

# NSRAA 2018 Salmon Season

AND 2019 FORECAST



# 2018 Salmon Returns

- ▶ Huge year for Chum
  - ▶ Crawfish surprises
  - ▶ Deep Inlet strong
  - ▶ 3-year-olds dominate across all programs
- ▶ Medvejie Chinook rebounds
- ▶ Coho mixed
  - ▶ Inside sites performance poor
  - ▶ Deep Inlet record return



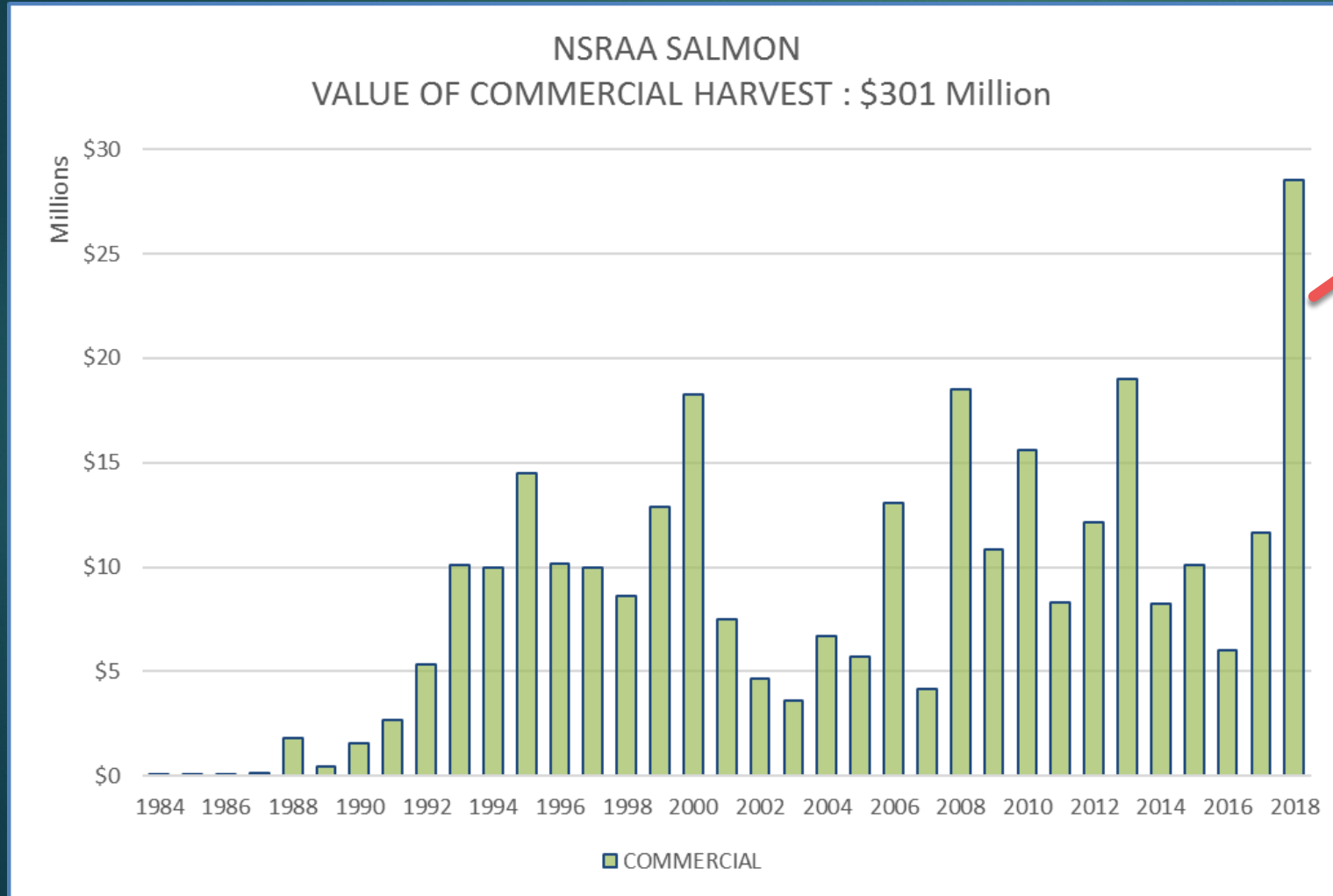
# 2018 Salmon Returns: Record Commercial Value



**\$ 28,567,000**



# 2018 Salmon Returns: Record Commercial Value



**\$28,557,000**

# Records Fell in 2018



Highest Cost  
Recovery Value  
\$12.6 million



Highest Seine  
Value  
\$21.6 million



Highest Troll Value  
\$4.4 million

# Records Fell in 2018



Largest chum opening in state history

1,061,686 chum caught in a single day



Highest number of 3-yr-old chum to an NSRAA program

2,928,500 at Crawfish



Largest % of SEAK Salmon Value from NSRAA

26.7% of commercial value was from NSRAA production

# 2018 Chinook



- ▶ **Medvejie: 24,115 fish – 85% 2-ocean fish**
  - ▶ 2<sup>nd</sup> highest # of 2-ocean Chinook
  - ▶ HPM: 993
  - ▶ Crawfish: 100
  - ▶ **2019 Forecast: 33,800**
- 
- ▶ Hidden Falls: 1,350 fish
  - ▶ 2019 Forecast: 1,900

