


A large crab with a purple and orange shell is the central focus, resting on dark, smooth rocks. In the background, several other crabs are visible, some partially obscured by green and brown seaweed. The scene is set on a rocky beach with a shallow, clear water area in the distance.

# California's Dungeness Crab Fishery

Report to the DCTF – Oct 2009

California Department of Fish and Game  
Marine Invertebrate Management Project

- ◆ Catch and Effort Patterns
  - ◆ Permits
  - ◆ Economics **if Time Available**
  - ◆ Research **if Time Available**
- 
- A stylized, low-poly mountain range graphic in shades of teal, located in the bottom right corner of the slide.

# Regulatory Structure

- ◆ Commercial Fishery Regulated by State Legislature
- ◆ Sport Fisheries Regulated by FG Commission
- ◆ DFG Enforces Regulations
- ◆ Commercial Management Scheme
  - Restricted Access
  - Size – minimum size 6.25 inches
  - Sex – keep males only
  - Season -
- ◆ Two management areas



Northern

Management  
Areas

Central

Crescent City

Eureka

Fort Bragg

Bodega Bay

San Francisco

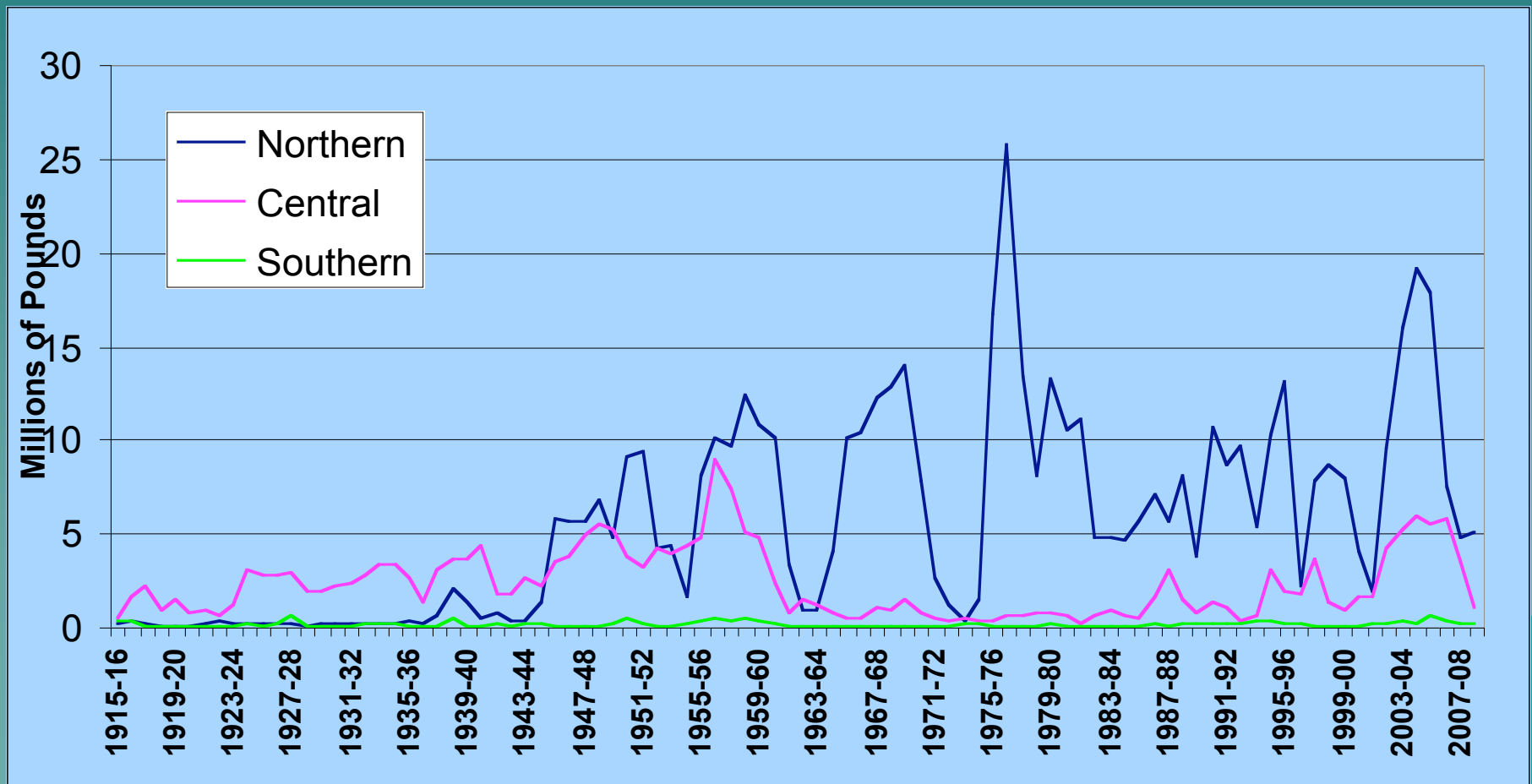
Half Moon Bay

Monterey

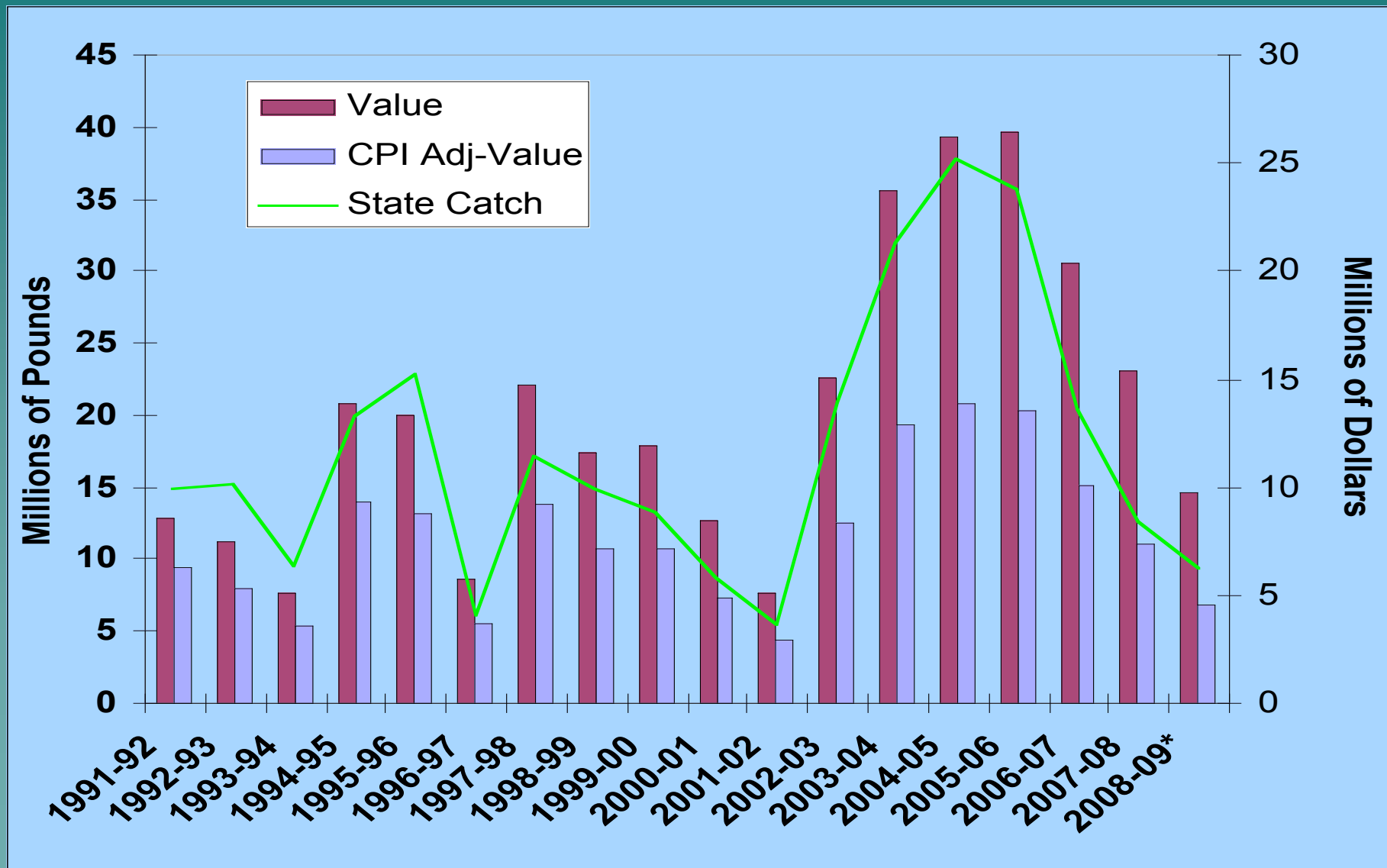
Morro Bay

# Dungeness Crab Landings 1915-2008

## Catch by Region



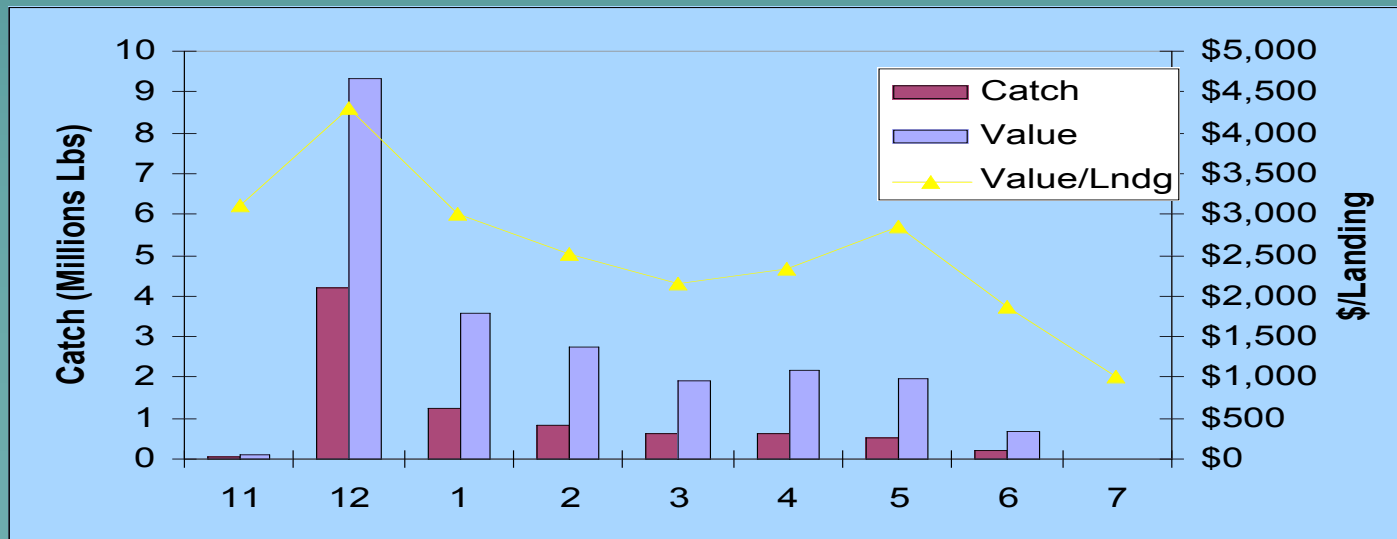
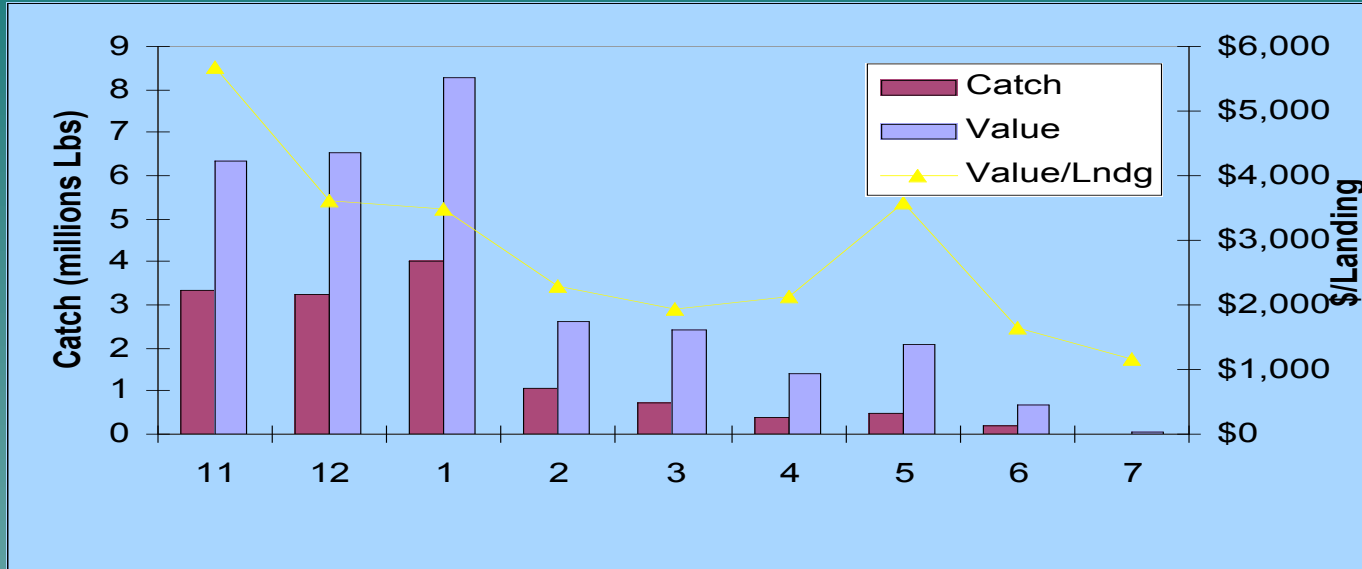
# Statewide Catch, Value and CPI- adjusted Value, 1991 - 2008



