

2021 BLUE CRAB ADVISORY REPORT PREVIEW



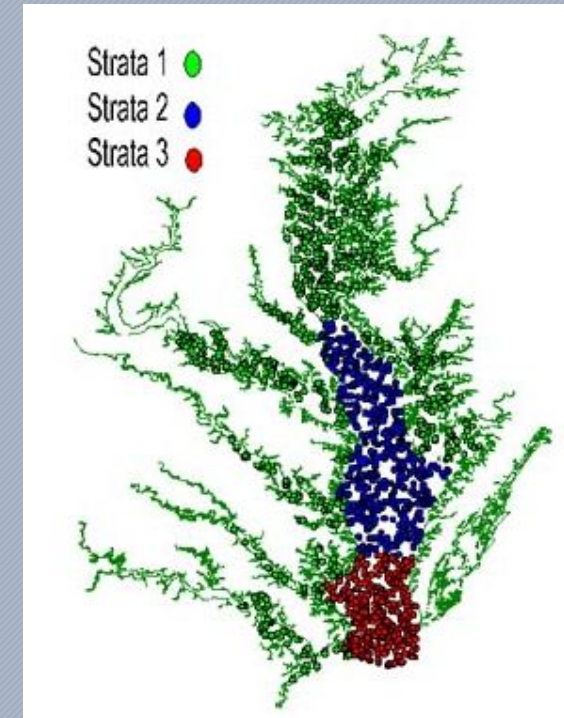
Pat Geer (VMRC)
Chair, Chesapeake Bay Stock Assessment Committee
June 22, 2021
Sustainable Fisheries GIT Meeting

CBSAC MEMBERS

Pat Geer (Chair)	Virginia Marine Resources Commission
Mandy Bromilow (Coordinator)	ERT/NOAA Chesapeake Bay Office
Ellen Cosby	Potomac River Fisheries Commission
Glenn Davis	Maryland Department of Natural Resources
Alexa Galvan	Virginia Marine Resources Commission
Daniel Hennen	NMFS, Northeast Fisheries Science Center
Eric Johnson	University of North Florida
Rom Lipcius	Virginia Institute of Marine Science
Genine McClair	Maryland Department of Natural Resources
Tom Miller	UMCES, Chesapeake Biological Laboratory
Amy Schueller	NMFS, Southeast Fisheries Science Center
Mike Seebo	Virginia Institute of Marine Science
Alexei Sharov	Maryland Department of Natural Resources
Mike Wilberg	UMCES, Chesapeake Biological Laboratory

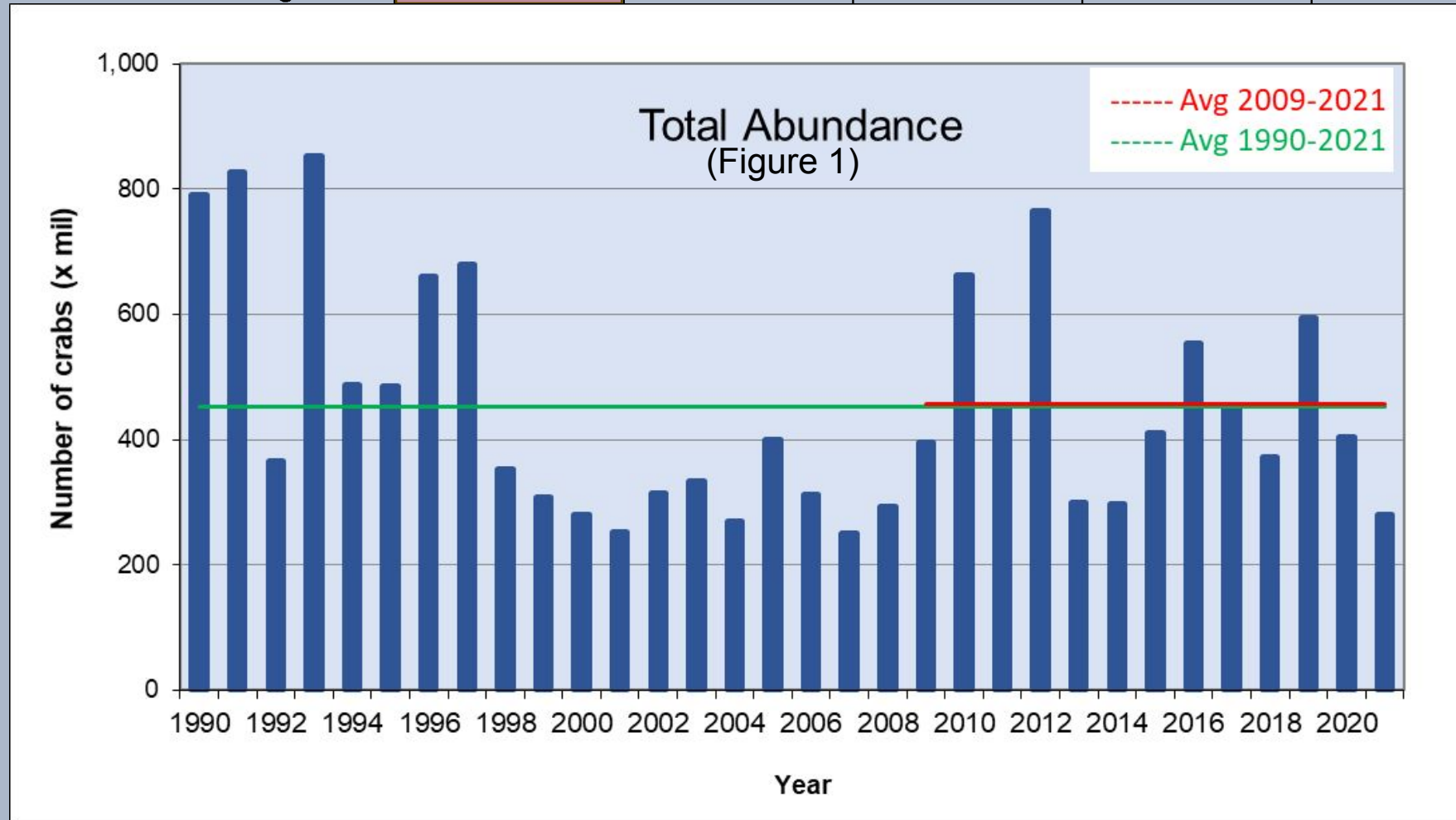
WINTER DREDGE SURVEY RESULTS

- Conducted jointly by VIMS and MD DNR since 1989-90
- Samples 1500 random sites annually from December to March
- Objectives:
 - Describe the size and sex composition of the bay wide blue crab population
 - Develop accurate estimates of bay wide blue crab abundance
 - Estimate exploitation and fishing mortality and evaluate the status of the stock annually.
- Chesapeake Bay Stock Assessment Committee (CBSAC)
 - Reviewed results at May 18th meeting
 - Will release 2021 Blue Crab Advisory Report in June / July