# 2018 Coho



- ▶ Deep Inlet: 86,000 fish
- ▶ Marine survival: 9.5%
- ▶ 2019 Forecast: 66,000
  
- ▶ Medvejie: 14,000 fish
- ▶ Marine survival: 6.9%
- ▶ 2019 Forecast: 12,000

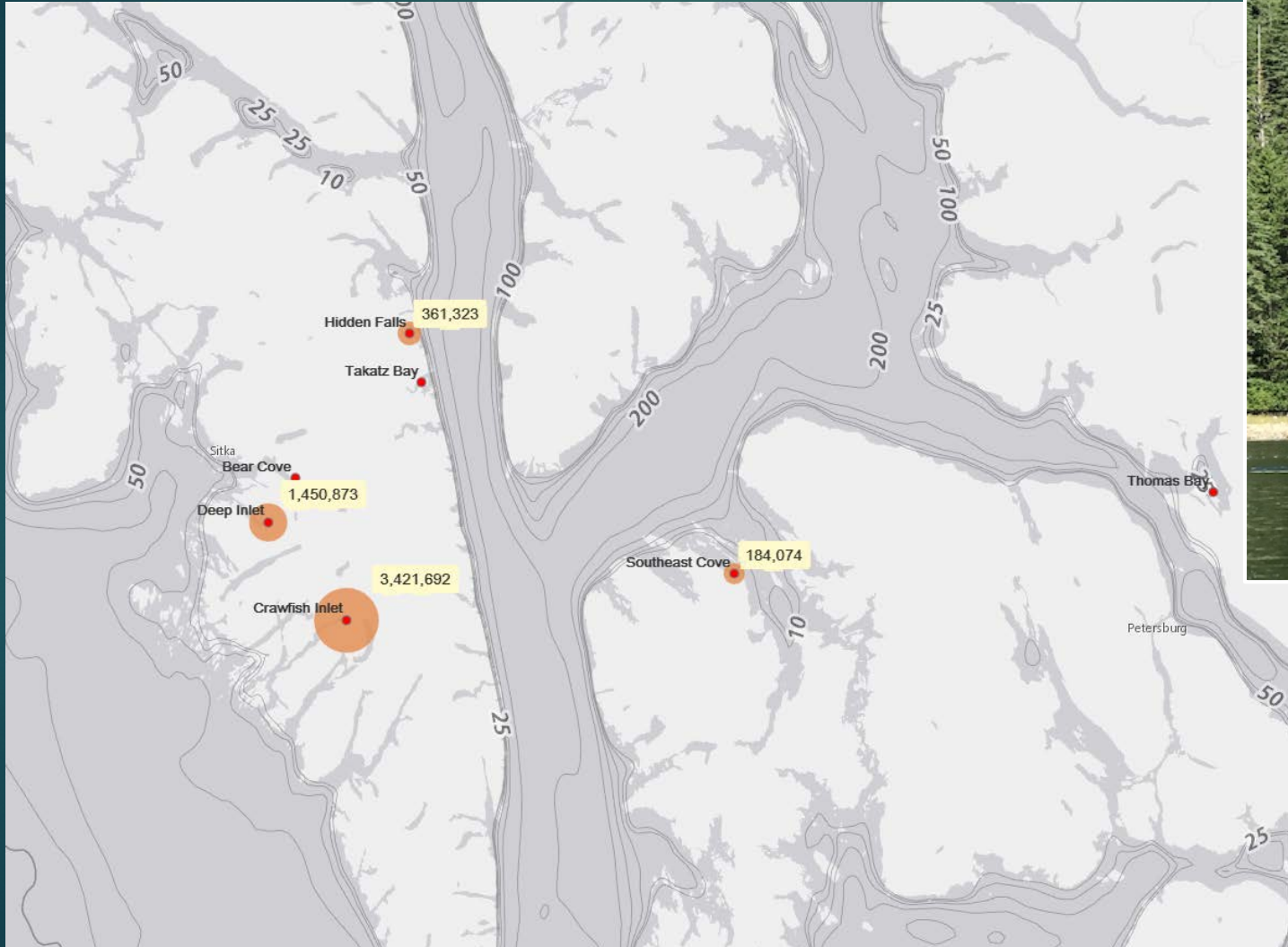


# 2018 Coho

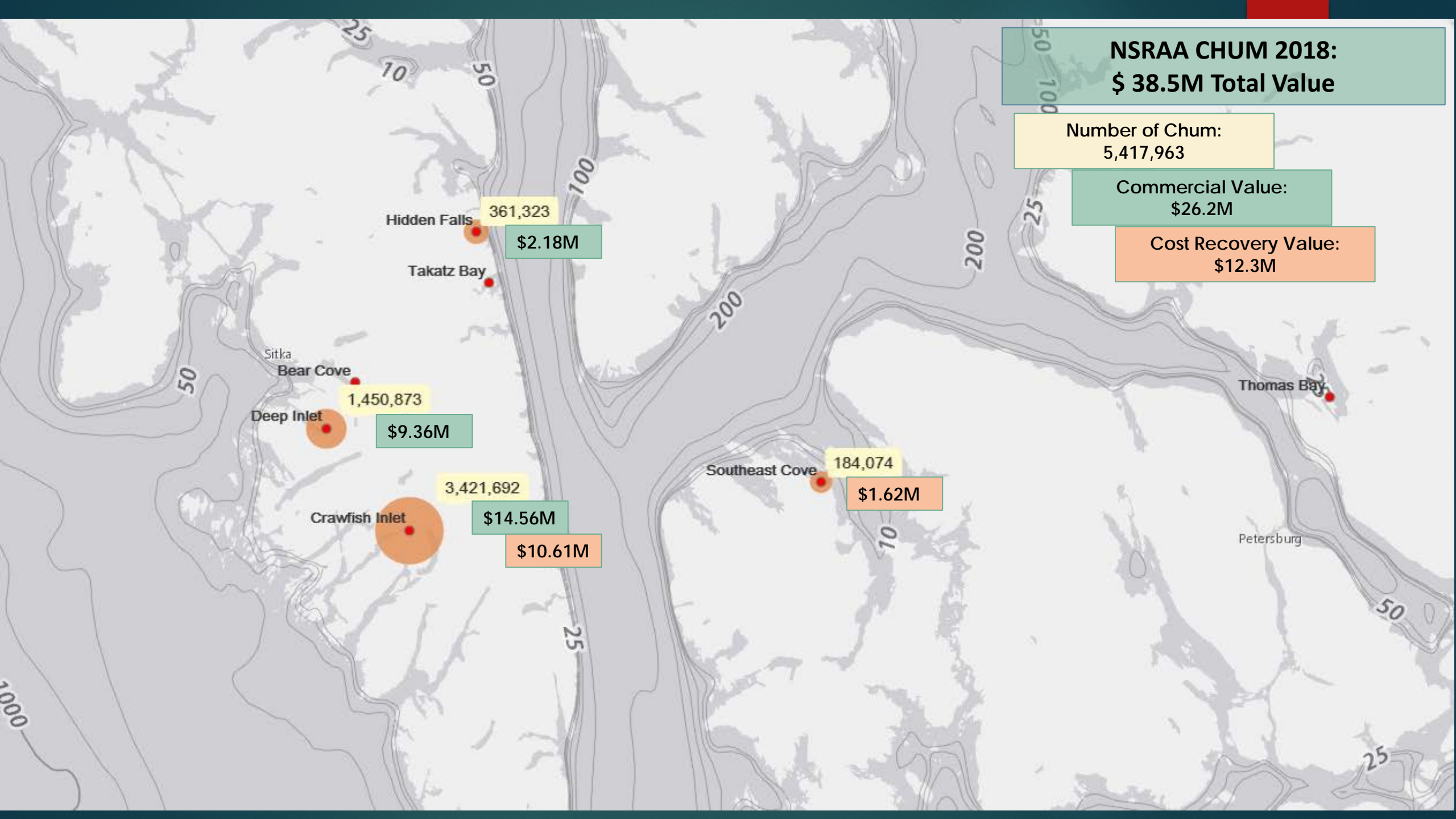


- ▶ Deer Lake: 42,000 fish
- ▶ Marine survival: 1.7%
- ▶ 2019 Forecast: 143,000
  
- ▶ Hidden Falls: 25,000 fish
- ▶ Marine survival: 0.8%
- ▶ 2019 Forecast: 167,000

# 2018 Chum Returns



[Crawfish Video Kai Malicoat](#)



**NSRAA CHUM 2018:  
\$ 38.5M Total Value**

**Number of Chum:  
5,417,963**

**Commercial Value:  
\$26.2M**

**Cost Recovery Value:  
\$12.3M**

Crawfish  
accounts for 51%  
of NSRAA  
commercial value

## NSRAA VALUE 2018

Project (Multiple Items)

ALL PROJECTS

Sum of Value	Gear			
Species	Troll	Gillnet	Seine	Grand Total
Coho	\$1,059,370	\$111,189	\$188,286	\$1,358,845
Chinook	\$457,211	\$263,834	\$284,591	\$1,005,636
Chum	\$2,900,034	\$2,144,676	\$21,147,497	\$26,192,207
<b>Grand Total</b>	<b>\$4,416,614</b>	<b>\$2,519,698</b>	<b>\$21,620,375</b>	<b>\$28,556,687</b>

Project Craw Chum

CRAWFISH

Sum of Value	Gear			
Species	Troll	Gillnet	Seine	Grand Total
Chum	\$2,097,901	\$109,191	\$12,349,881	\$14,556,973
<b>Grand Total</b>	<b>\$2,097,901</b>	<b>\$109,191</b>	<b>\$12,349,881</b>	<b>\$14,556,973</b>

Troll	Gillnet	Seine	Grand Total
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Crawfish Portion

48%

4%

57%

51%

# The Three-year-old Chum Phenomenon



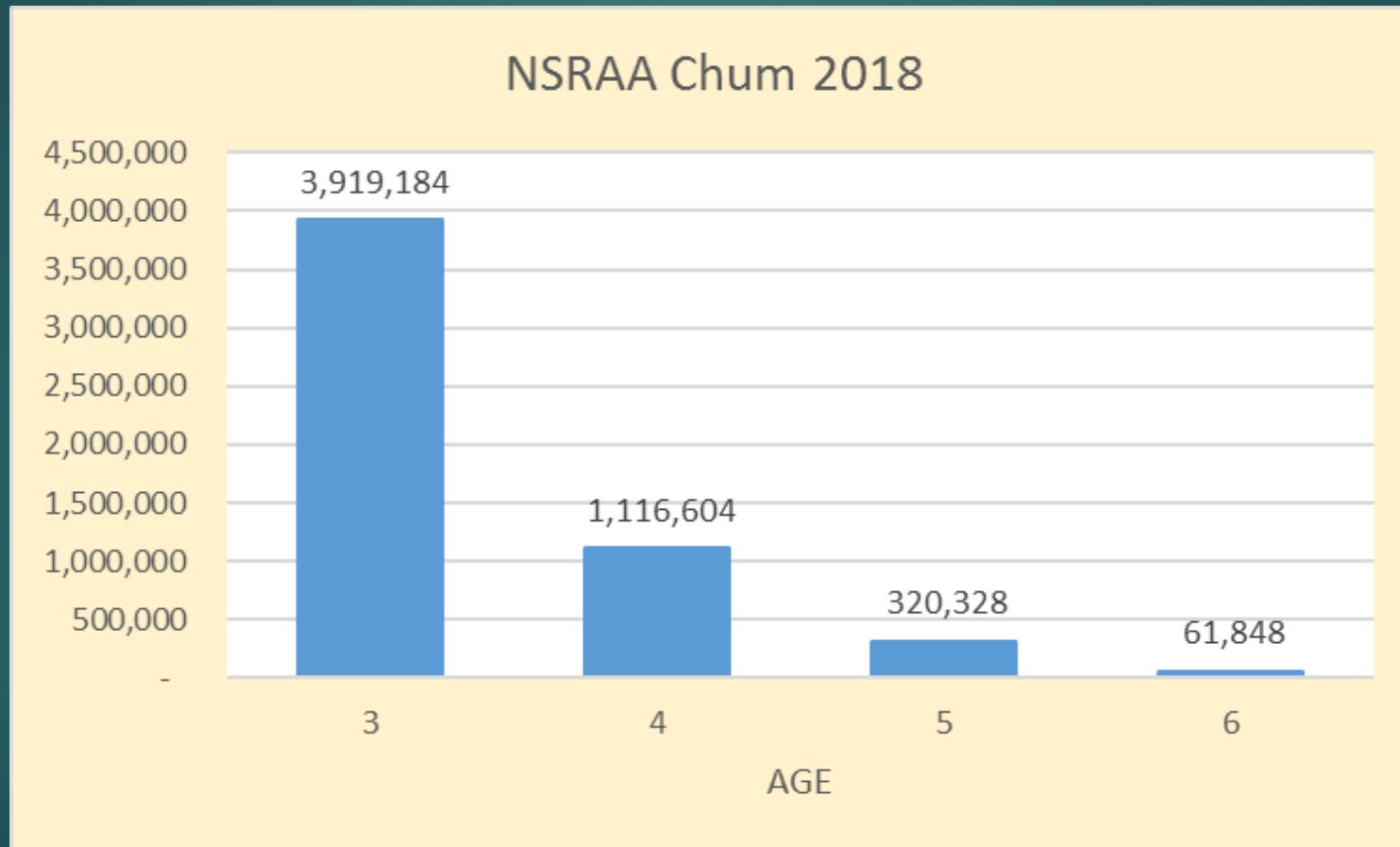
PHENOMENON

# Chum Age 2018: NSRAA programs

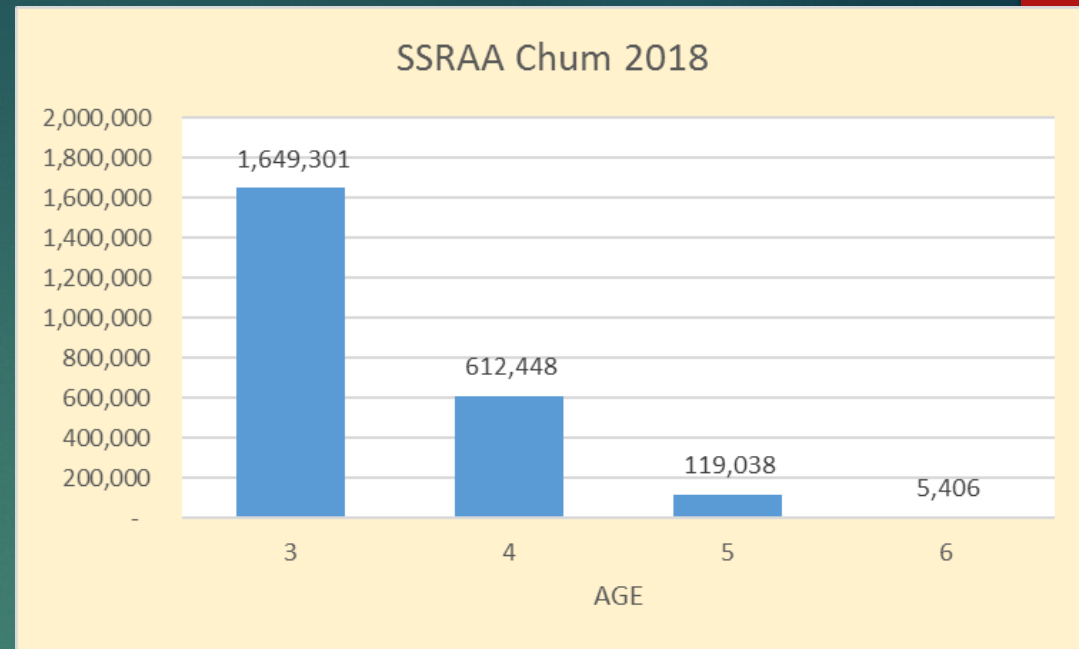
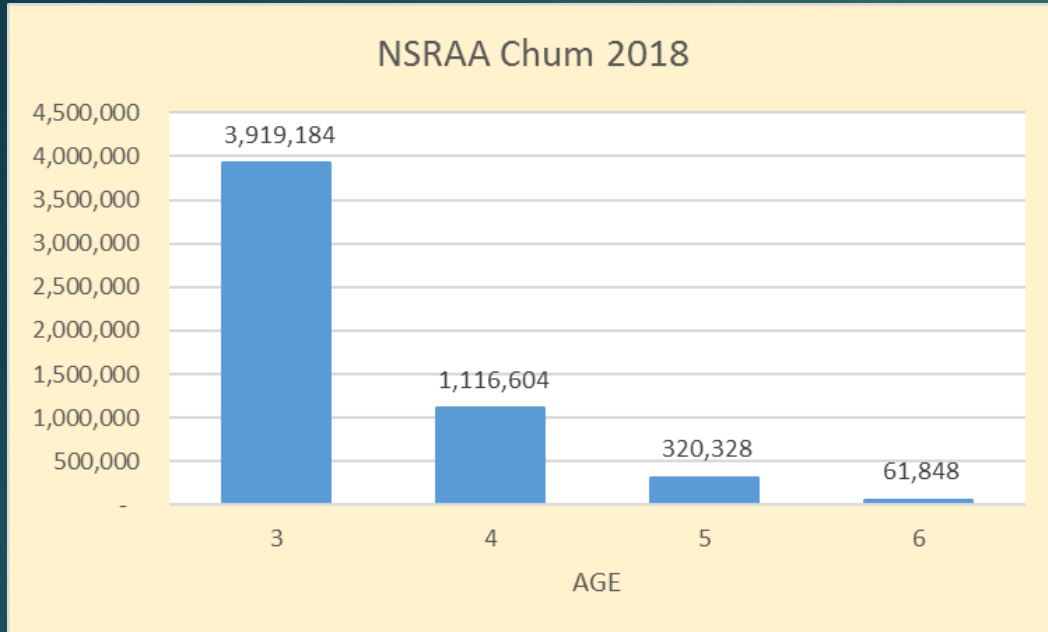
NSRAA CHUM AGE CLASS - PRELIMINARY 2018