# Statewide Catch and Value by Month

TOP 2006/07=No Delays – 13.5 million Lbs

BOTTOM 2007/08=Oil Spill – 8.2 million Lbs

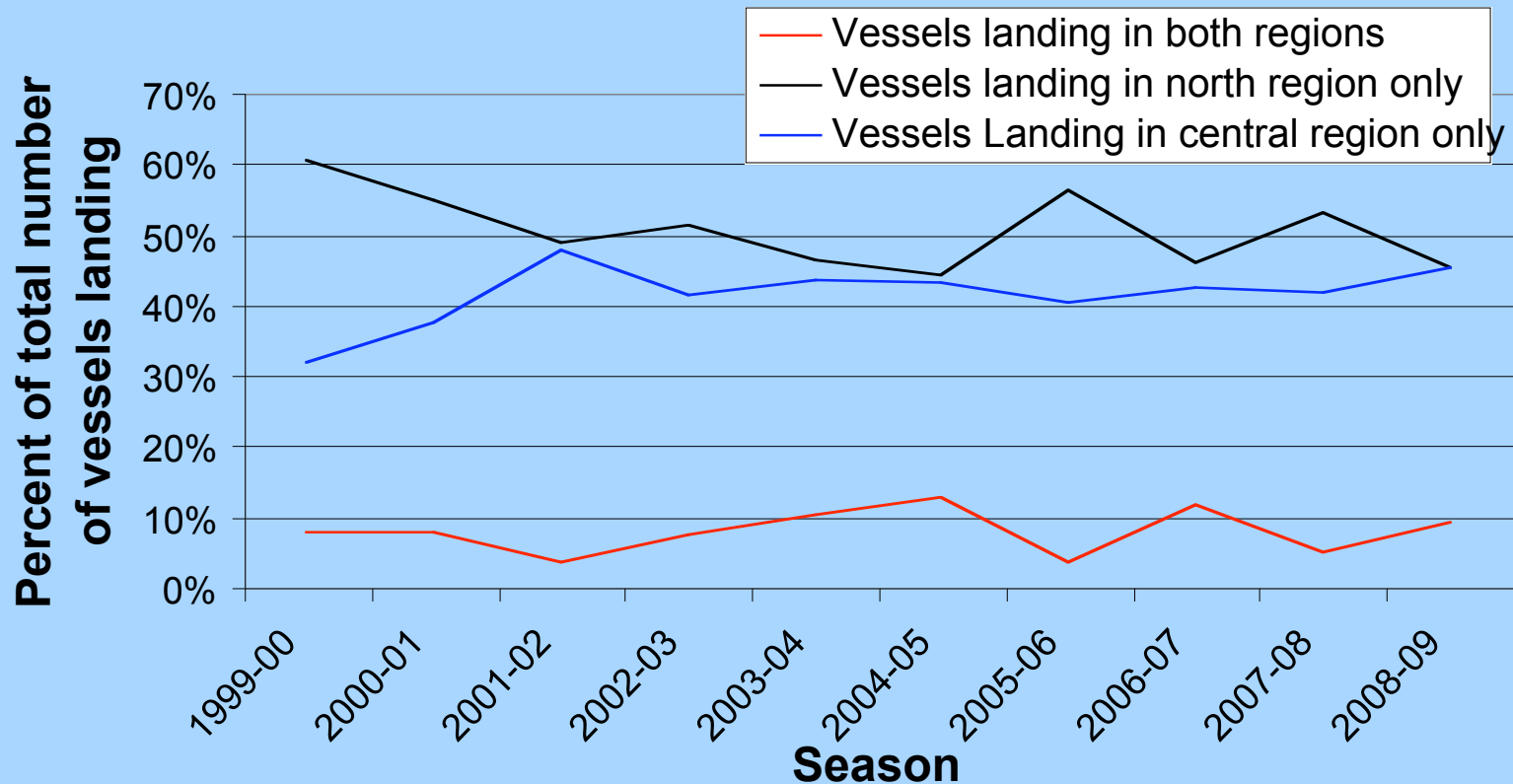


# Larger boats tend to travel between regions more than smaller boats

- ◆ Vessels landing crab in 2008/09 season
  - Of the 55 vessels less than 30 feet, none landed crab in both regions.
  - Of the 267 vessels between 30 and 50 feet, 18 (**7%**) landed crab in both regions.
  - Of the vessels 52 over 50 feet, 19 (**35%**) landed crab in both regions.

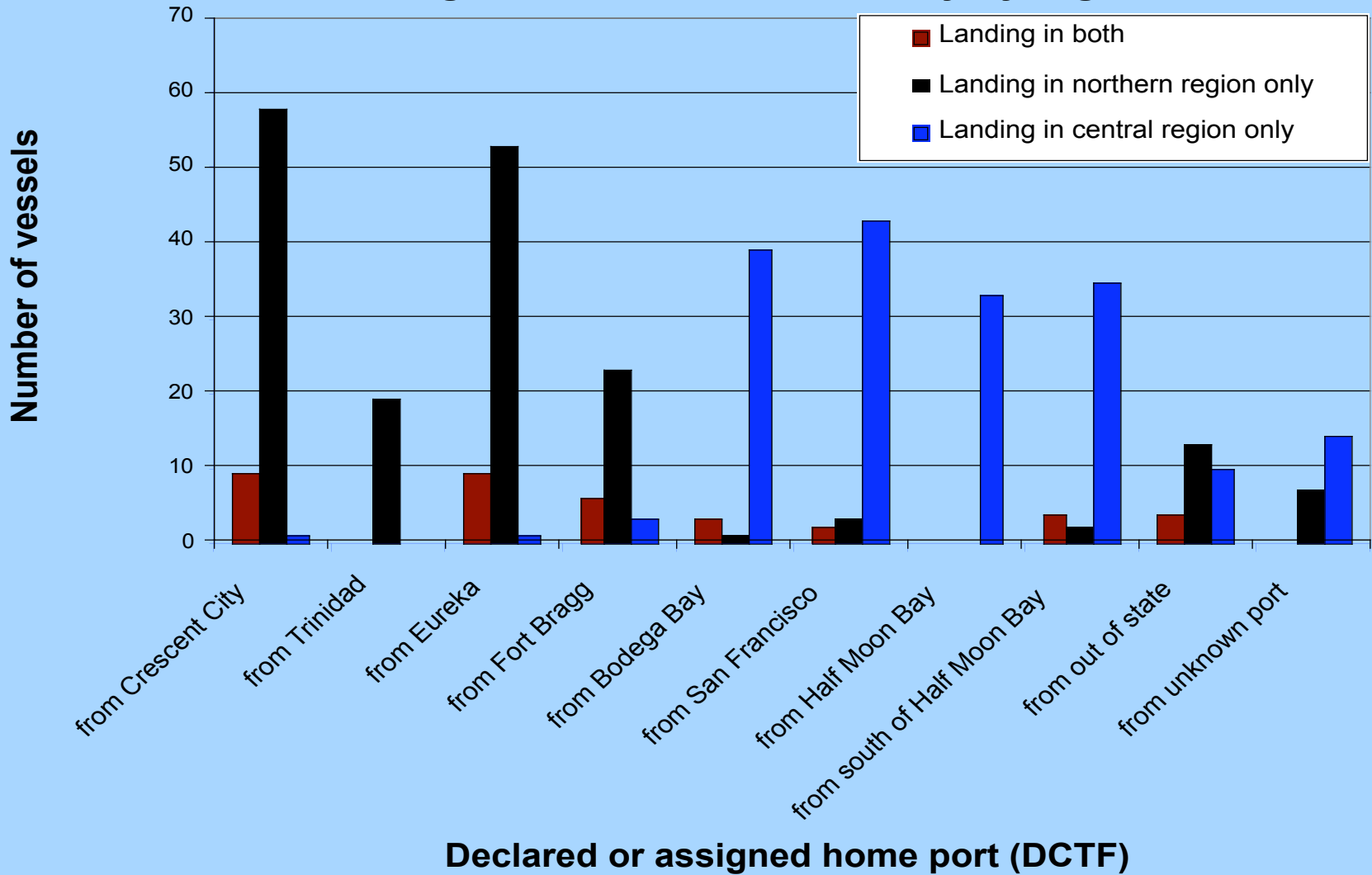


## Regional Dungeness crab vessel landing trend 1999-00 to 2008-09

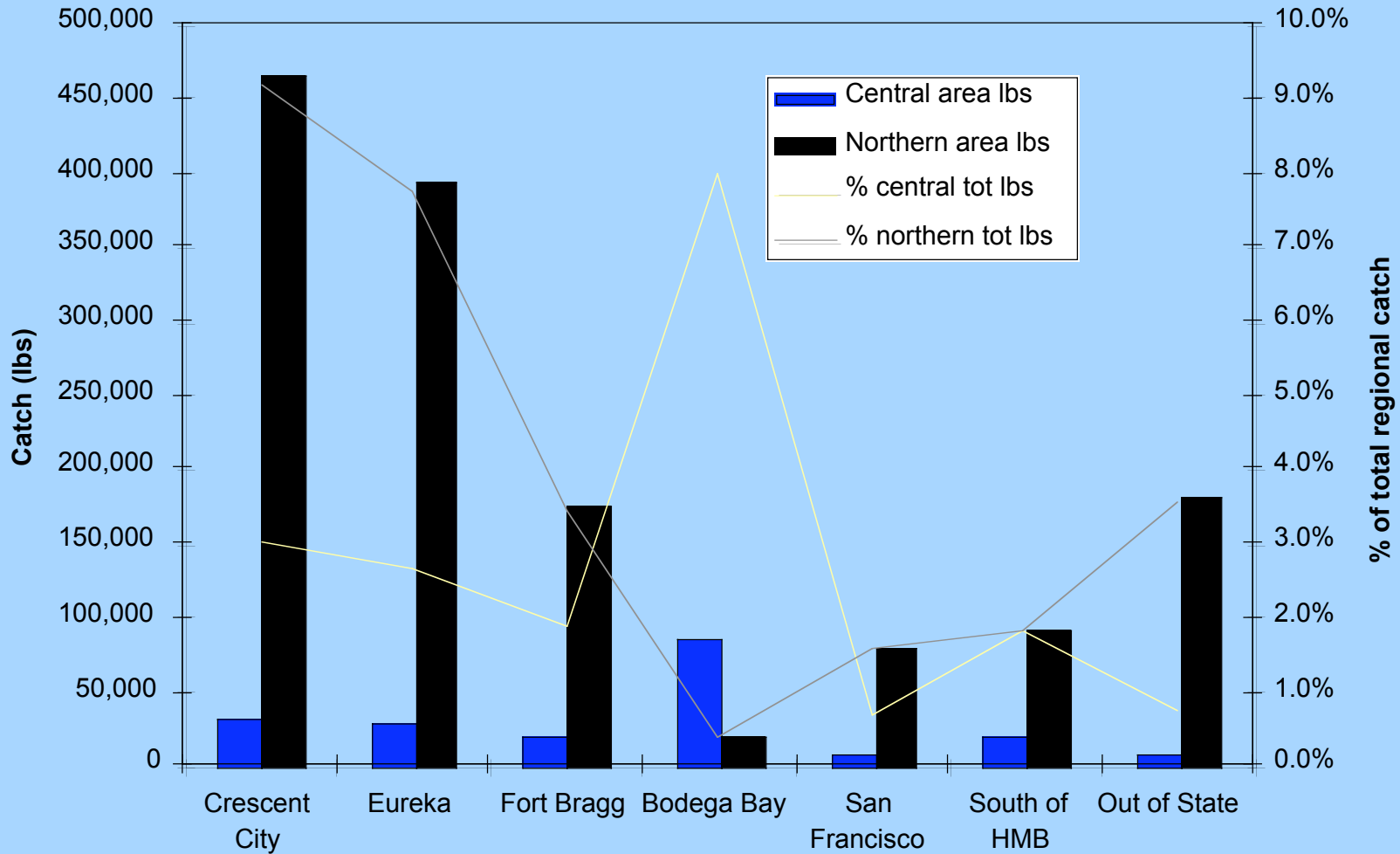


Season	Total Vessels Landing	Vessels landing in both regions		Vessels landing in north region only		Vessels Landing in central region only	
		Number	Percent of total	Number	Percent of total	Number	Percent of total
1999/00 to 2008/09							
Average	407	32	8%	206	51%	168	41%

