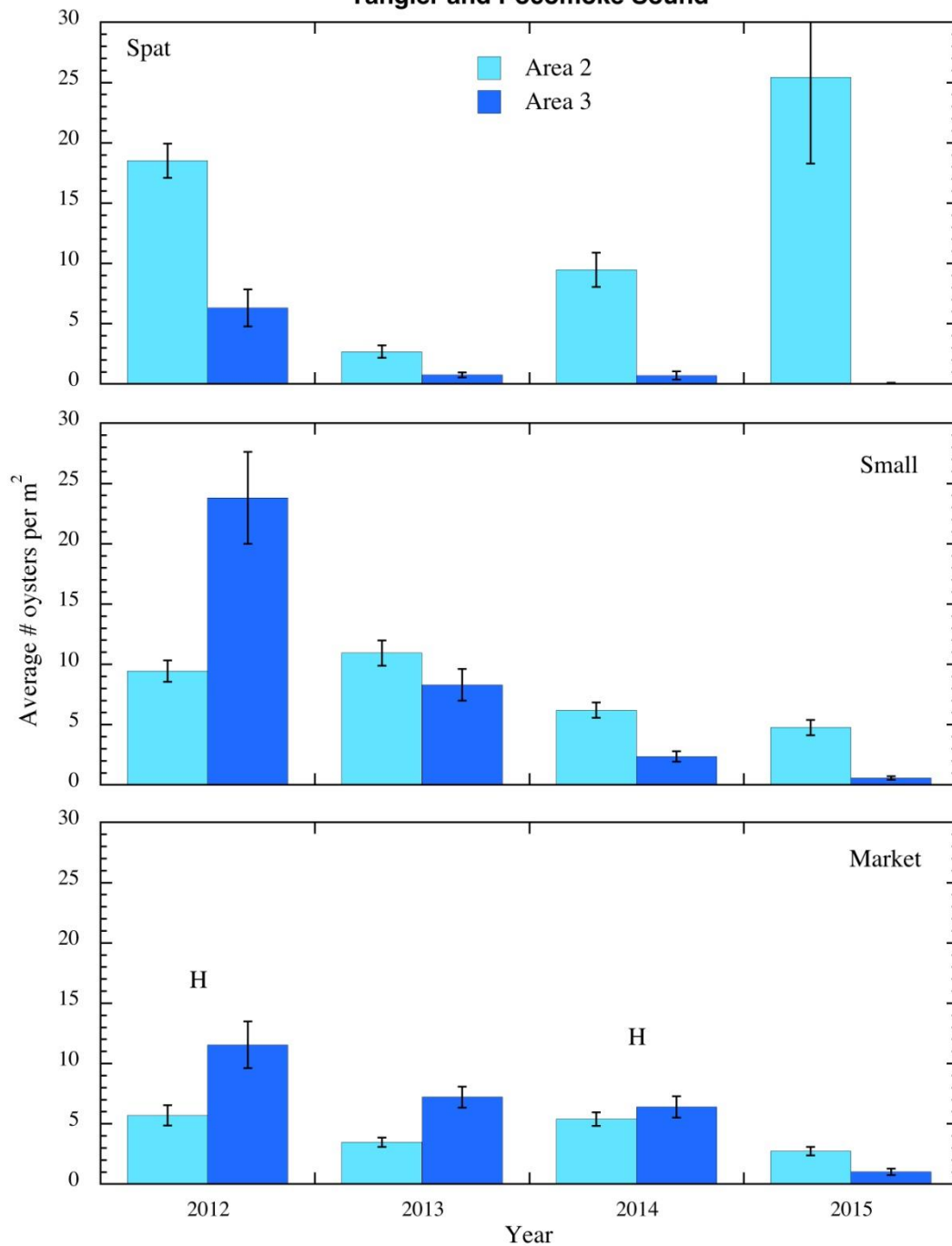


- Rotation Area 1
- Rotation Area 2
- Baylor Grounds
- Private Leases

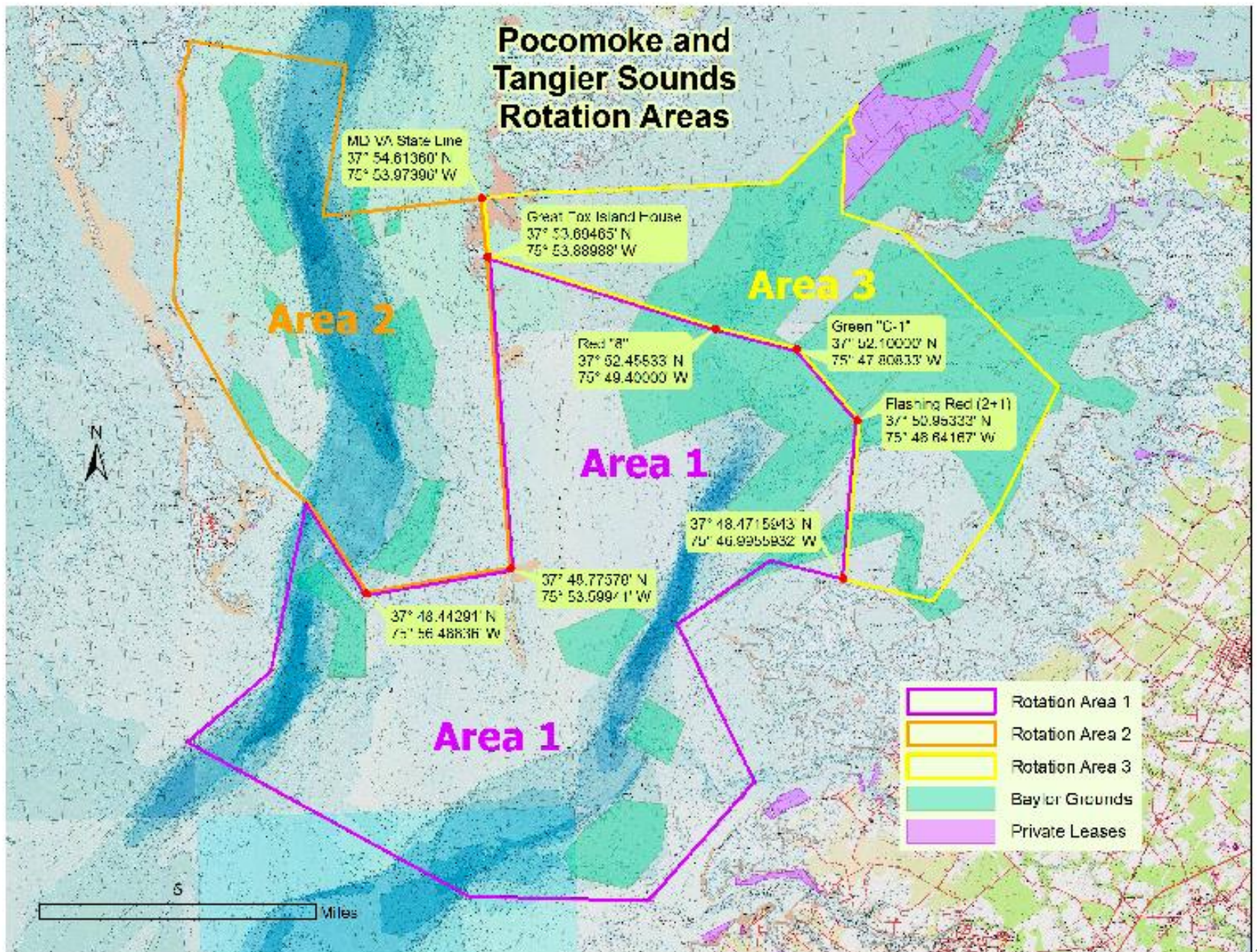
5

Miles

Tangier and Pocomoke Sound



Pocomoke and Tangier Sounds Rotation Areas



Lessons from Rotation

- Must have dependable spatset
- Must have shells in good condition
- The period of rest(no harvest) is the key, because of the destructive nature of the harvest gear
- Three years appears to be a better rotation period than 2 years

CONCERNS FOR THE FUTURE

#3. Natural reef, no F, increased M (disease). Decreased oyster longevity, lower shell addition rate to exposed layer, offset by **CONTINUAL** replenishment until $M=(B+D)$, **system stable**.

~~Fishing mortality, F,
with loss of shell~~

*Recruitment, R,
and growth:
S/R relationship*

Increased substrate enhancement

Replenishment, r

Live oyster population characterized by density and demographics

Natural mortality, M, including disease adds shell to exposed pool

Exposed shell layer (brown shell) – substrate for recruitment

Loss to burial, B

Loss to biological degradation and chemical dissolution, D, salinity dependent

This is the reality of sanctuaries!

Reef structure - buried shell mixed with sediment