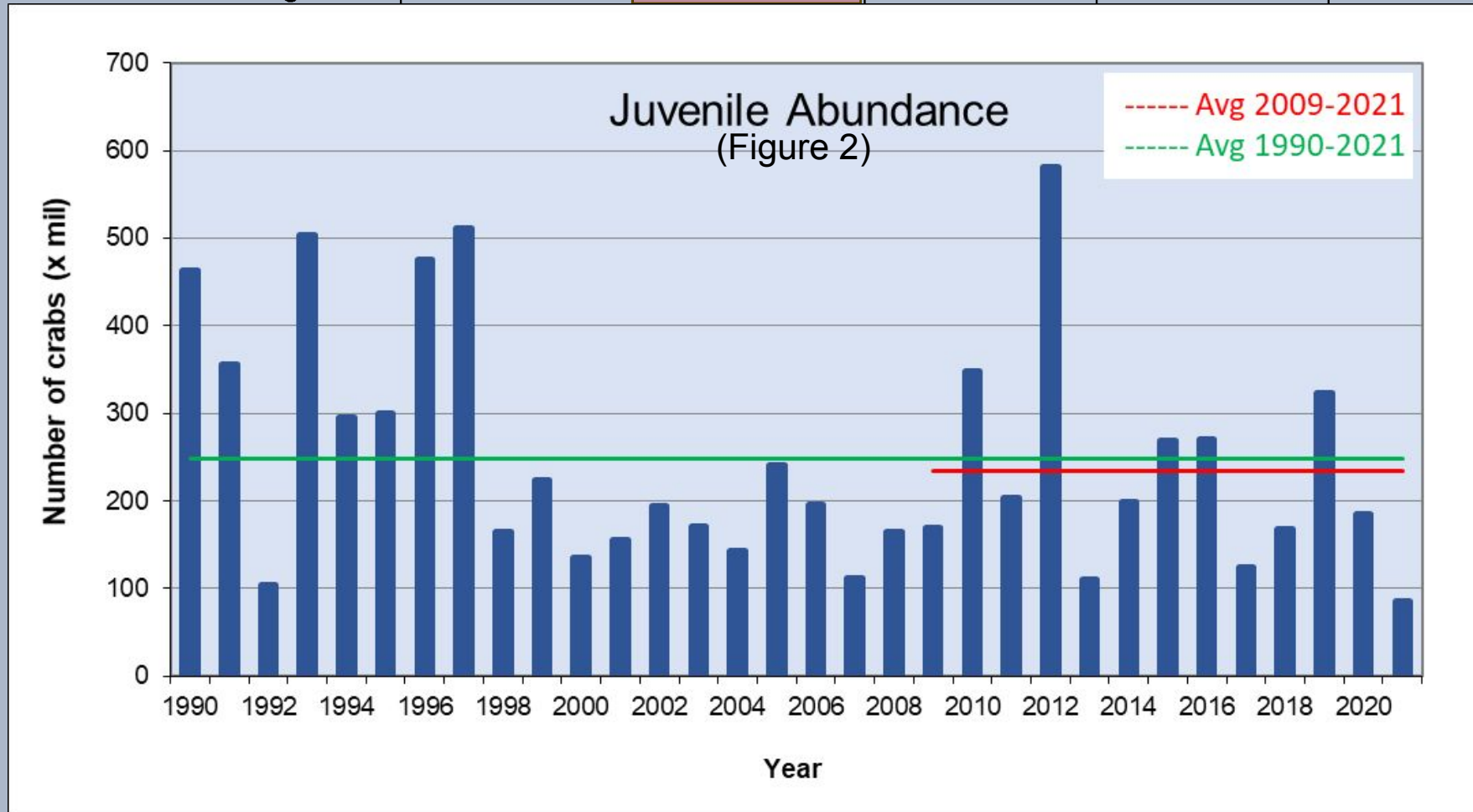
RESULTS OF 2020/21 WINTER DREDGE SURVEY

Winter Dredge Survey 2020-21					
	Total	Juveniles	Adults	Adult Males	Adult Females
Abundance (millions of crabs)	282	86	197	39	158
Rank (1990-2021) N=32	28 th	32 nd	13 th	28 th	10 th
Pct Difference from 2020	-30.43%	-53.70%	-10.64%	-50.98%	12.20%
Pct Difference from Avg ₉₀₋₂₁	-37.73%	-65.54%	-1.45%	-48.94%	24.34%