SITE	3	4	5	6	Grand Total
<b>CRAWFISH INLET</b>	2,928,519	490,111	1,952	1,111	<b>3,421,692</b>
Medvejie stock (otolith)	86%	14%	0%	0%	100%
<b>DEEP INLET</b>	702,654	434,995	91,008	43,093	<b>1,271,750</b>
Medvejie stock (otolith)	55%	34%	7%	3%	100%
<b>DEEP INLET</b>	106,792	9,889	61,564	878	<b>179,123</b>
Hidden Falls stock (otolith)	60%	6%	34%	0%	100%
<b>HIDDEN FALLS</b>	66,876	122,518	155,435	16,494	<b>361,323</b>
Hidden Falls stock (otolith)	19%	34%	43%	5%	100%
<b>SOUTHEAST COVE</b>	114,342	59,091	10,369	272	<b>184,074</b>
Hidden Falls stock (otolith)	62%	32%	6%	0%	100%
<b>ALL NSRAA</b>	<b>3,919,184</b>	1,116,604	320,328	61,848	<b>5,417,963</b>
	72%	21%	6%	1%	100%

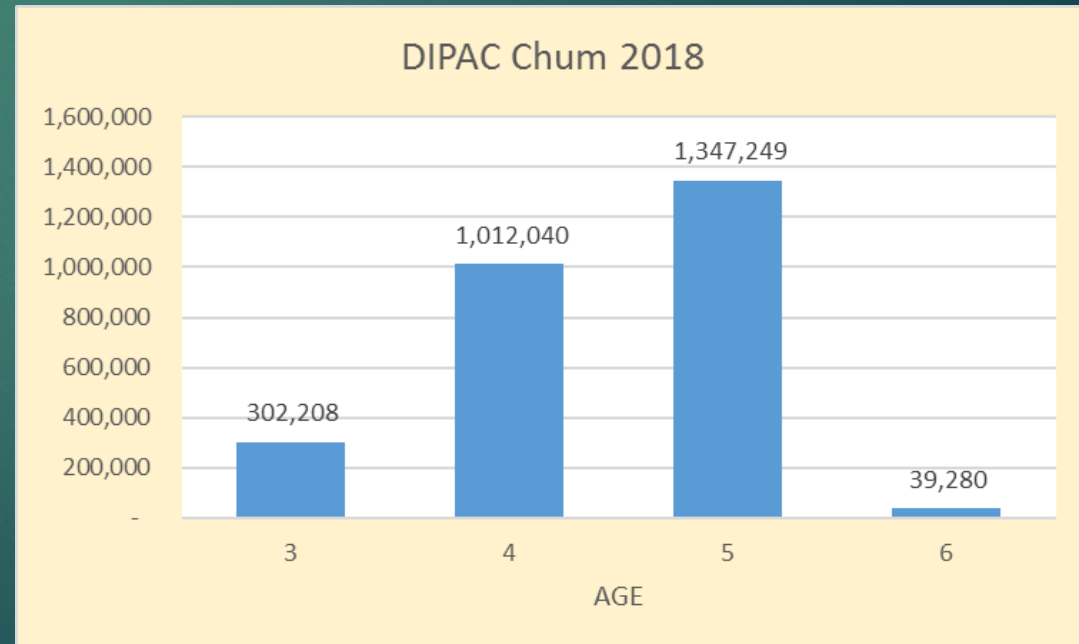
# Chum Age 2018 : 5.4 million total chum; 3.9 million threes



# Chum Age 2018



SSRAA chum age classes mirrored NSRAA's. DIPAC didn't show the same trend, but still had very high numbers of threes.

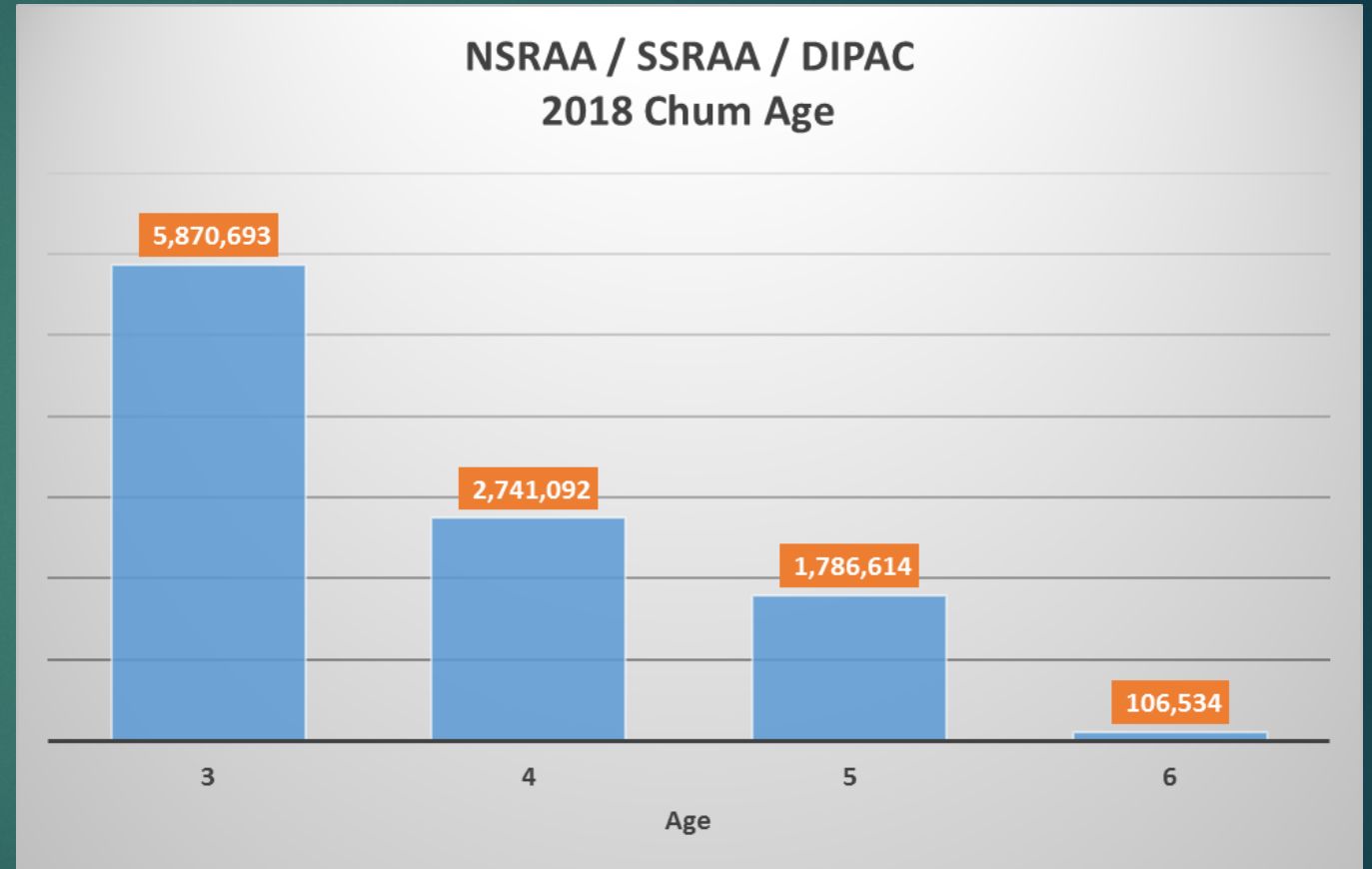




# Chum Age 2018

Combined hatchery production:

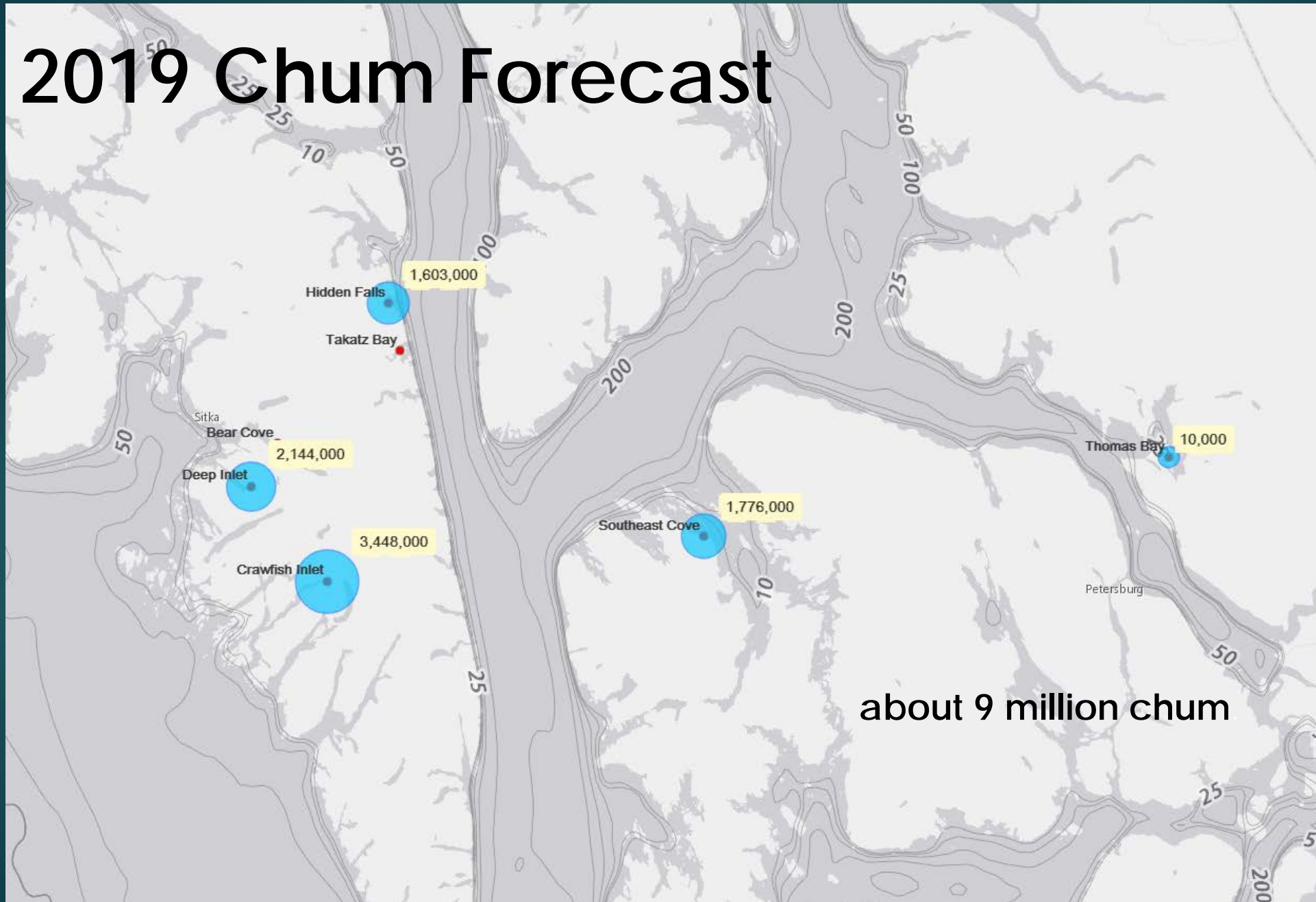
- 56% 3-yr-olds
- 10,505,000 total chum



With so many threes this year.....

what's going to happen NEXT year??

# 2019 Chum Forecast

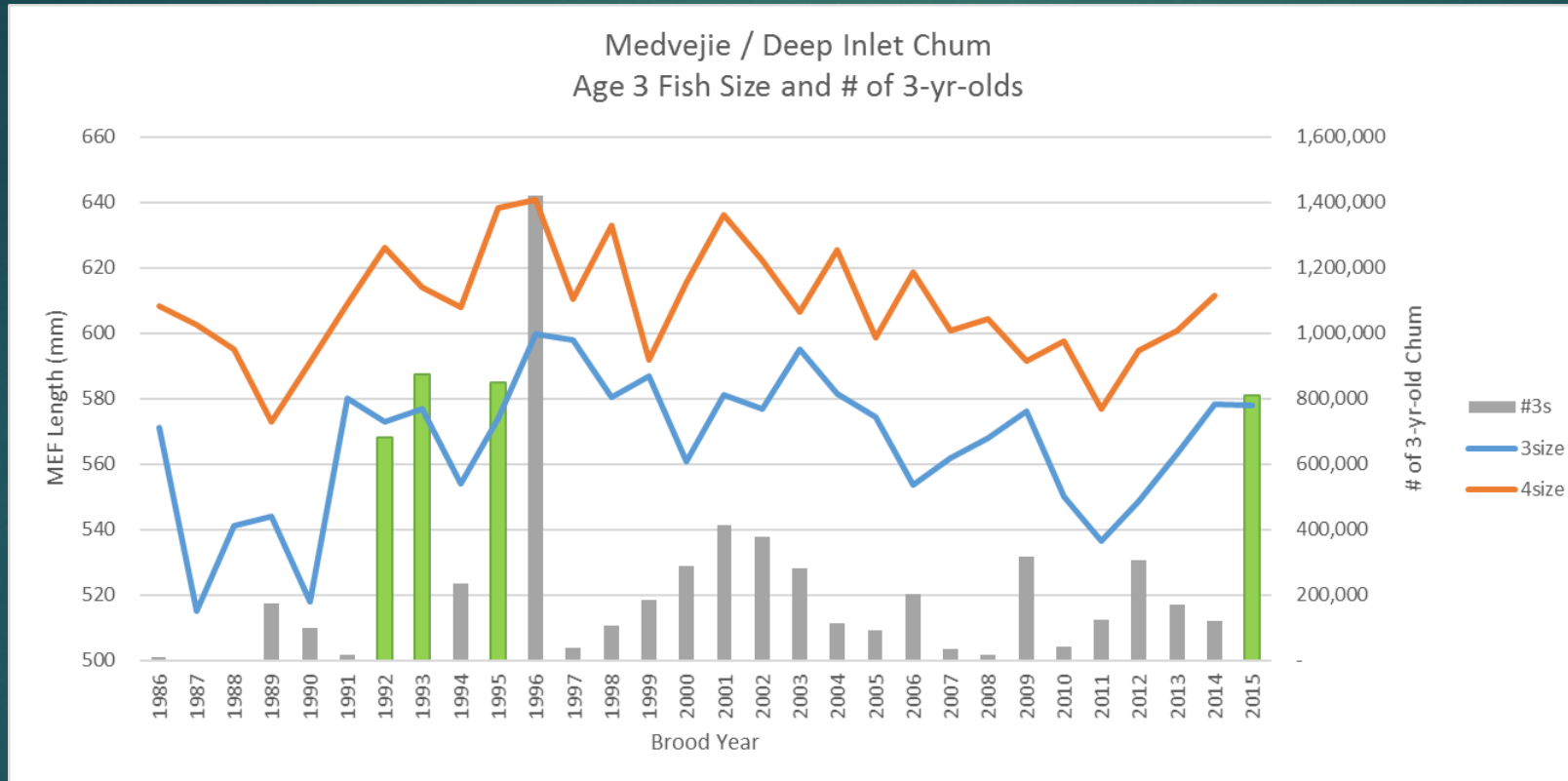


about 9 million chum

# 2019 Chum Forecast Considerations

- ▶ **Large numbers of 3-year olds:** Does this necessarily mean we will see an age class shift? Yes – almost certainly.
- ▶ **3-yr-old Fish Size:** Were the 3s so large that we would expect a large age class shift based on size alone? It doesn't appear so.
- ▶ **Have we been here before?:** Have we ever seen this number of threes? Yes. In all cases except Crawfish.

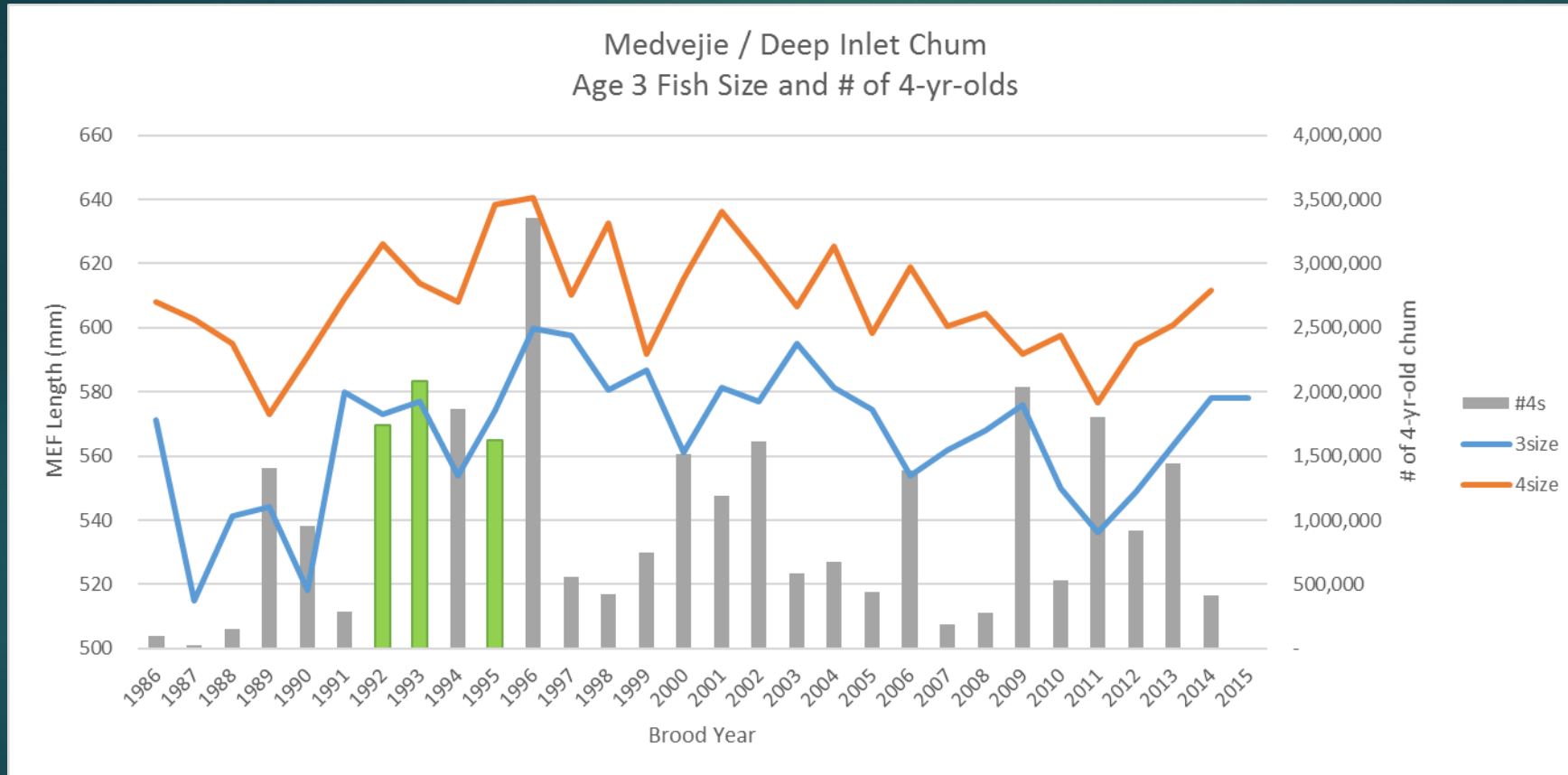
# 3-yr-olds: Fish size and numbers of for Deep Inlet



2018 3s  
ranked 10<sup>th</sup>  
in fish size.