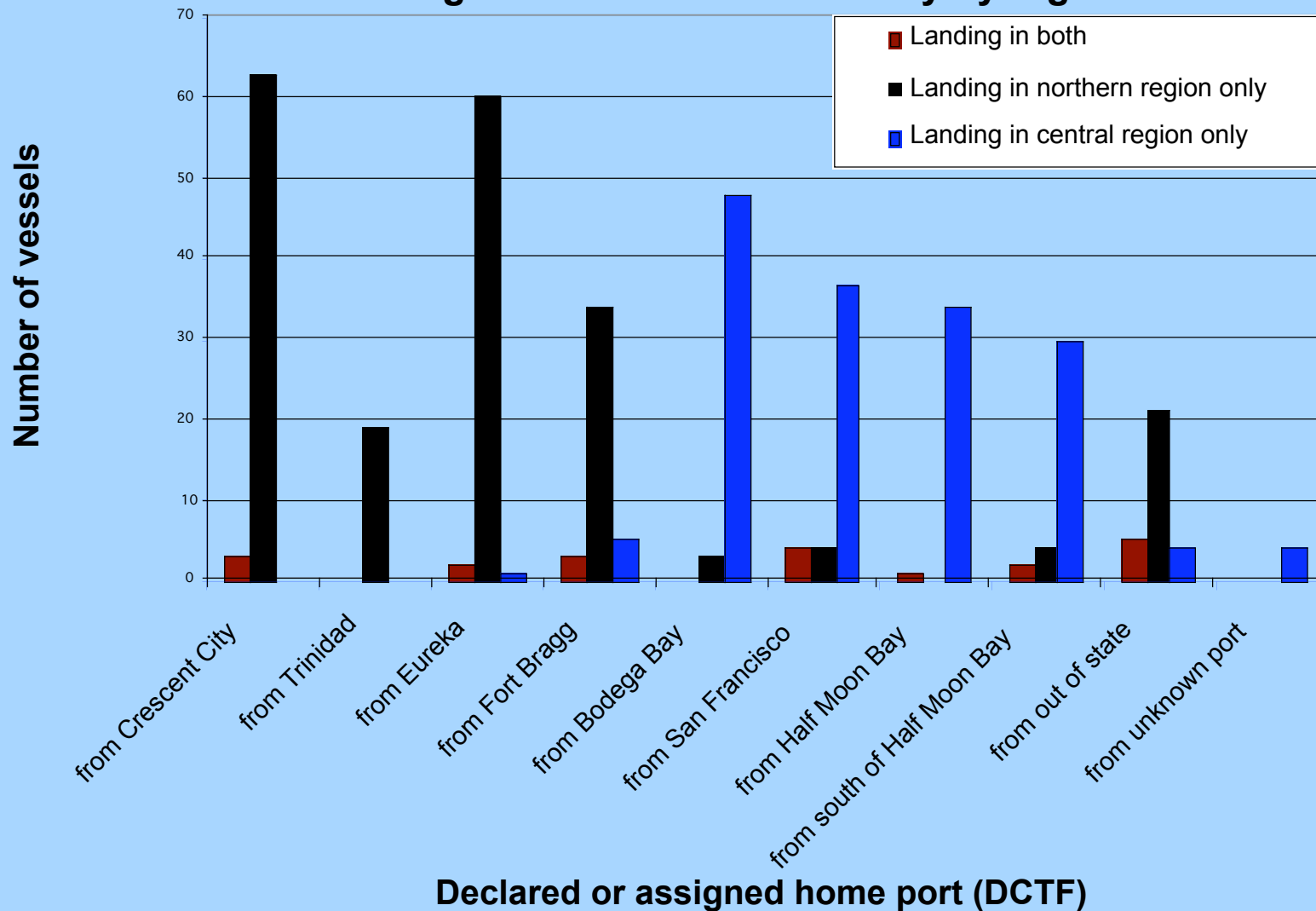
## 2008/09 Dungeness crab vessel activity by region