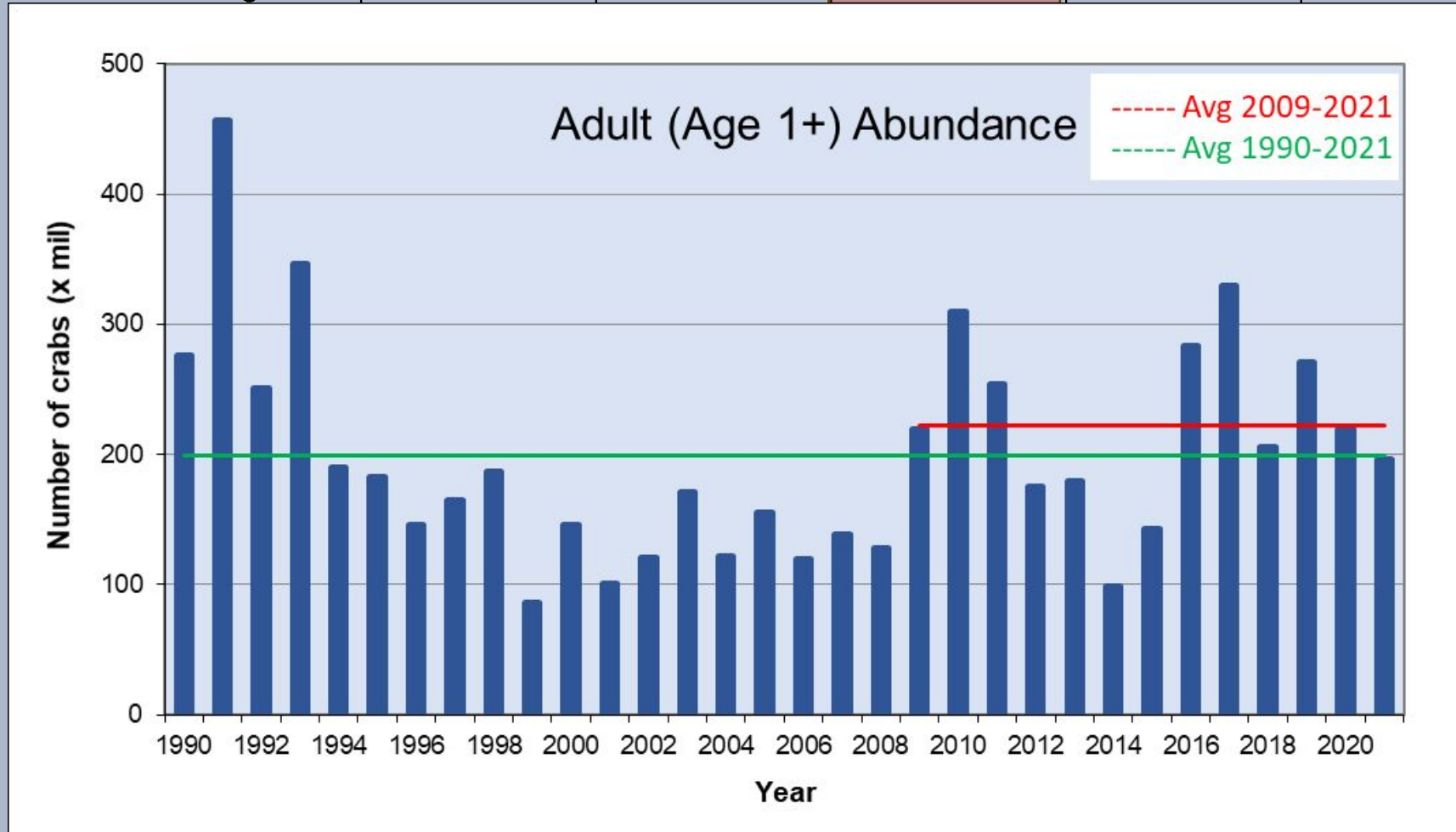
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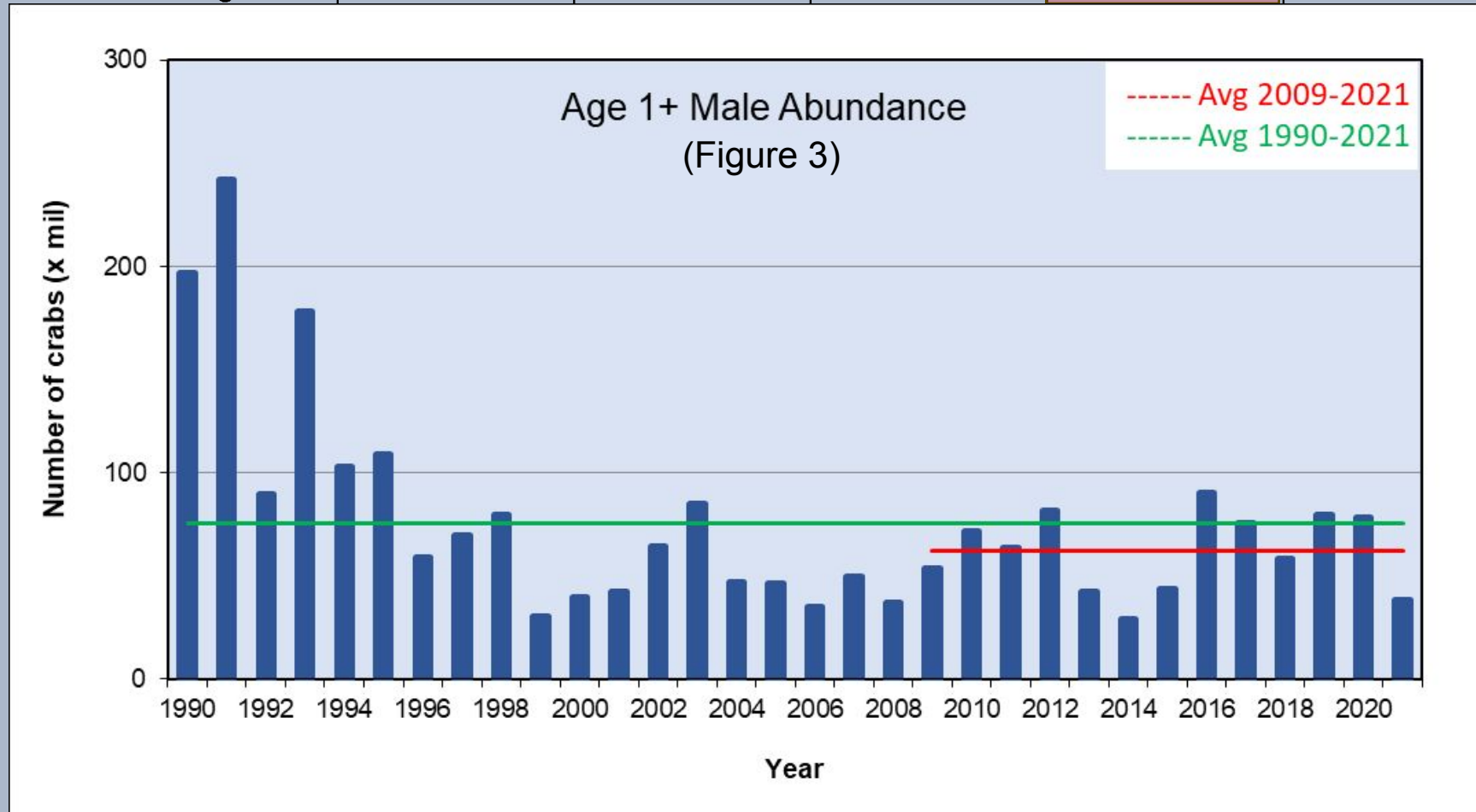
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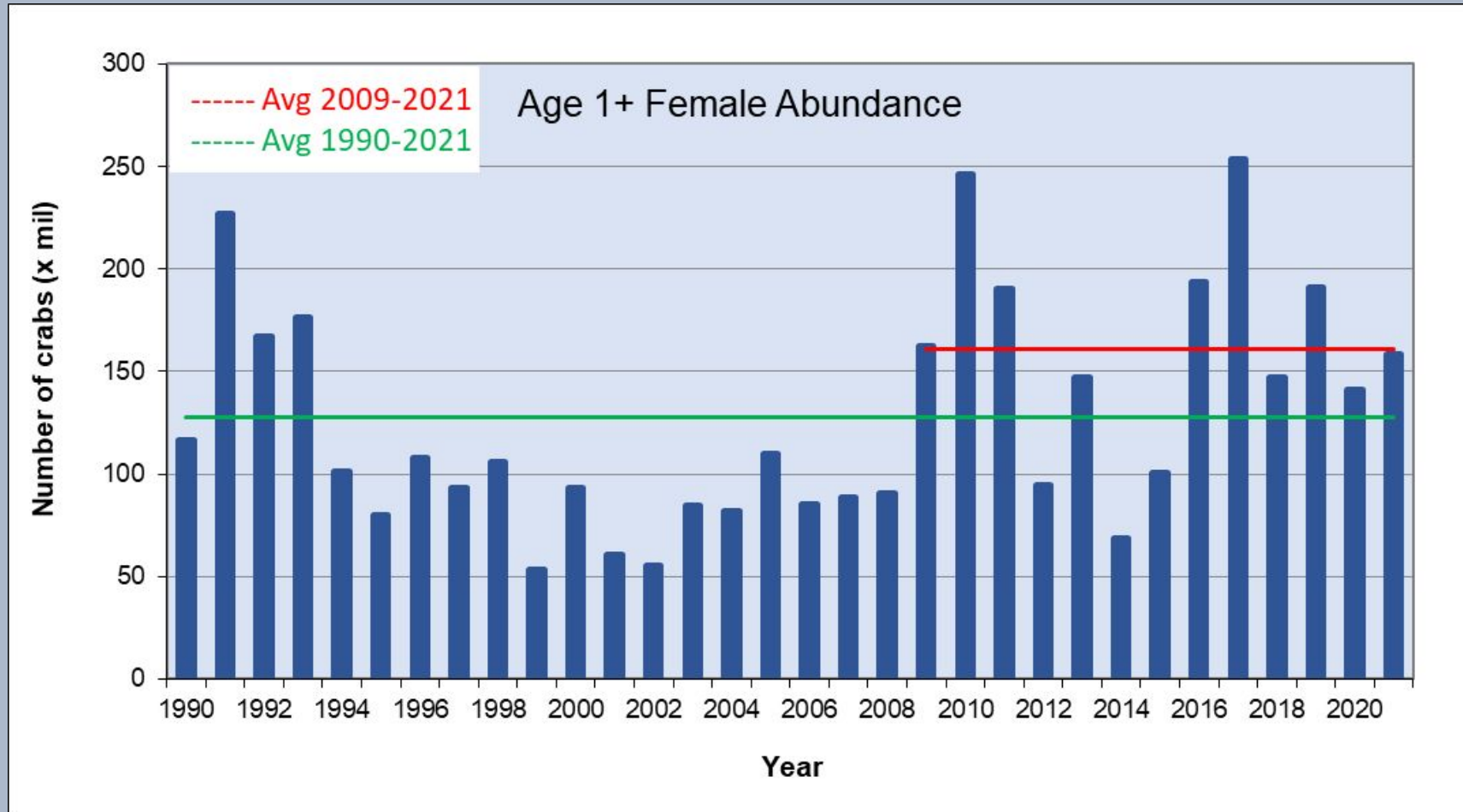
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OVERWINTERING MORTALITY