\*Green bars: 1992, 1993, 1995 had similar fish size and numbers of 3s.  
\*1996 had a record number of 3s. Fish size was larger.

# 4-yr-old returns the following year



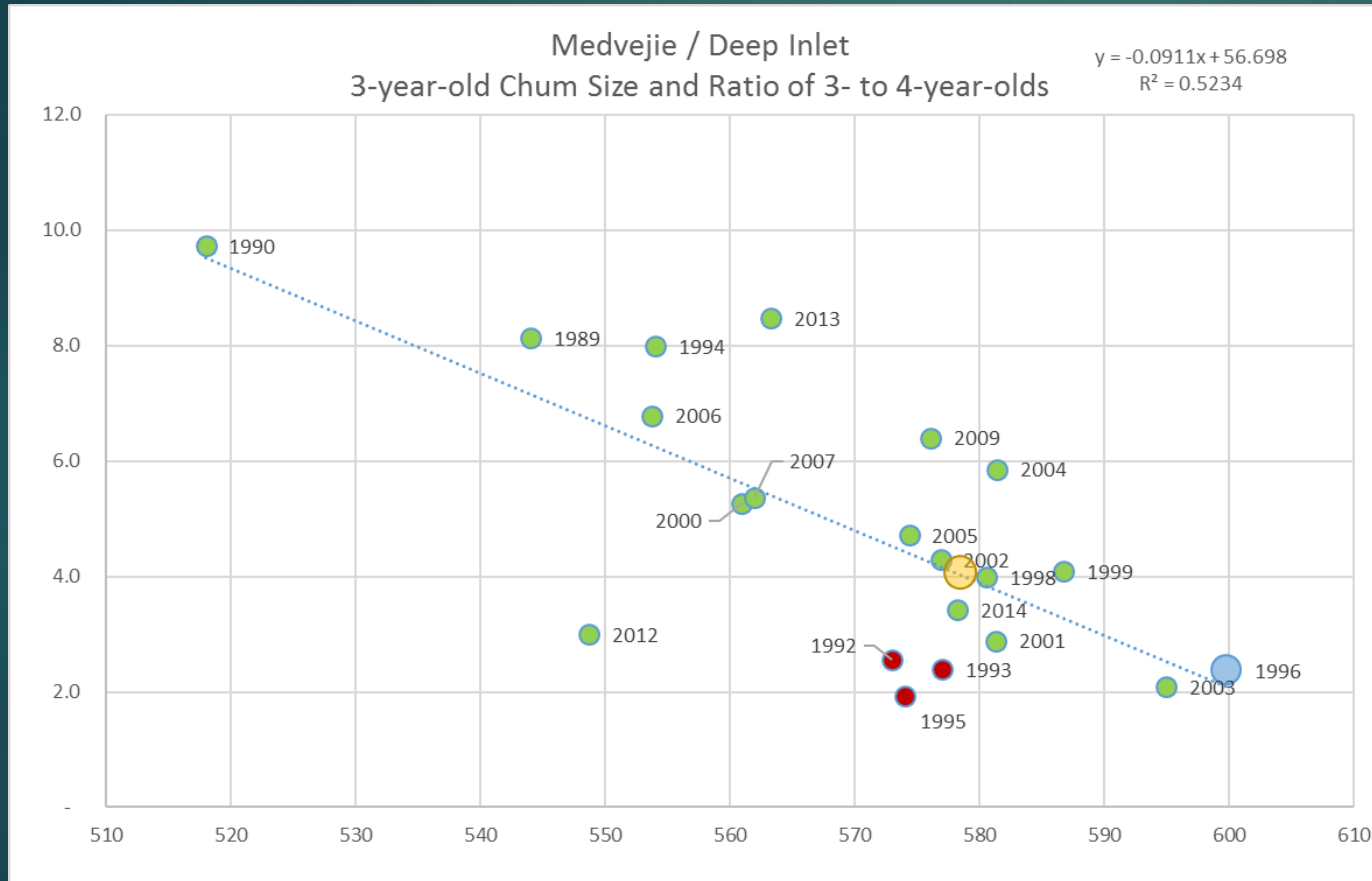
Brood Year	3 size	4 size	Ratio 3-4	3		4	
				3	4	3	4
1996	600	641	2.4	1,418,983	3,355,122		
1992	573	626	2.6	682,880	1,744,541		
1993	577	614	2.4	873,517	2,085,895		
1995	574	638	1.9	848,377	1,625,123		
2015	578		2.3	811,282	1,862,979		

Green bars: 1992, 1993, 1995 had similar fish size and numbers of 3s

# Final estimates for similar years with BY2015 (2019 return) forecast

Brood Year	3 size	4 size	Ratio 3-4	3	4	5	6	Total	Rel	MS
1996	600	641	2.4	1,418,983	3,355,122	353,975	4,425	5,132,505	38,575,000	13.3%
								-		
1992	573	626	2.6	682,880	1,744,541	271,206	10,033	2,708,660	29,730,500	9.1%
1993	577	614	2.4	873,517	2,085,895	291,292	7,893	3,258,597	29,264,800	11.1%
1995	574	638	1.9	848,377	1,625,123	158,387	5,804	2,637,691	39,578,000	6.7%
2015	578		2.3	811,282	1,862,979	250,000	5,000	2,929,261	69,045,791	4.2%

# Regression of size of 3s and Ratio of 4s to 3s



Regression suggests 4.0 x number of threes; the forecast is 3,280,000

Traditional Regression (#3s to forecast #4s); forecast is 2,137,000

Modified forecast based on trend for similar years (red data points): forecast is 1,863,000

(Full forecast of 2,144,000 includes ages 3, 5, 6.)