### 2008/09 regional Dungeness crab landings, by home port, of vessels landing in both areas (n=37)

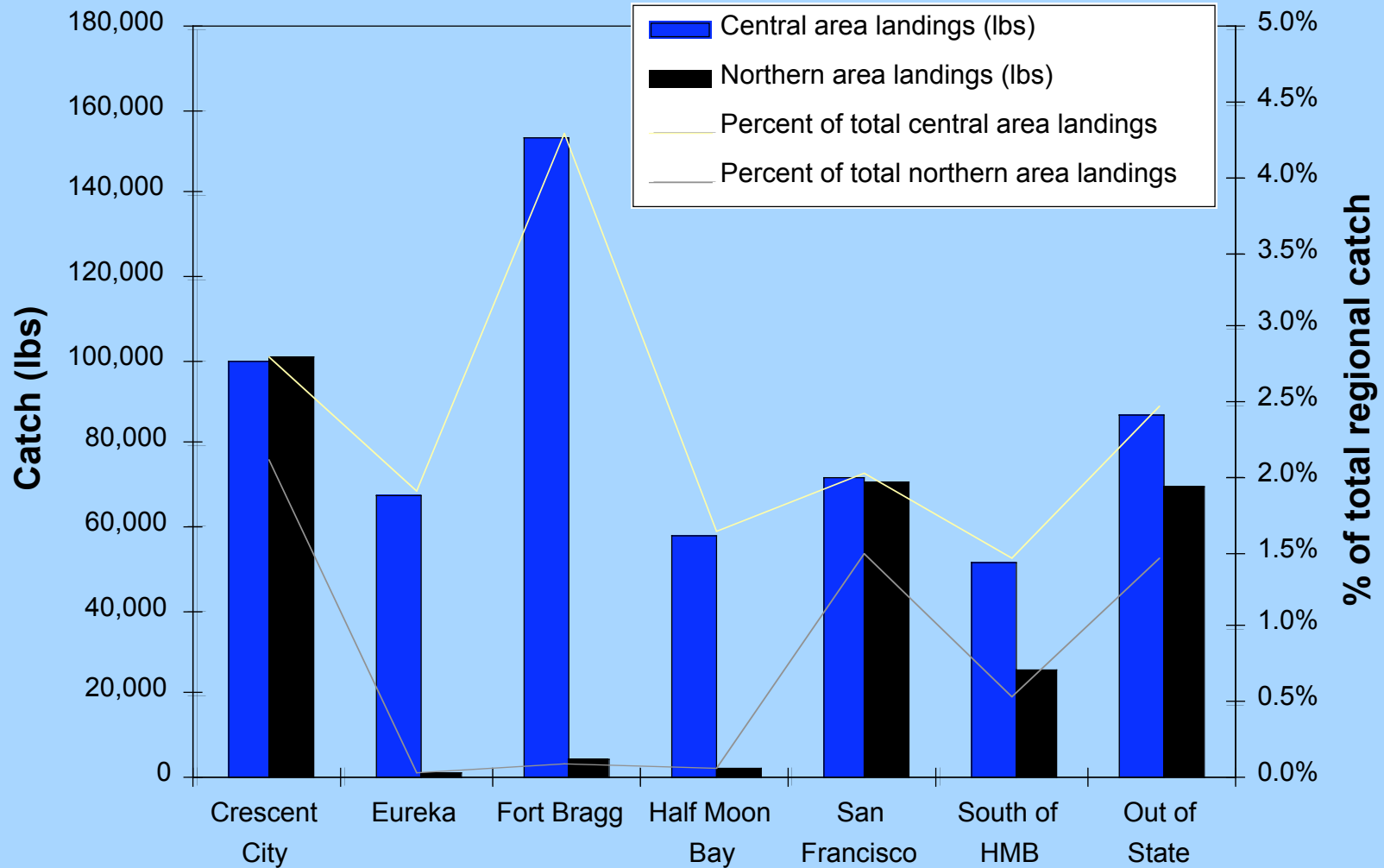


## 2007/08 Dungeness crab vessel activity by region



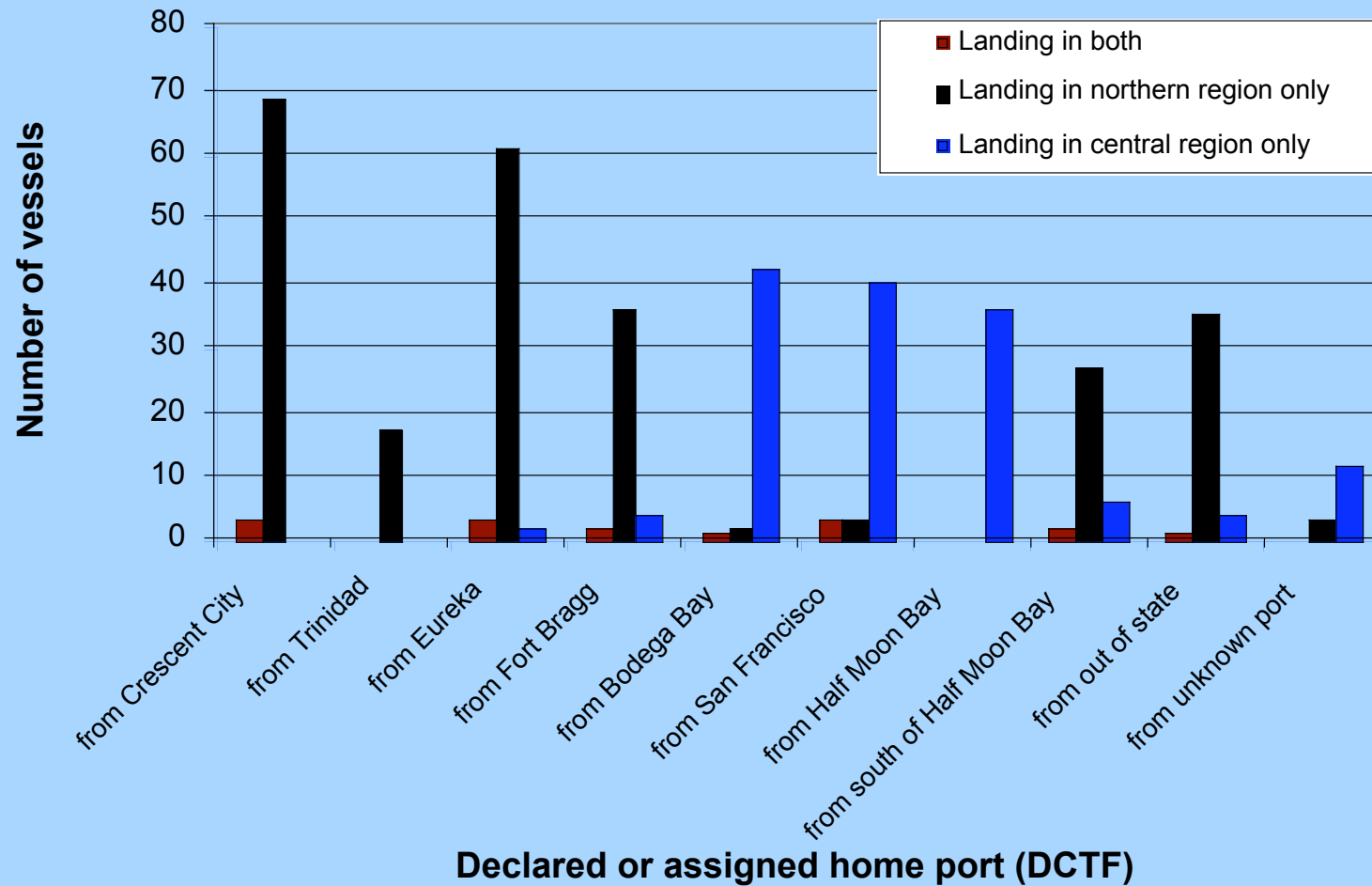
In the 2007/08 season, delayed by the Cosco Busan oil spill, 20 of 391 (5%) vessels landed crab in both regions.

### 2007/08 regional Dungeness crab landings, by home port, of vessels landing in both areas (n=20)



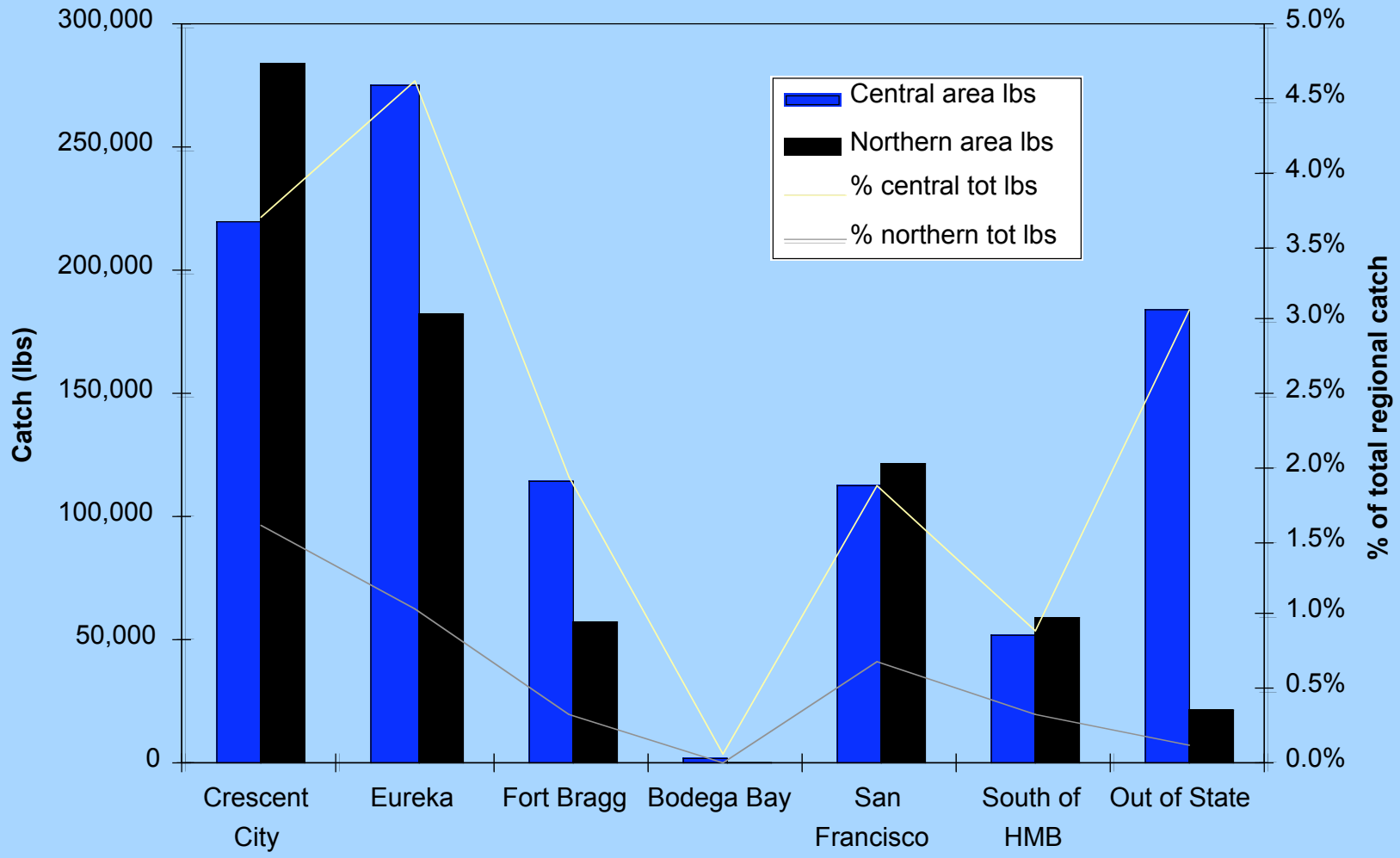
During 2007/08, vessels landing in both regions took 17% of total central catch and 6% of total northern catch.