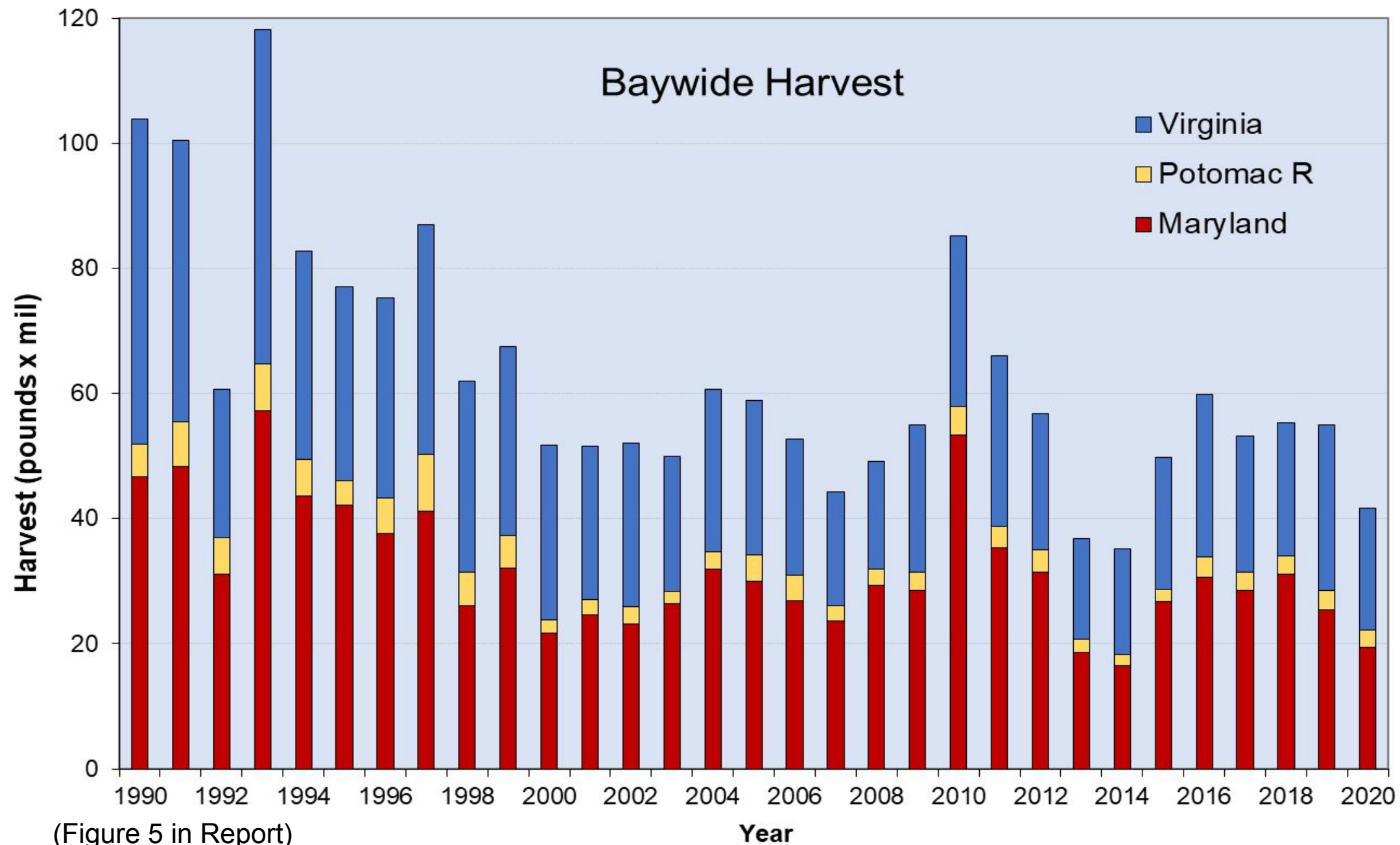
Overwintering mortality in 2021 was lower than average.