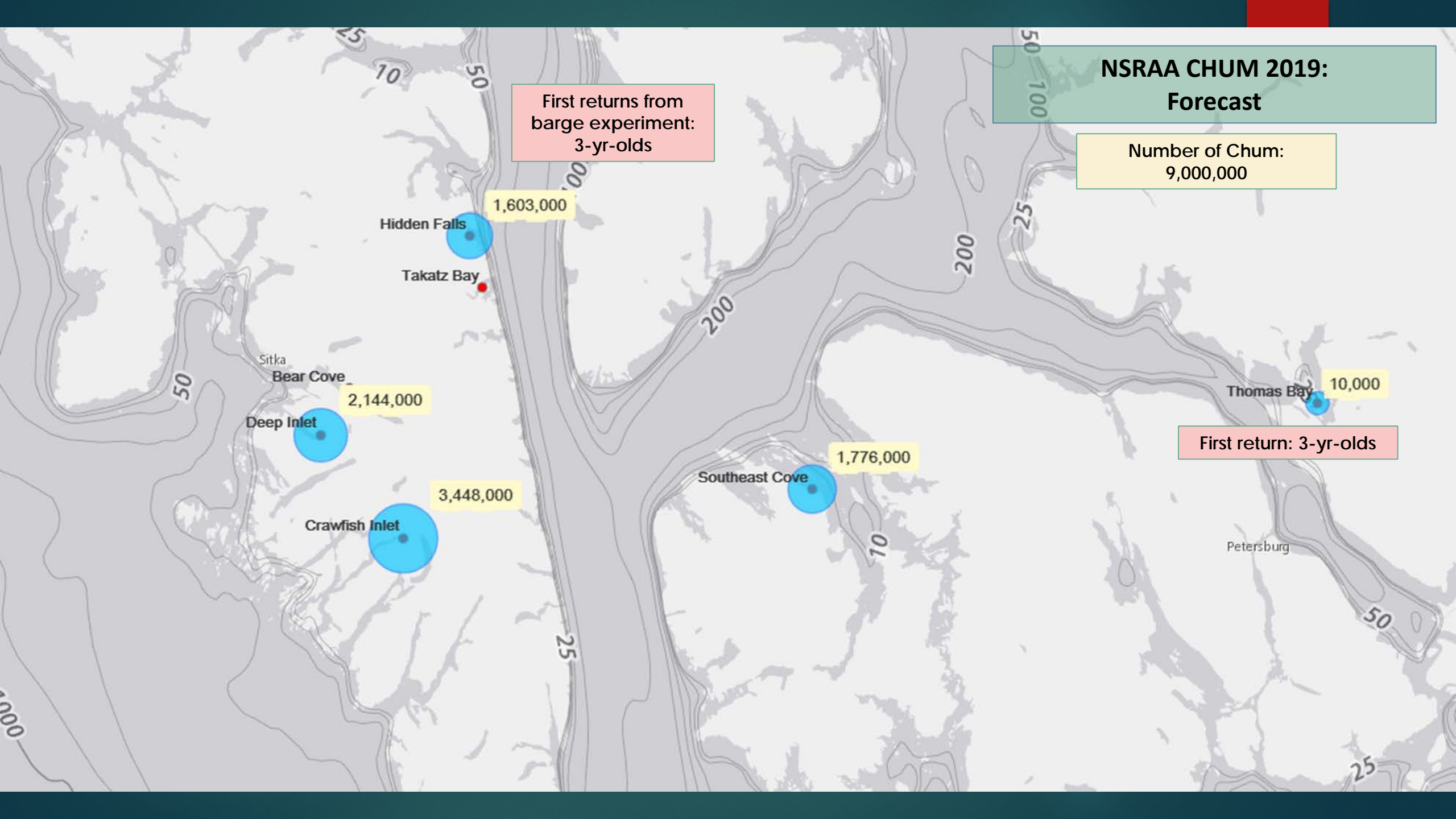


**NSRAA CHUM 2019:  
Forecast**

Number of Chum:  
9,000,000

First returns from  
barge experiment:  
3-yr-olds

First return: 3-yr-olds



# Thank you



**Crawfish, Thomas Bay & S.E. Cove  
Management Plans for 2019?**

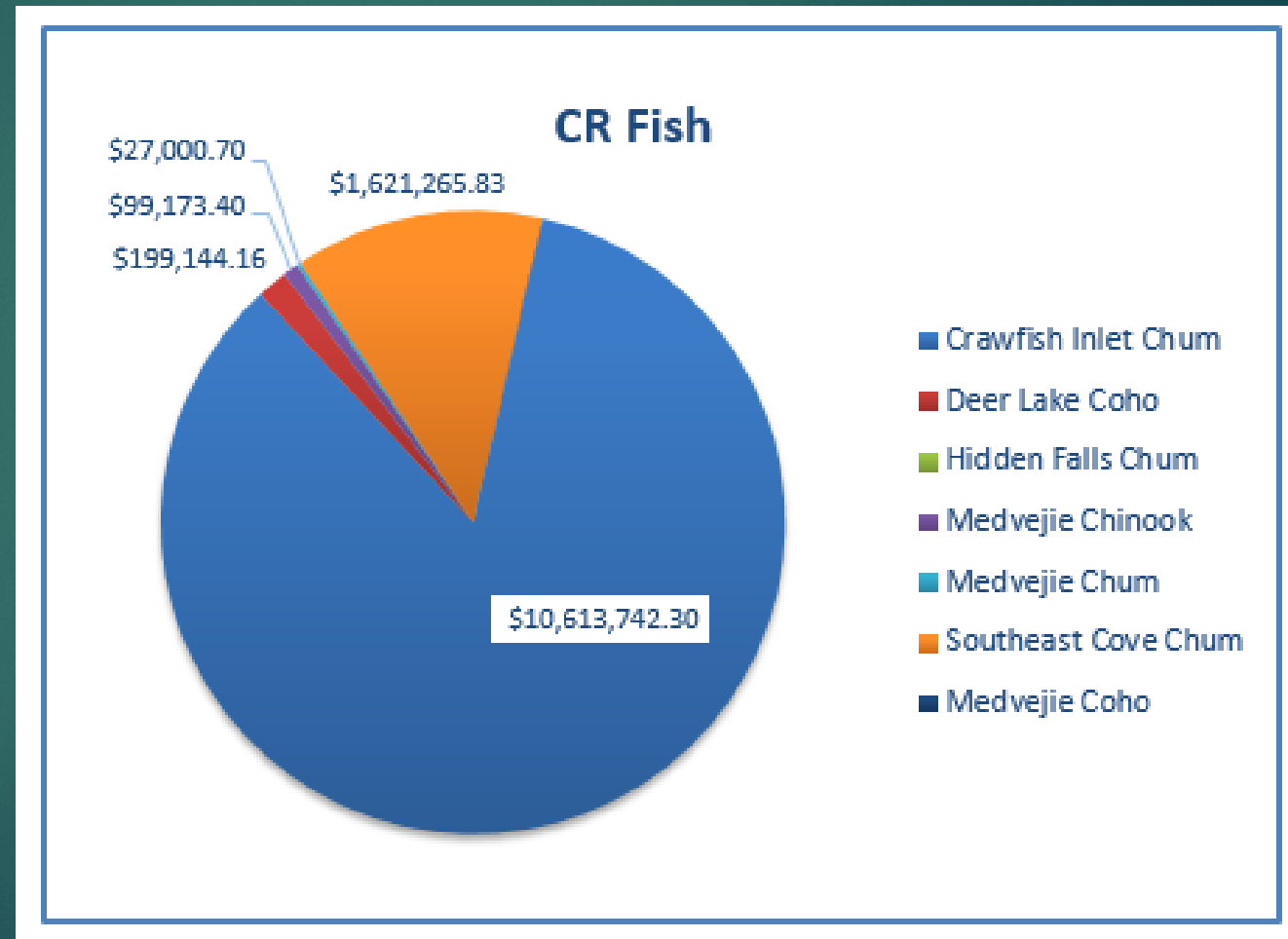
# 2018 Salmon Returns: Record Cost Recovery Value



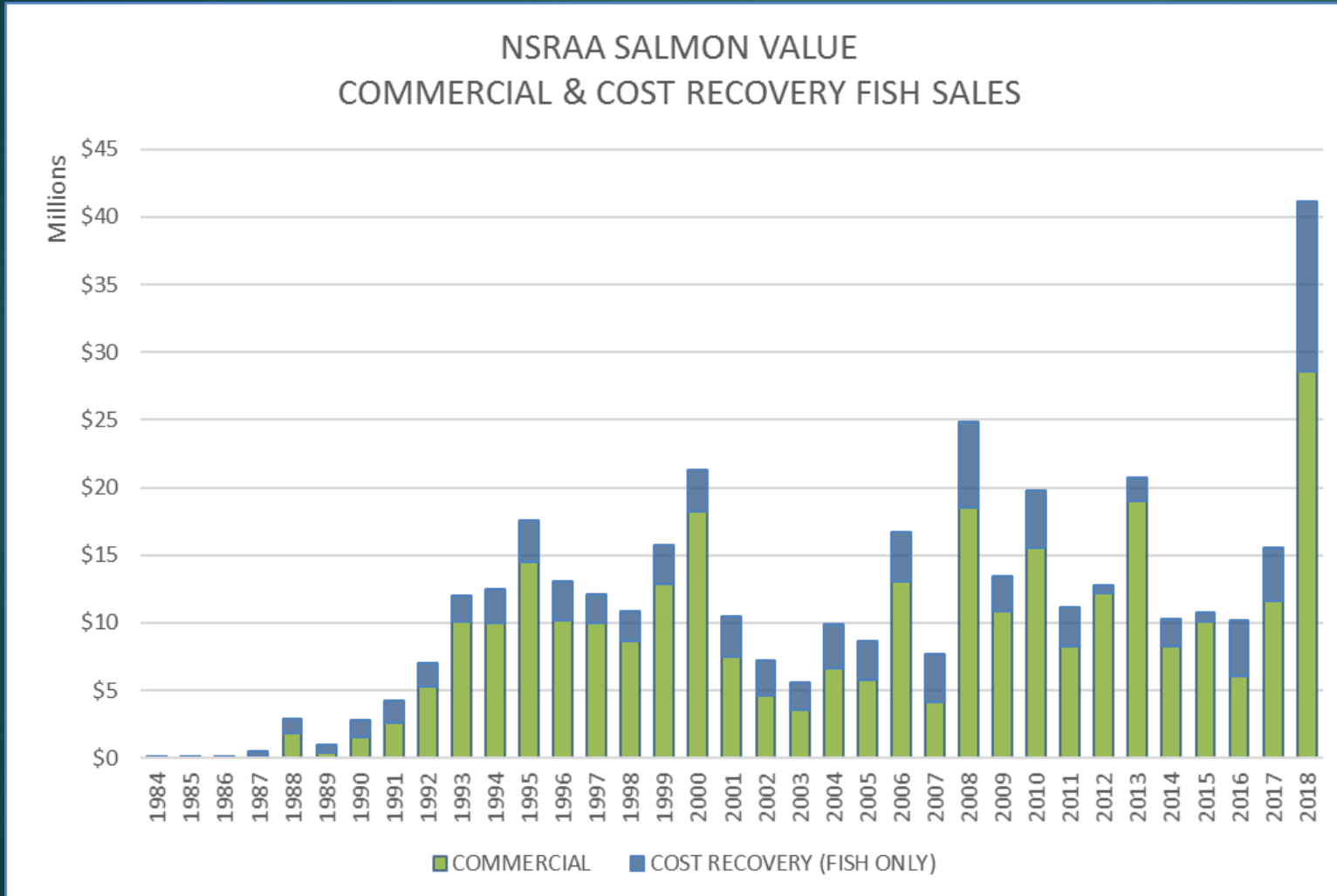
**\$ 12,566,000**

# Cost Recovery - 2018

- ▶ \$12.6 million total cost recovery



# 2018 Salmon Returns: Record Total Value: \$41.1 Million



**\$28,557,000**  
**12,566,000**  

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**\$41,123,000**



A quick look back  
at our 2014  
planning

# A look back to the spring 2014 board meeting, when we discussed:

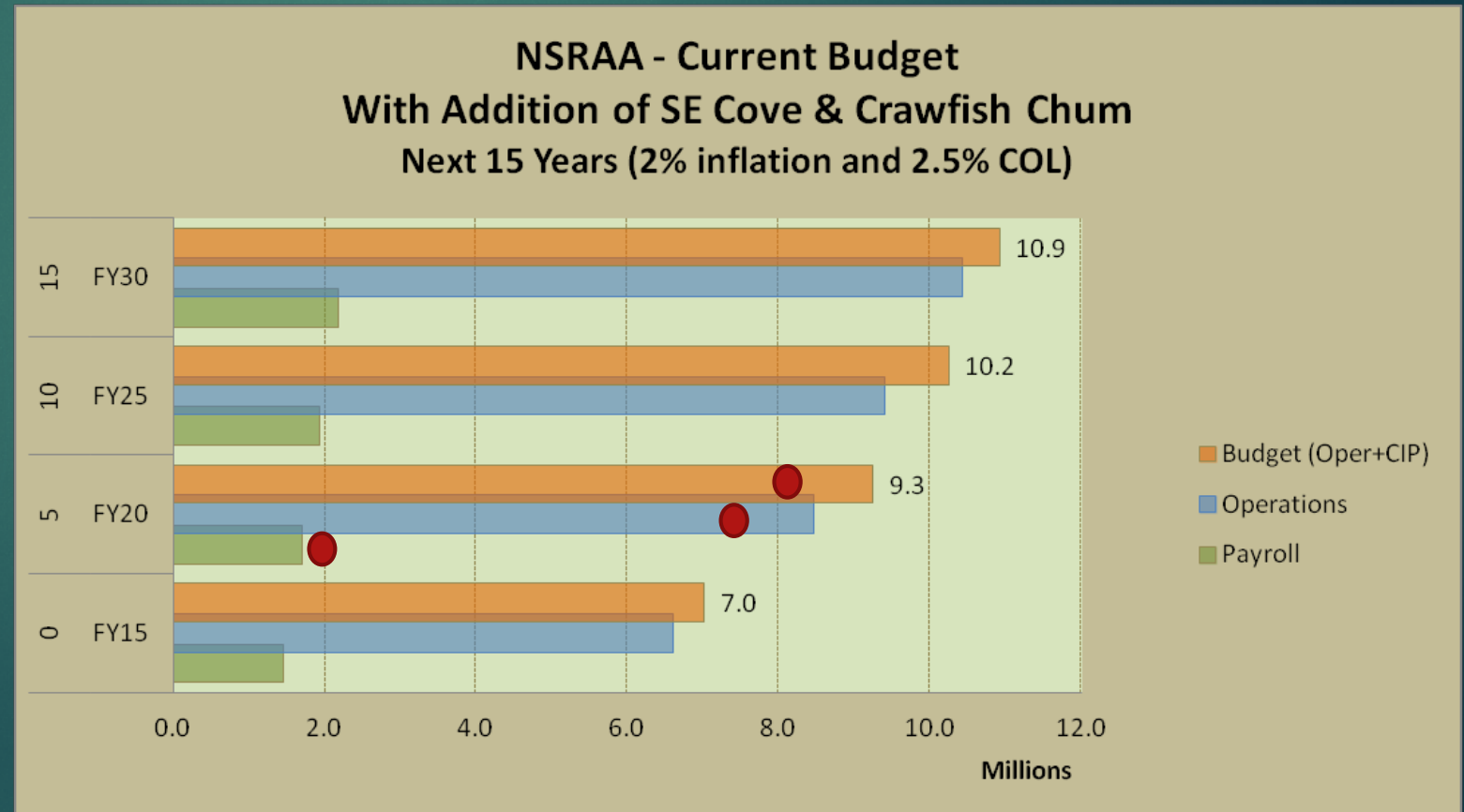
- ▶ Southeast Cove & Crawfish Inlet chum planning
- ▶ Impact of new programs on budget
- ▶ Projected returns & value