### 2005/06 Dungeness crab vessel activity by region (delayed northern start, 30-day fair start in effect)



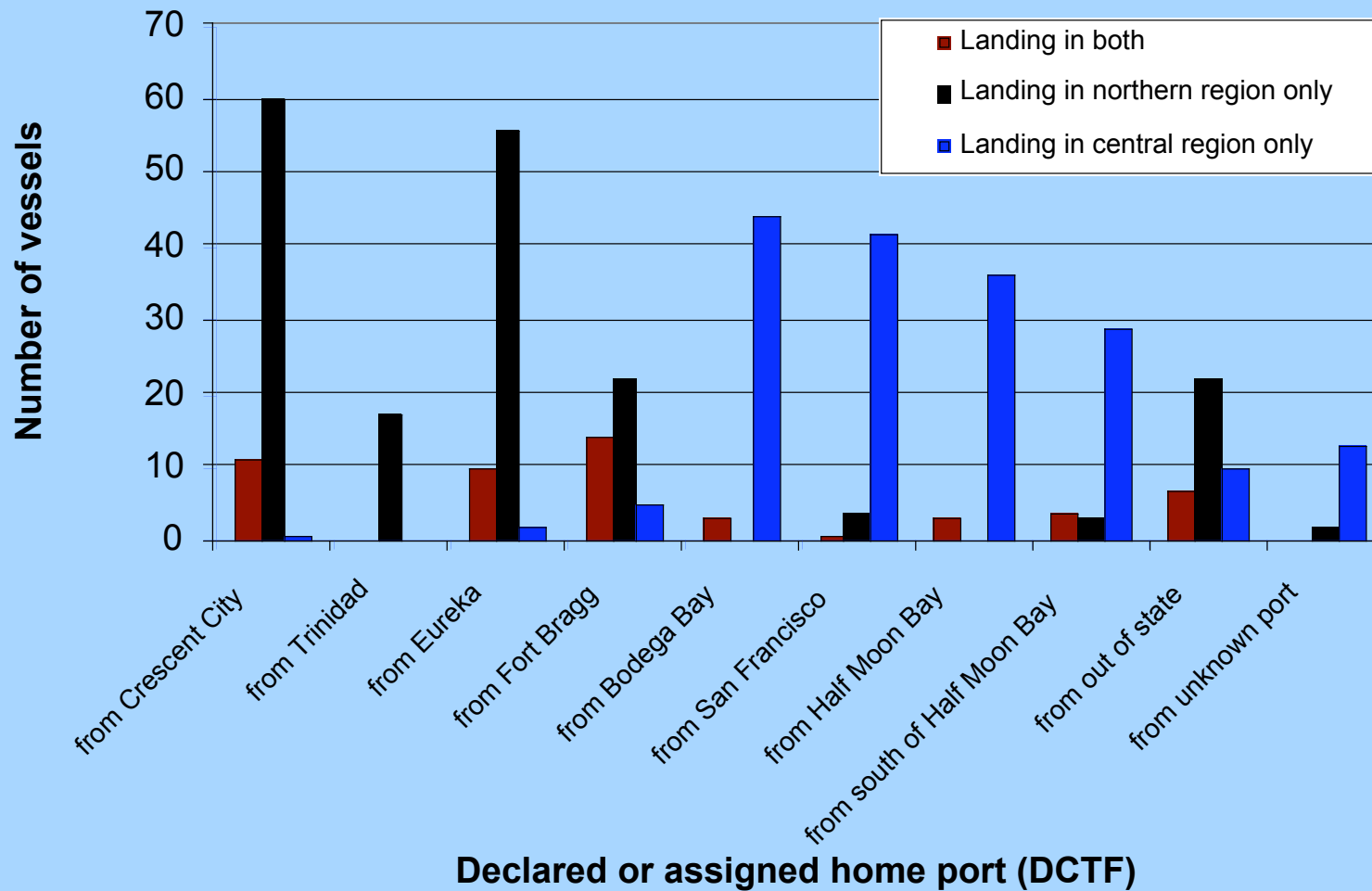
In the 2005/06 season, when there was a delayed northern start and a 30-day fair start in effect, only 15 of 414 (4%) vessels landed crab in both regions.

**2005/06 regional Dungeness crab landings, by home port, of vessels landing in both areas (n=15)**



During 2005/06, vessels landing in both regions took 16% of total central catch and 4% of total northern catch.

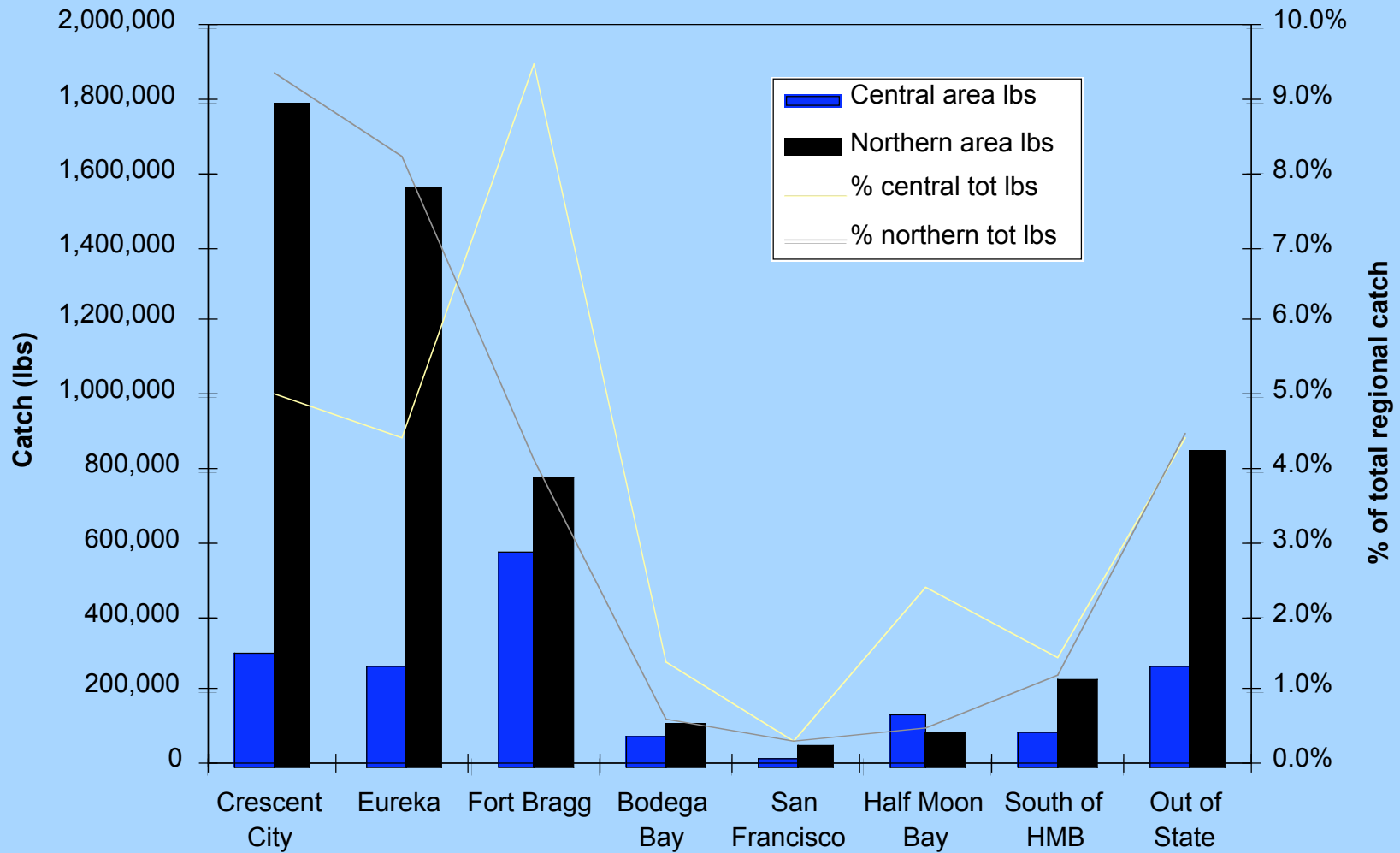
## 2004/05 Dungeness crab vessel activity by region