Bay-wide Age/sex group	1996-2021 average	2016	2017	2018	2019	2020	2021
All crabs	4.46%	1.95%	1.15%	6.37%	1.80%	0.36%	2.8%
Juveniles	1.14%	0.50%	0.00%	0.87%	0.15%	0.00%	0.11%
Adult Females	7.83%	2.99%	1.37%	11.06%	1.87%	0.47%	2.12%
Adult males	9.25%	1.06%	2.29%	13.66%	7.83%	0.78%	8.39%

(Table 2 in Report)

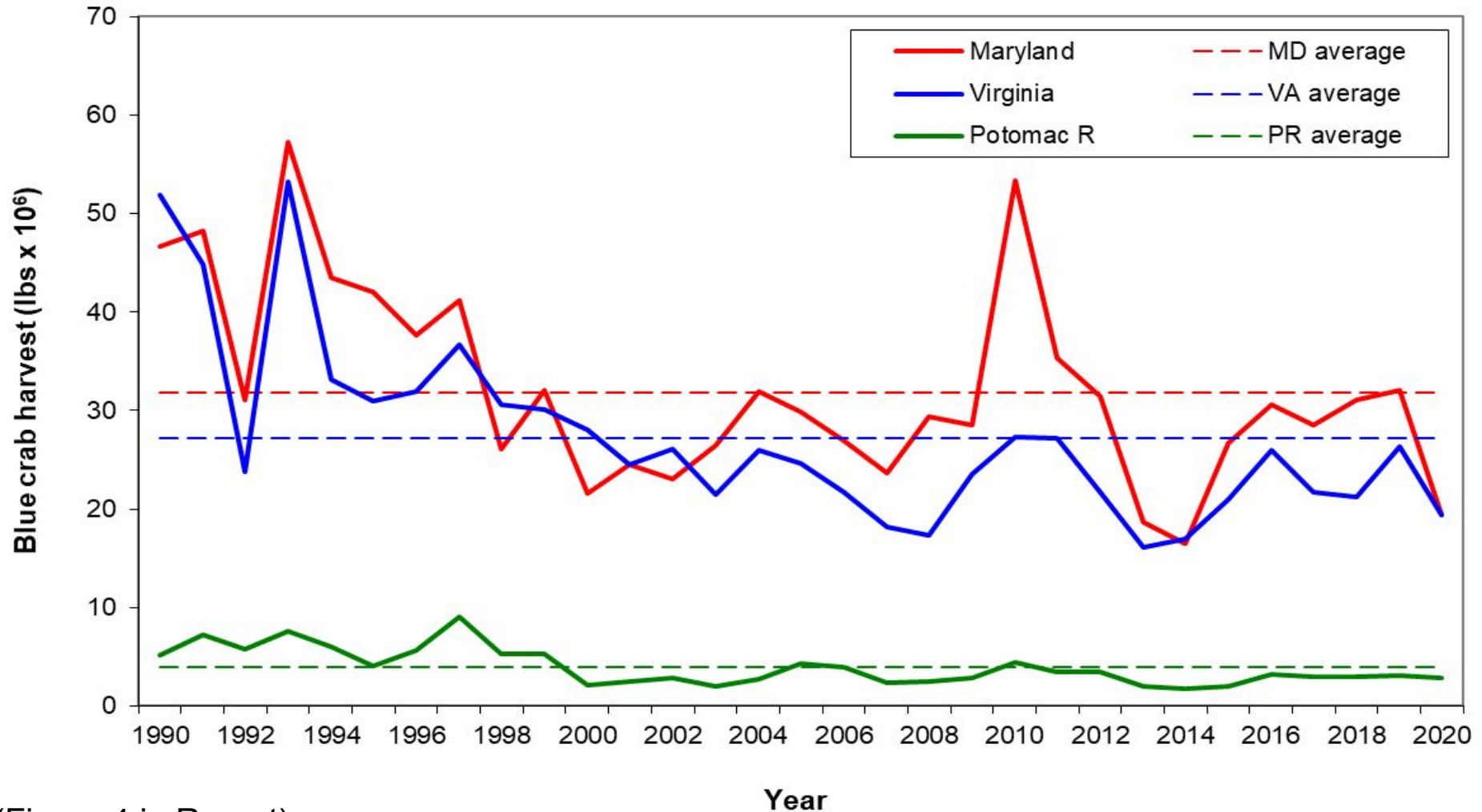
Vessel-specific estimates combined.
MD data from re-sampled sites in March
VA data from random sites in March

2020 BLUE CRAB HARVEST



(Figure 5 in Report)