# Current Budget + New Chum Programs

- ▶ Payroll: \$1.5m (excludes Temporary wages)
- ▶ Operations: \$7.6m (includes fulltime and temporary payroll) (increase of ~\$1.4m) Begin FY16
- ▶ Total: \$8.1m (operations & CIP) (FY 16)

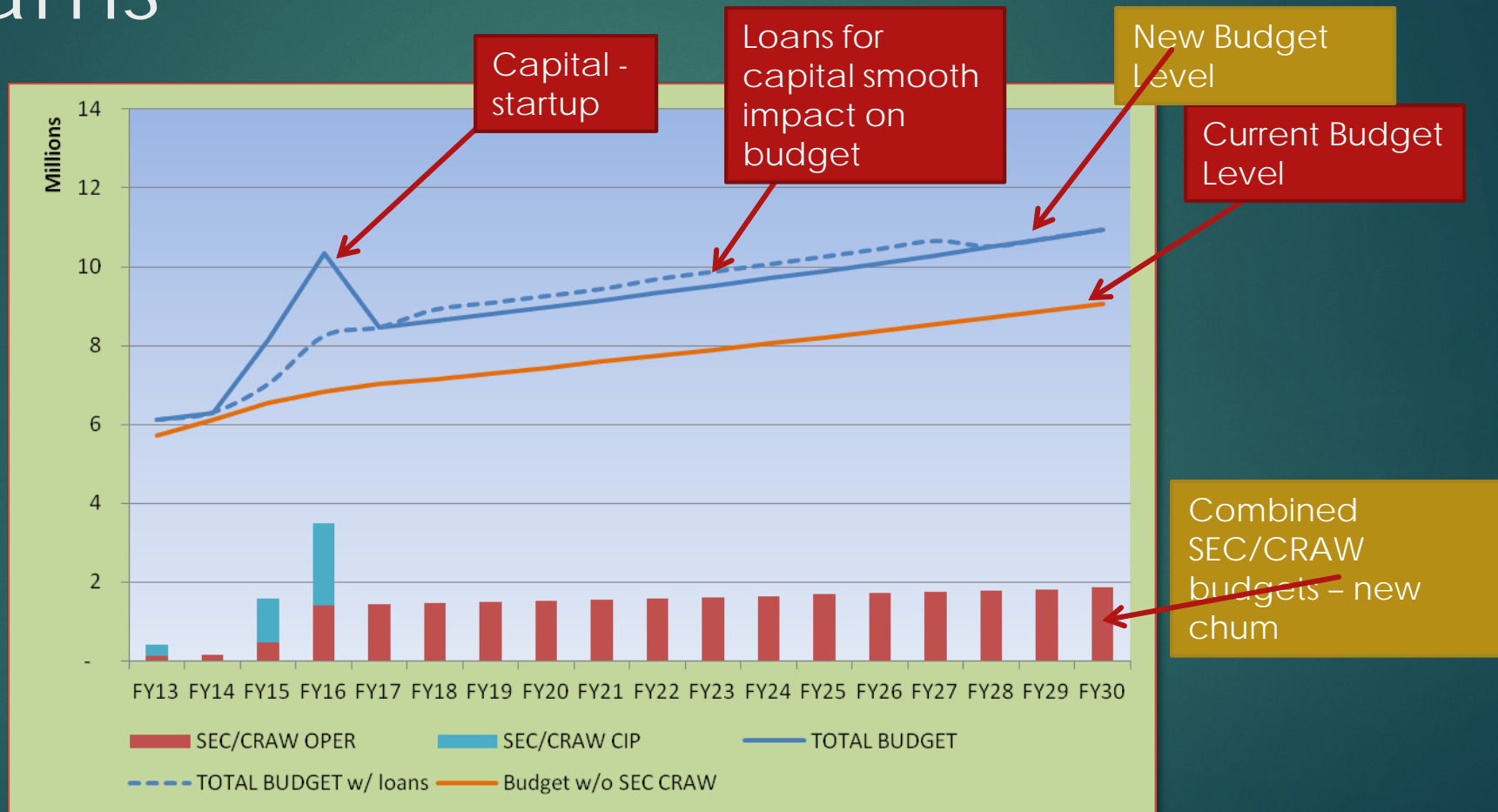
*From Spring 2014  
planning – Spring 2014  
board meeting – in  
Petersburg*