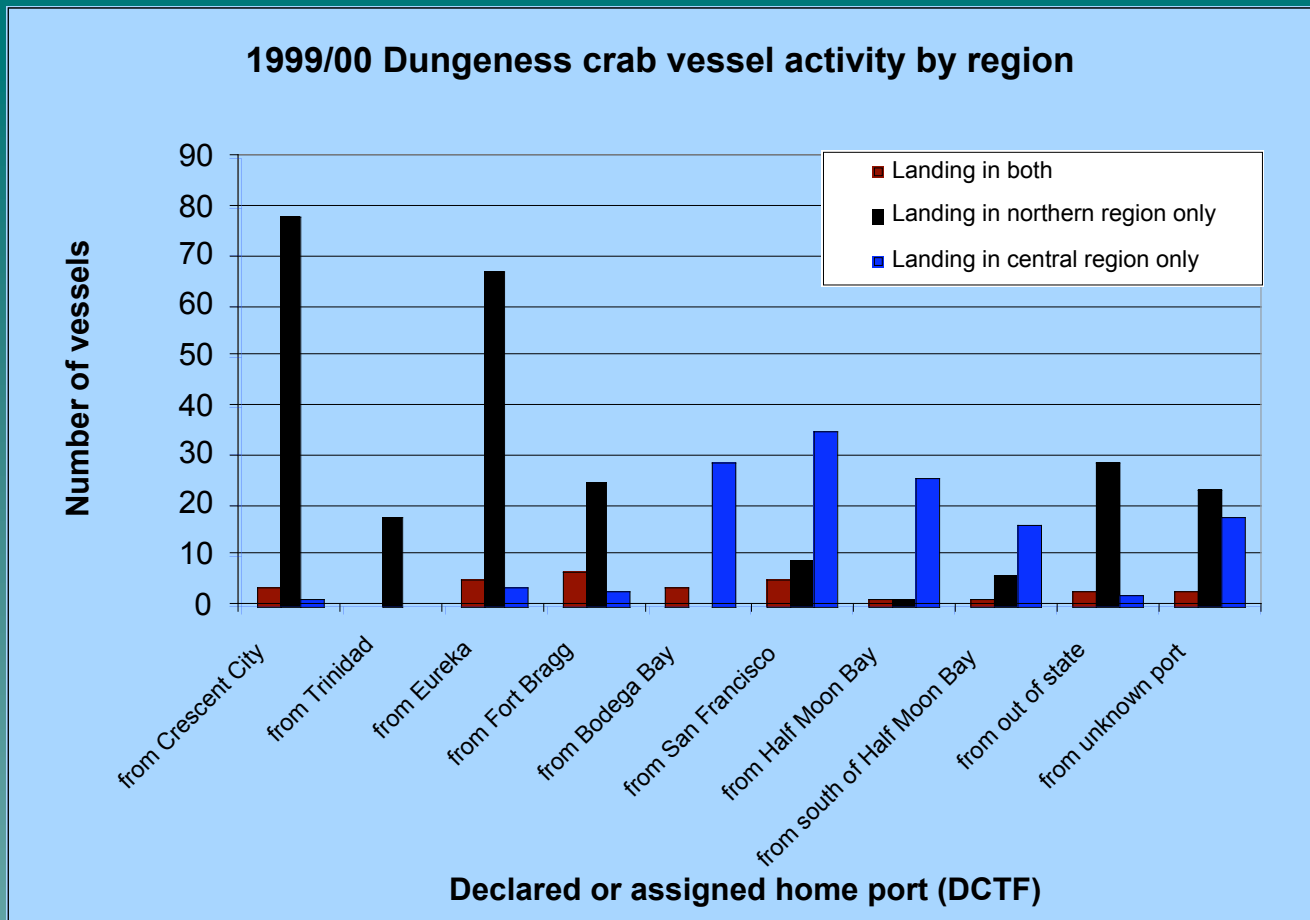
In the 2004/05 season, approximately equal to 2005/06 landings, 53 of 421 (13%) vessels landed crab in both regions.



### 2004/05 regional Dungeness crab landings, by home port, of vessels landing in both areas (n=53)

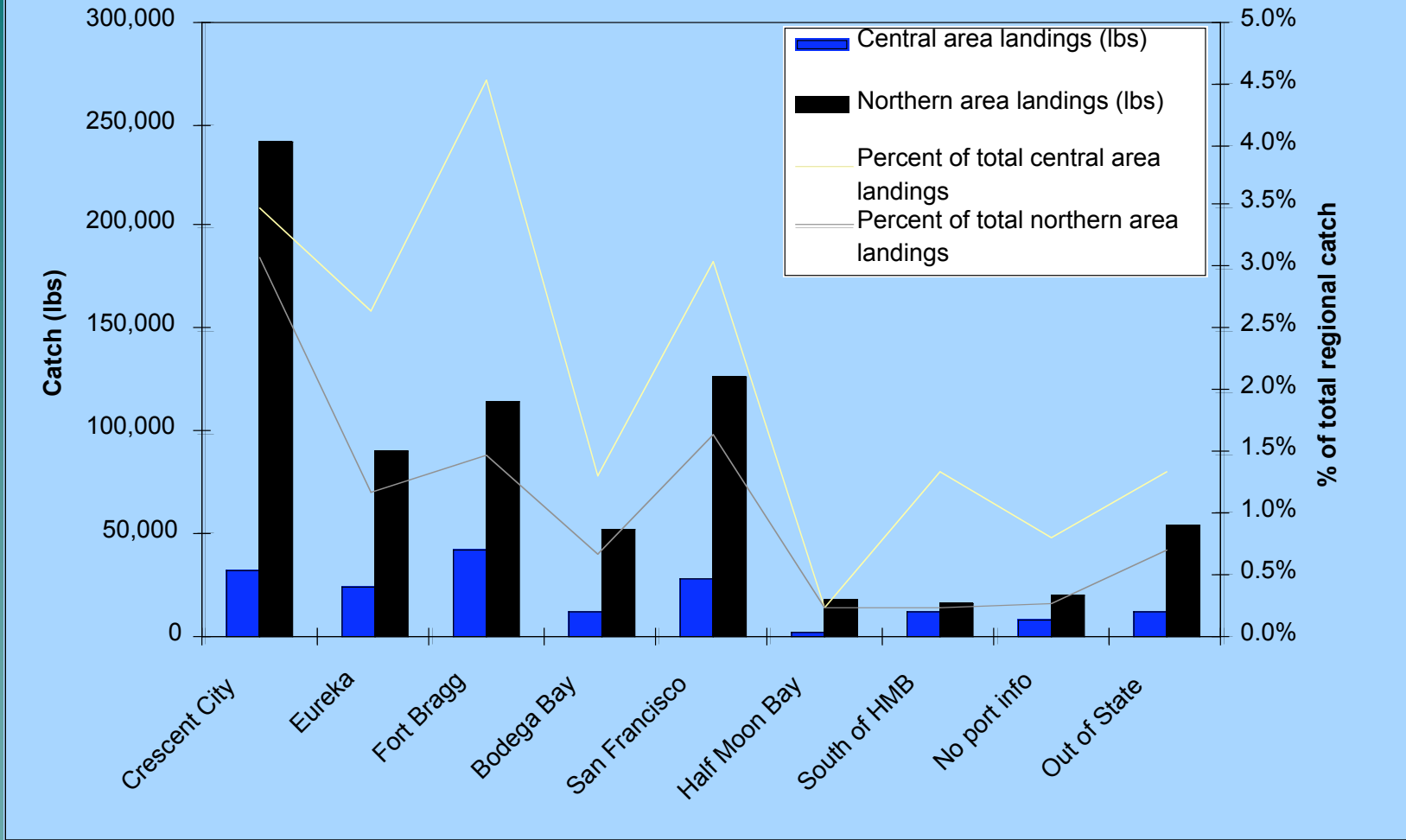


During 2004/05, vessels landing in both regions took 26% of total central catch and 28% of total northern catch.