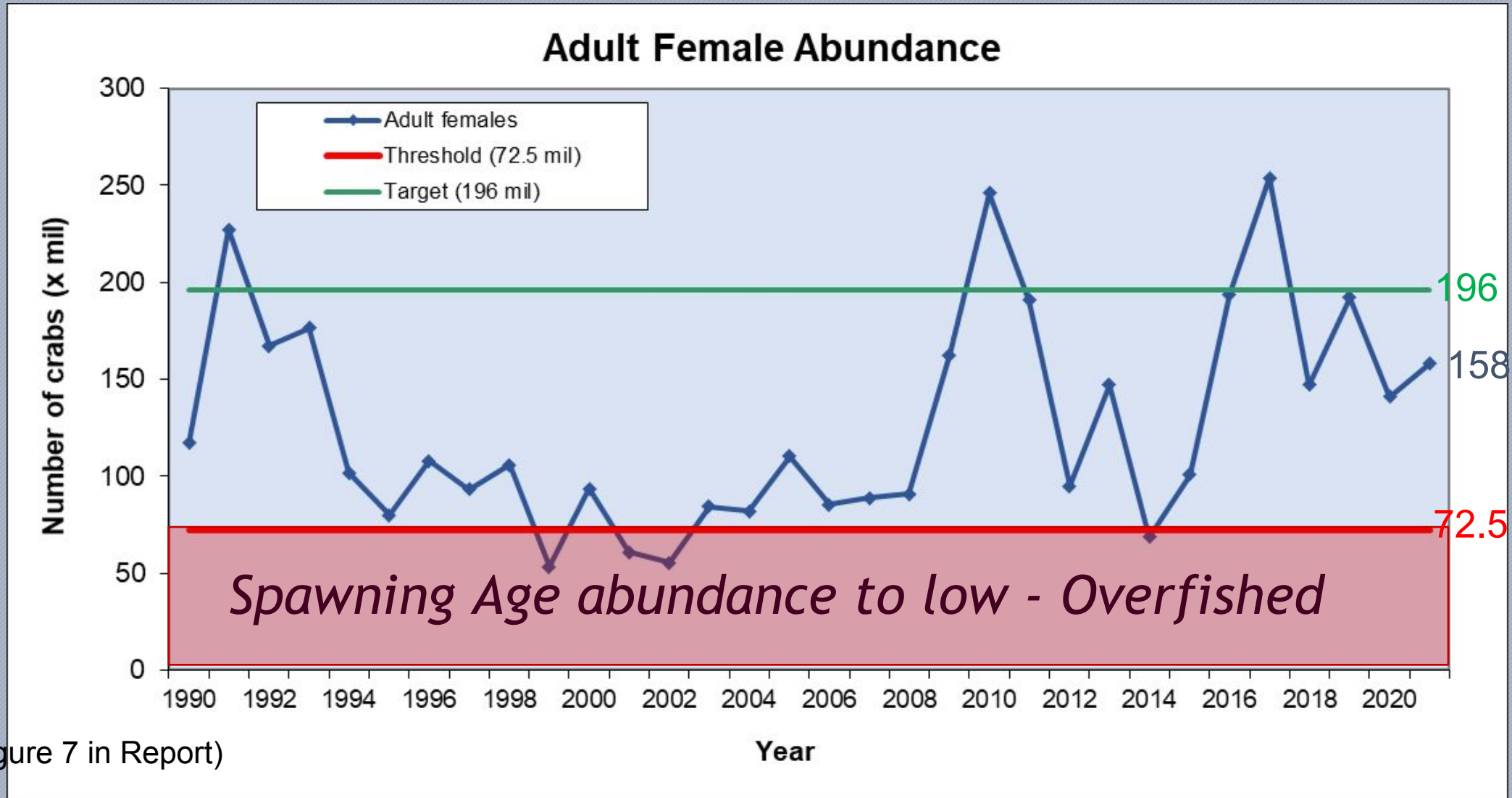
Total Harvest by Jurisdiction



(Figure 4 in Report)

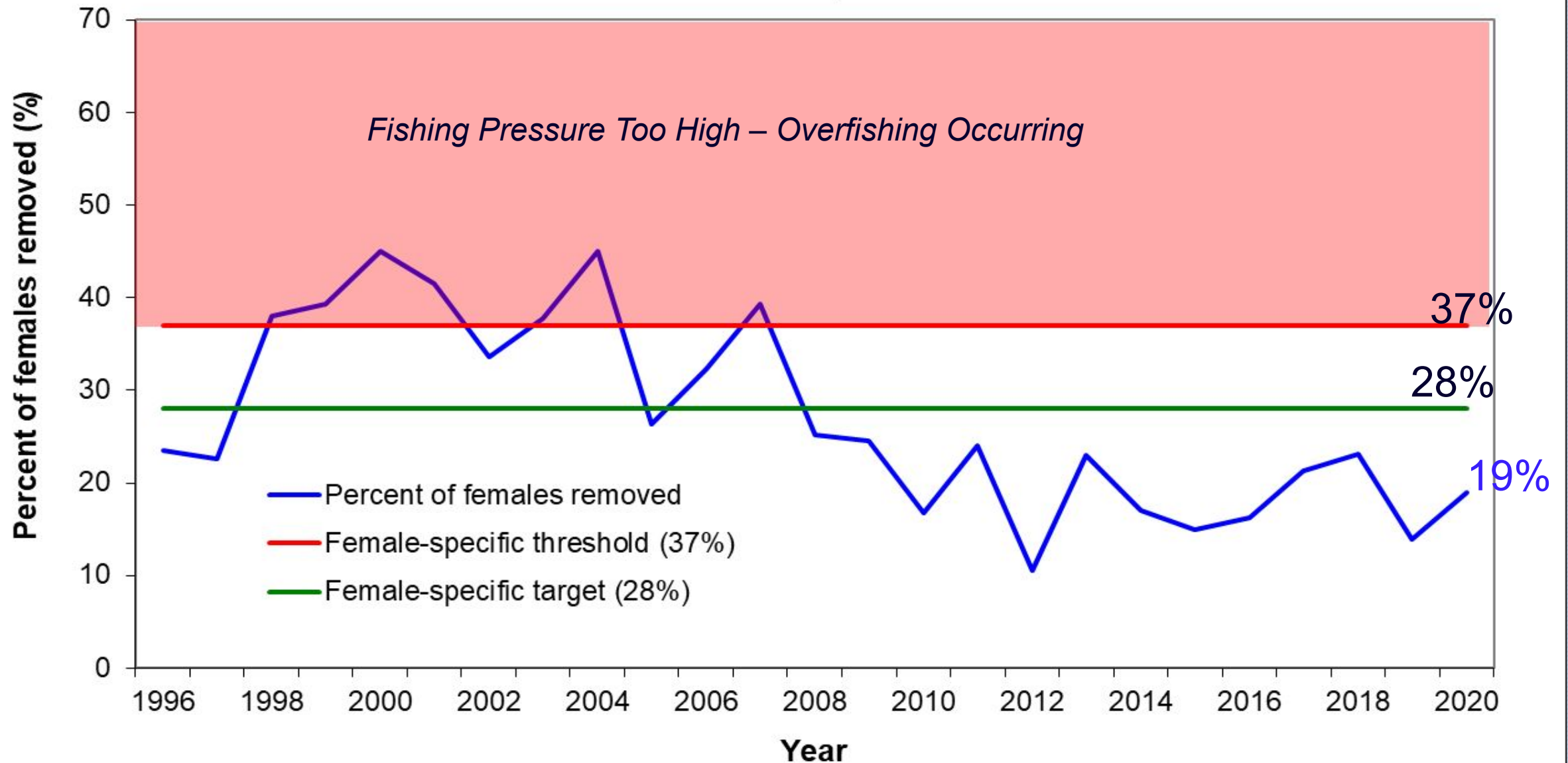
STATUS OF THE STOCK

Control Rule - Adult Female Abundance



(Figure 7 in Report)

Adult Female Exploitation Rate



(Figure 6 in Report)