● Current FY19



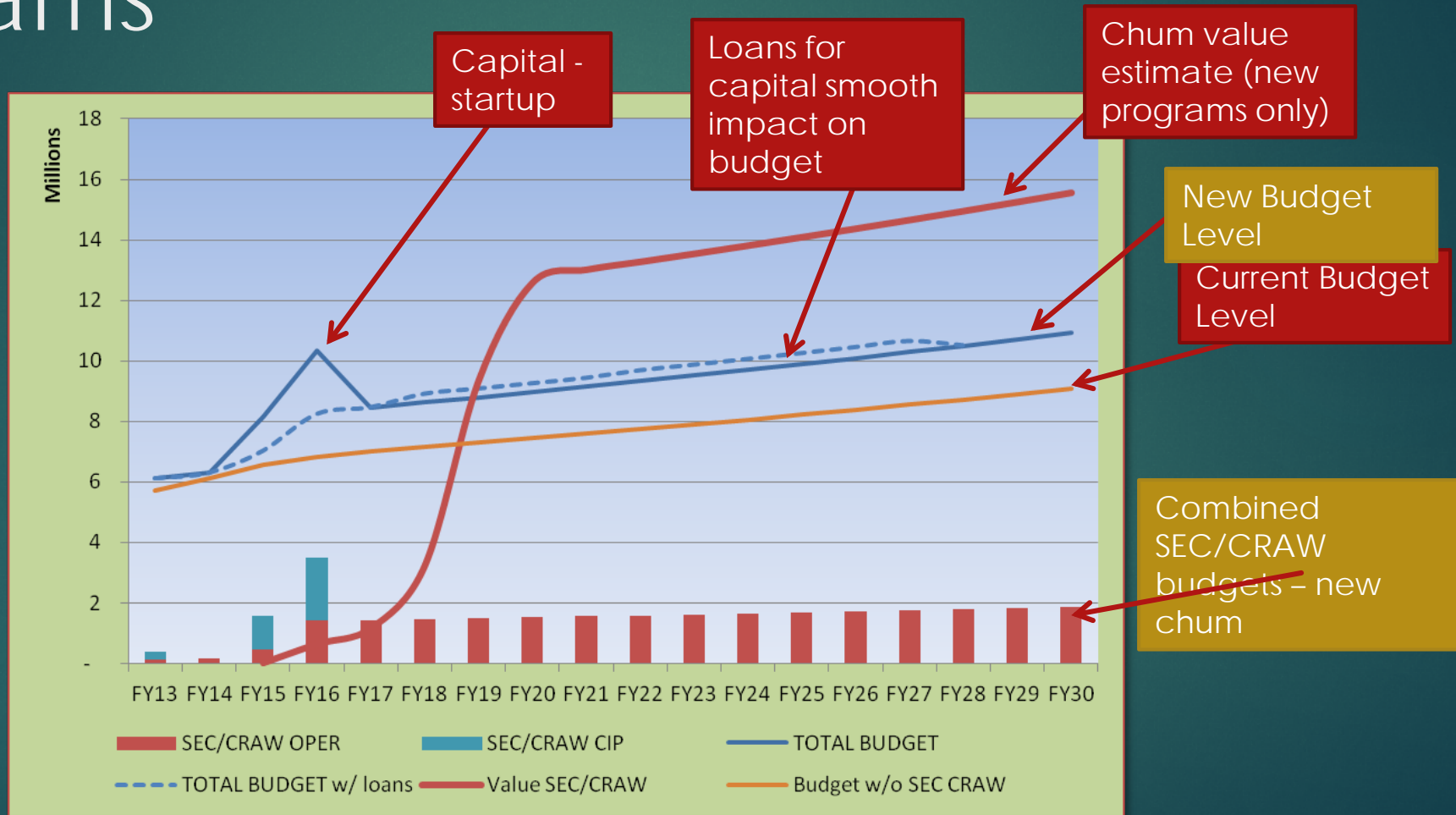


# NSRAA Budget with New Chum Programs



Annual 2% inflation and 2.5% cost of living increases applied

# NSRAA Budget with New Chum Programs

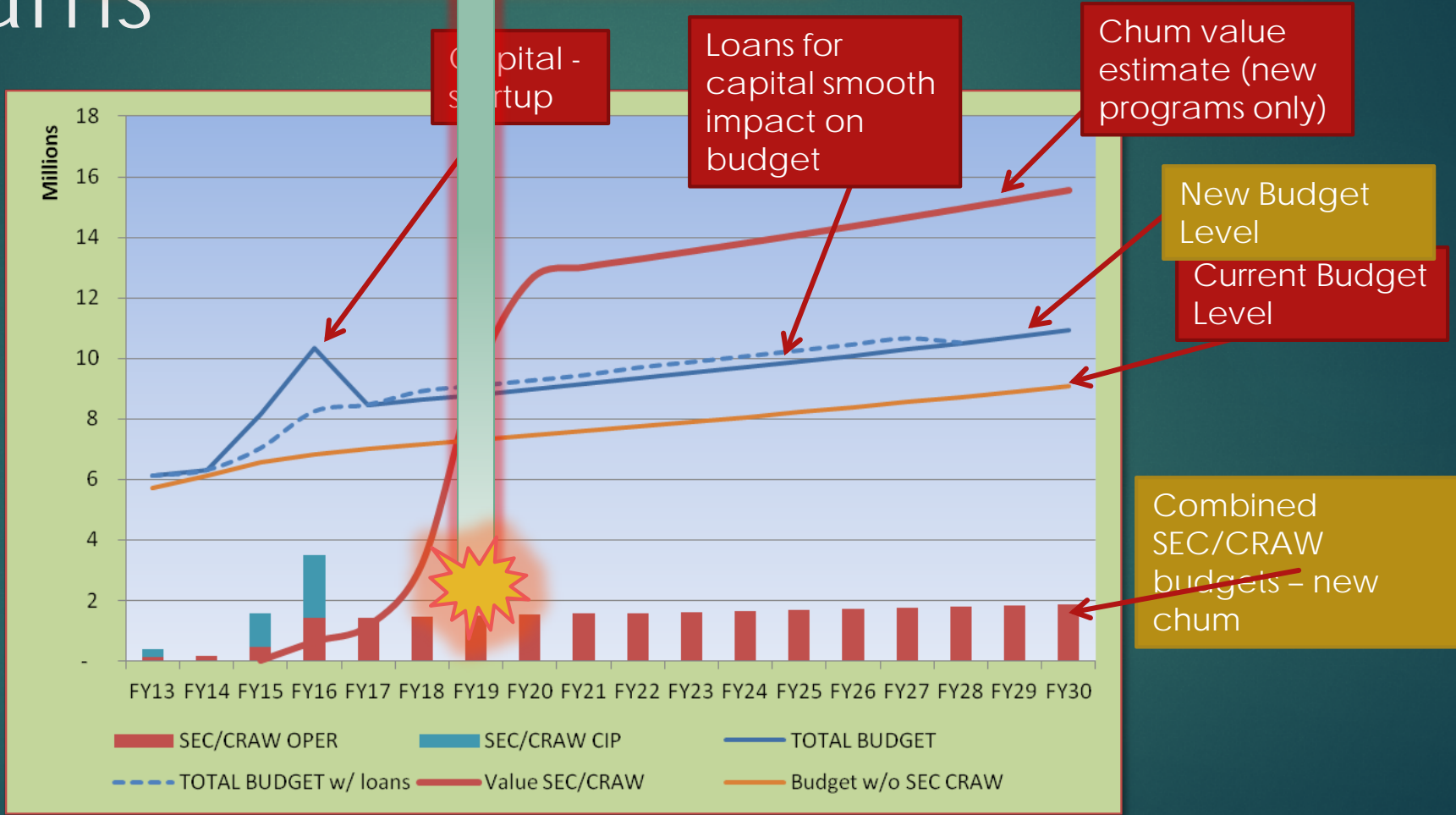


Annual 2% inflation and 2.5% cost of living increases applied

# NSRAA Programs

2018 value: \$26.8 million  
(SE Cove and Crawfish only)

# Chum



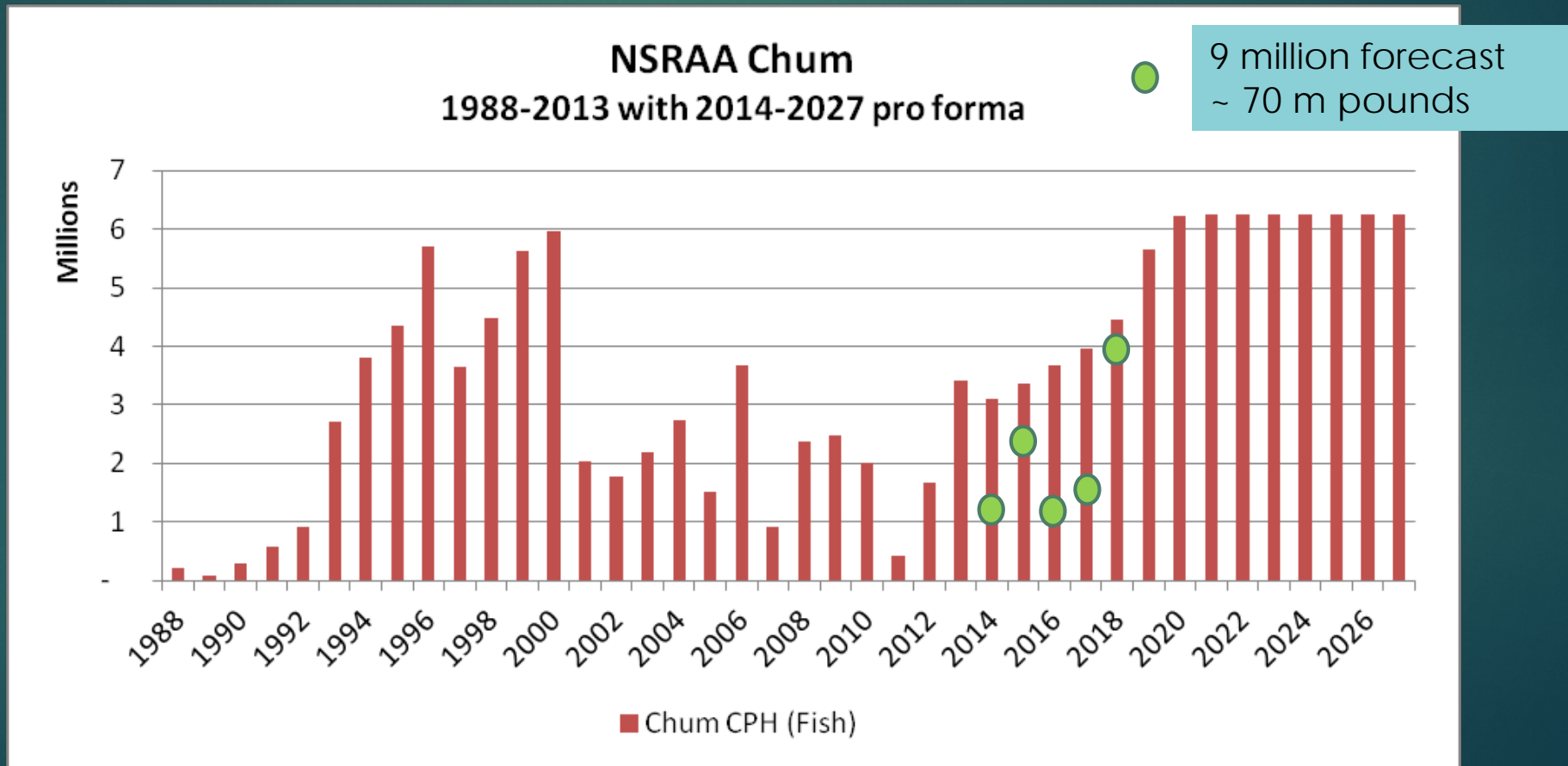
Remember - values include CR plus Commercial Value

2017: 1.3 million

Annual 2% inflation and 2.5% cost of living increases applied

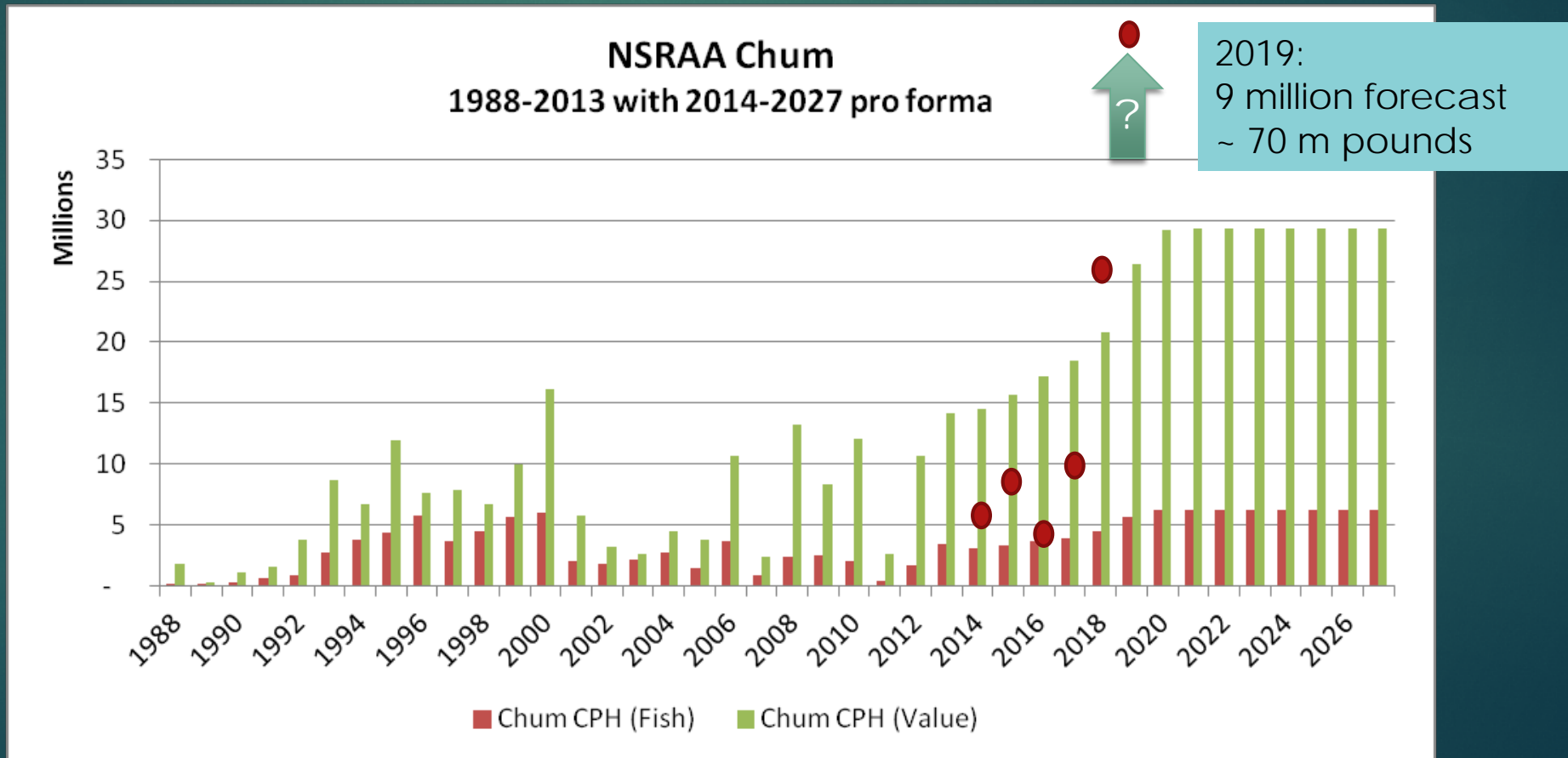
# Chum Harvest (NSRAA Major Chum Programs)

- ▶ Build to ~6.3m adult harvest (6.9m total adults)



# Chum Harvest (NSRAA Major Chum Programs)

- ▶ Build to 6.3m adult harvest / ~\$30m value (unadjusted annual price at \$0.60)



# Southeast-wide hatchery chum forecast for 2019

- ▶ Incomplete, but could be in the neighborhood of 16-20 million
- ▶ Compared to 10.5 million (actual return) in 2018
- ▶ This would mean 120 million – 160 million pounds
- ▶ 2019 Pink forecast is 18 million

Current numbers:  
Nsraa 9  
Dipac 4.1-5.5  
SSRAA  
incomplete  
(3-6?? )

That's it.  
Any questions?