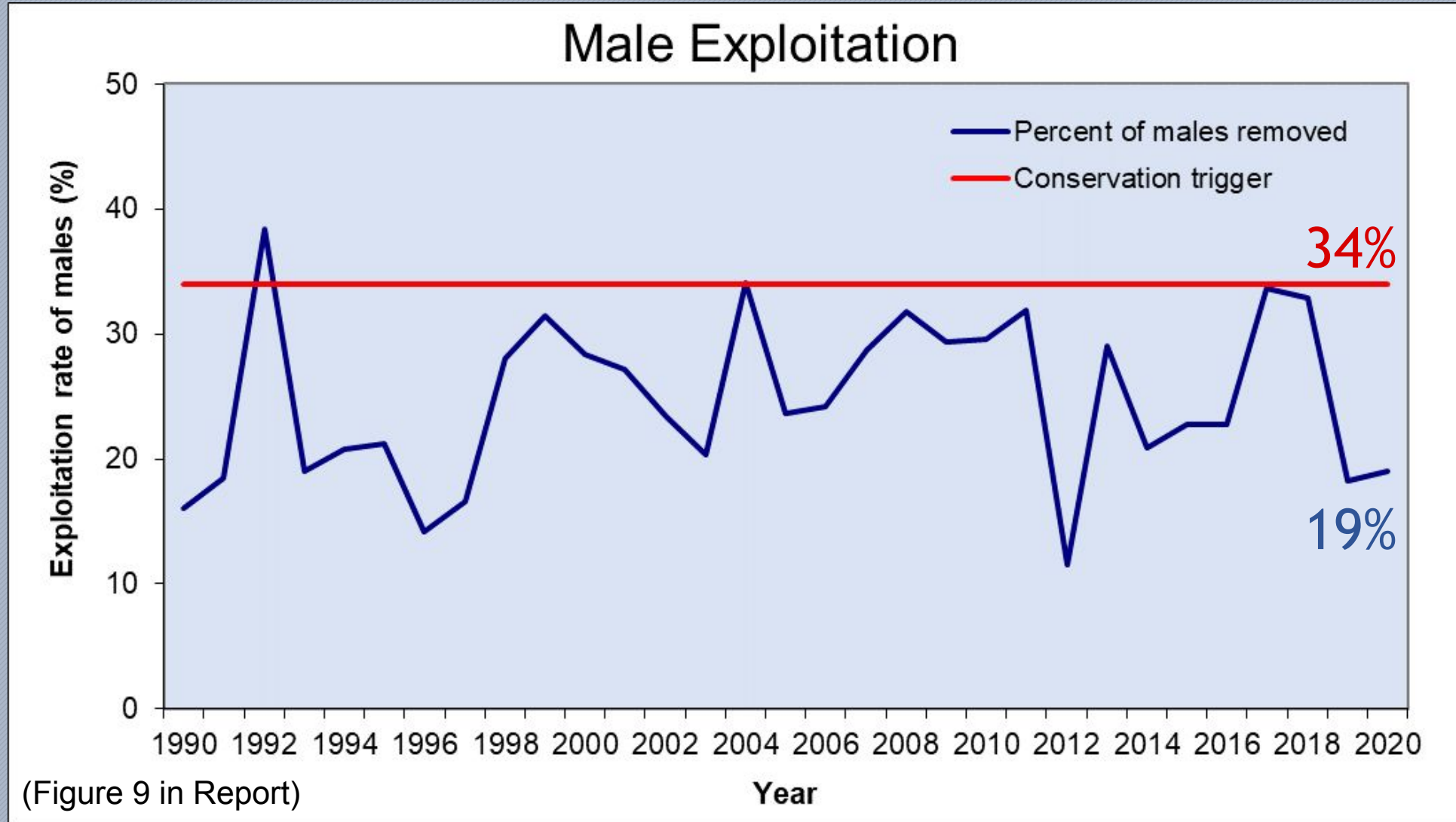
Control Rules — Table 3 in Report

Control Rule	Reference Points *			Stock Status								
	Period	Target	Threshold	2013	2014	2015	2016	2017	2018	2019	2020	2021
Exploitation Fraction (age0+ female crabs)	Current, Female-specific	28%	37% (max)	23%	17%	15%	16%	21%	23%	14%	19%	TBD
Abundance (millions of age 1+ female crabs)	Current, Female-Specific	196	72.5 (min)	147	69	101	194	254	147	191	141	158

*: Updated in 2020

Stock Status: The Chesapeake Bay blue crab stock is **not depleted and overfishing is not occurring.**

MALE CONSERVATION TRIGGER



2021 ABUNDANCE SUMMARY

- Most abundance estimates decreased compared to 2020
 - Total, juvenile, adult, and male abundances all lowest in last 5 years
- Total crab abundance decreased 30% to 282 million crabs
 - Ranks 28th in 32 years of survey
- Juvenile abundance decreased 54% to 86 million
- Adult female abundance increased 12% to 158 million
 - Above the abundance threshold of 72 million crabs
 - Below the abundance target of 196 million crabs
- Adult male abundance decreased 51% to 39 million

Management Advise

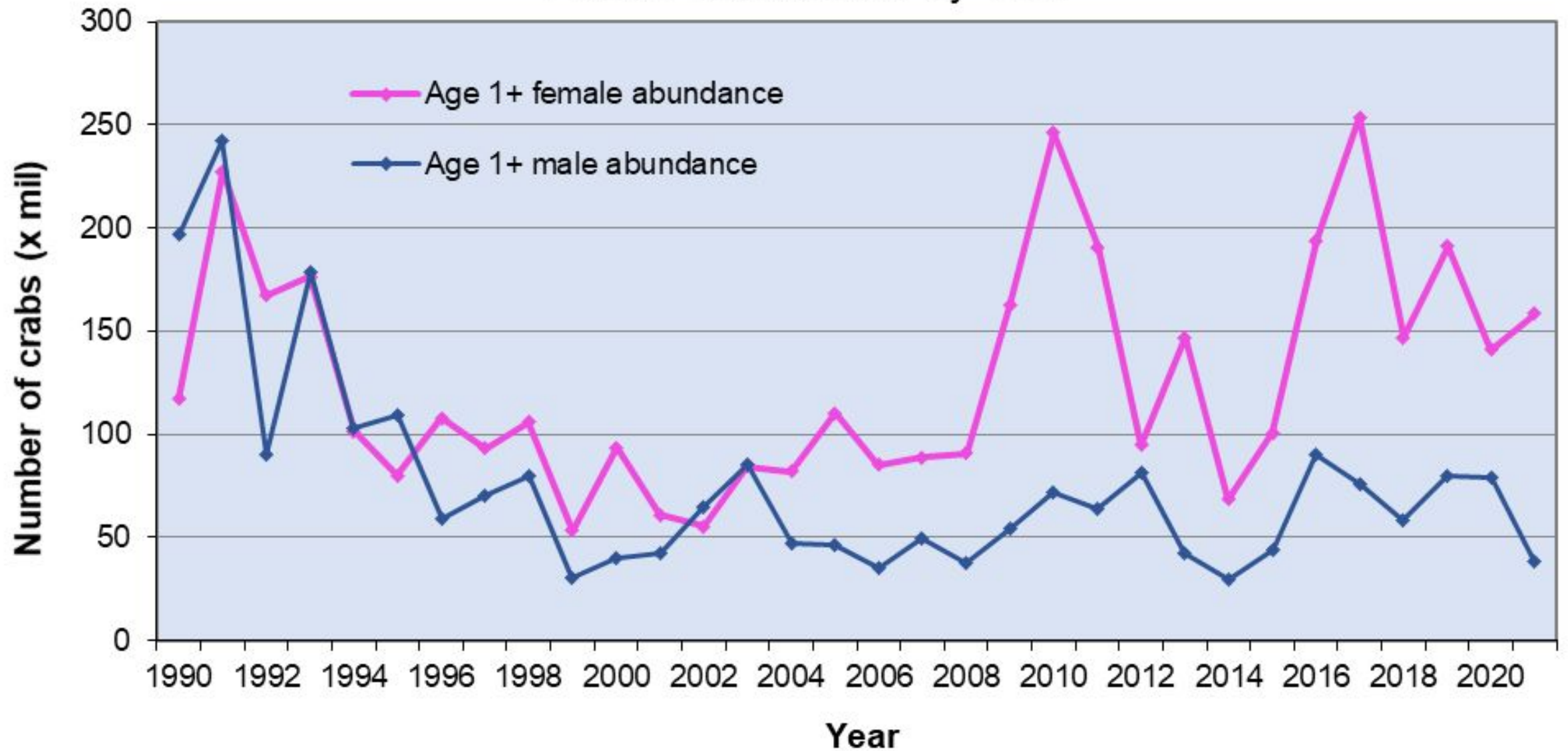
- Juvenile abundance is of concern. They will begin to enter the fishery in August. However, inter-annual variability is to be expected and the survey does not efficiently sample the smaller size classes ($< 60\text{mm}$).
- Researchers and managers will watch closely the juvenile results from summer trawl surveys to verify the Dredge Survey results.
- The Control Rules for Management (Age +1 Female Abundance and Female Exploitation Rate) are well within acceptable ranges warranting no action at this time.

Questions

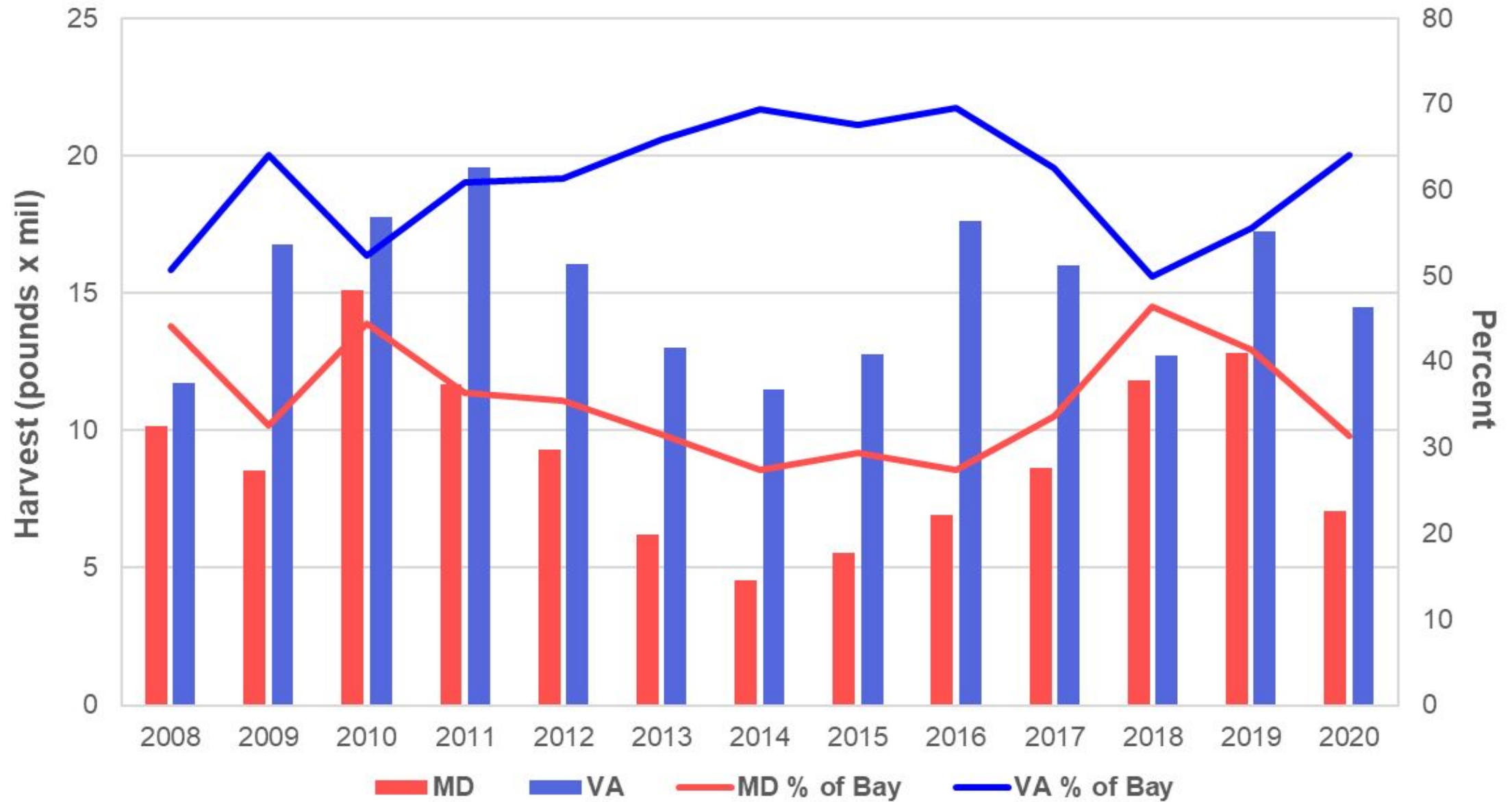


Additional Slides

Adult Abundance by Sex



Female Harvest



Male Harvest