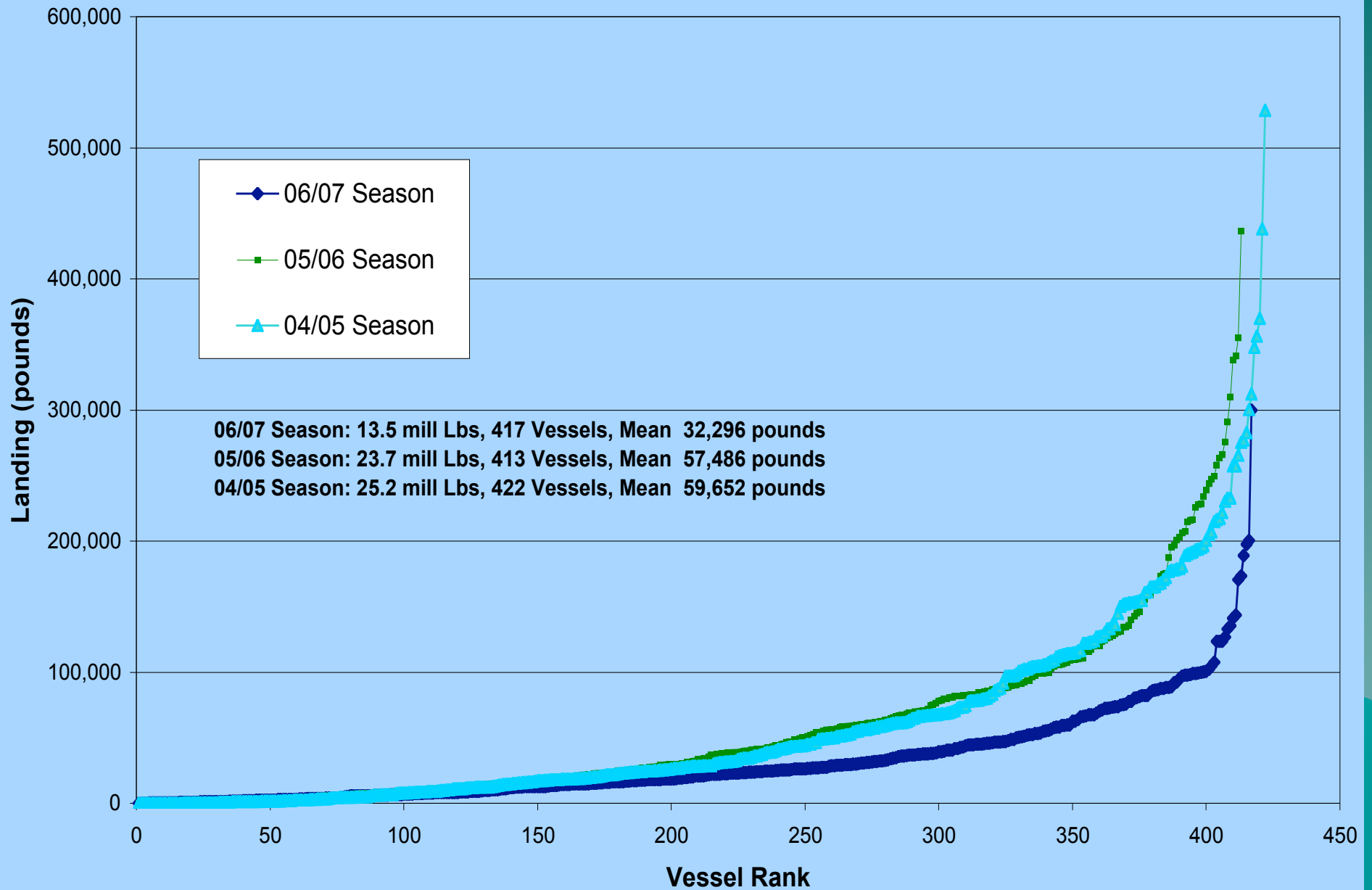
In the 1999/00 season, approximately equal to 2008/09 landings, only 33 of 423 (8%) vessels landed crab in both regions.

**1999/00 regional Dungeness crab landings, by home port, of vessels landing in both areas (n=33)**



During 1999/00, vessels landing in both regions took 19% of total central catch and 9% of total northern catch.

# Seasonal Comparison of Dungeness Crab Landings by Vessel



# Commercial Dungeness Crab Catch by Boat Code: 2003/04, 2004/05, 2005/06

*Preliminary Data*

*05/06 Data Incomplete*

## Ranked by 05/06 Season

Row#	BTCODE	03/04		04/05		05/06		Total 3 SEASONS		High	Highest
		Receipts	Catch	Receipts	Catch	Receipts	Catch	Receipts	Catch	Catch	Season Y/YY
1	1065.54	69	594,174	50	437,997	43	423,450	162	1,455,621	594,174	304
2	692.02	28	445,668	18	394,228	33	354,371	79	1,194,267	445,668	304
3	653.04	26	411,267	27	347,610	28	341,036	81	1,099,913	411,267	304
4	749.50	143	298,998	116	276,371	98	338,175	357	913,544	338,175	506
5	870.48	9	169,520	7	102,321	15	310,161	31	582,002	310,161	506
6	86.60			27	312,257	31	285,890	58	598,147	312,257	405
7	719.38	40	337,669	42	369,653	29	275,510	111	982,832	369,653	405
8	472.34	17	289,322	13	221,596	13	266,050	43	776,968	289,322	304
9	93.72			28	257,431	41	255,242	69	512,673	257,431	405
10	494.84	40	109,714	1	313	23	252,393	64	362,420	252,393	506
11	615.98	21	347,015	23	300,127	19	249,526	63	896,668	347,015	304
12	627.52	19	323,426	17	216,295	16	247,206	52	786,927	323,426	304

# State of Residency Status of a Dungeness Crab Vessel Permit

- ◆ Not a condition of the permit
- ◆ Can change from year to year based on vessel owner's residency
- ◆ Code section 7601 describes how resident vs. non-resident is determined using USCG certificate of documentation, or DMV vessel registration
  - Must show documentation upon renewal
  - Reviewed when a vessel changes ownership
  - No annual review for Dungeness fleet

# Average landings from 1999/00 through 2008/09 seasons by residency status

Resident Permit	24,541 lbs
Non-resident Permit	31,200 lbs
Both resident & non-resident	37,513 lbs
No permit information	1,242 lbs

Average fleet rank show a similar trend

# Vessel Permits 1999-2008

- ◆ Can't use 2009 data because permit renewals can be made as late as March 31, 2010
- ◆ In 1999, there were 688 permits
- ◆ In 2008, there were 616 permits
- ◆ Over the past 10 years
  - 72 permits were not renewed, a 10% decrease in fleet size
  - 15% decrease in resident permits
  - 26% increase in non-resident permits



# 2008/2009 unused permits by length class

616 total permitted vessels 2008

381 permitted vessels landed crab in 2008/09 61.9 %

235 permitted vessels did not land in 2008/09 38.1%

## Of those vessels with no landings

40 were <30 ft 17.0%

132 were 30-50 ft 56.2%

19 were >50 ft 8.1%

44 had no length data 18.7%

<sup>90</sup>**Permit Profile for the West Coast Commercial Dungeness Crab Fleet**  
(as of December 2006)

State Issuing permits	No. of Boats	State			
		OR	WA	CA	Other
TOTAL No. of Boats	1134	431	223	622	0
Multiple permits		Residency			
		OR	WA	CA	Other
OR + WA	57	11	45	0	1
CA + OR	60	40	2	16	2
CA + WA	5	0	2	2	1
CA + OR + WA	10	3	3	3	1

**Boat Length Profile**

Boat Overall Length (ft)	State			Total
	OR	WA	CA*	
<25	22	0	34	56
25-29	27	11	62	100
30-34	32	15	102	149
34-39	58	18	106	182
40-44	54	23	102	179
45-49	69	41	80	190
50-54	48	24	36	108
55-59	40	50	21	111
60-69	44	23	17	84
70-79	22	11	4	37
80-89	11	3	0	14
	3	0	2	5
unknown	1	4	50	55
TOTAL	431	223	616	


\* 2008 length data

# California Fishing Effort

- ◆ Estimated 150,000 pots fished in California, no tracking mechanism
- ◆ No pot limit per boat
- ◆ Limited entry – but increased effort by multi-purpose vessels



# Exploring Trap Limits

- ◆ Fisherman worksheet w/variables
  - ◆ Calculating alternate trap limit options
  - ◆ Oregon example: 150K traps, 434 permits
  - ◆ Trap limit estimator models
  - ◆ How to Rank Boats
  - ◆ LRB trap program cost estimates
- 

# ODFW Pot Limit Worksheet

Collaboration Group \_\_\_\_\_

## Pot Limit Proposal Variables

**1) The total number of pots in the Oregon crab fishery should be limited to (circle one):**

140,000

150,000

170,000

185,000

**2) The number of tiers our breakout group prefers is (circle one):**

1

2

3

**3) The percentages of the Oregon permitted fleet that should fall within each tier and the number of pots allocated to each permit holder within each tier:**

Tier 1 \_\_\_\_\_%

Tier 1 \_\_\_\_\_ (# of pots)

Tier 2 \_\_\_\_\_%

Tier 2 \_\_\_\_\_ (# of pots)

Tier 3 \_\_\_\_\_%

Tier 3 \_\_\_\_\_ (# of pots)

**4) The qualifying criteria for each tier should be based on (circle all that apply):**

Landings History

Vessel Size

Participation History

Declaration History

**5) The fishing season data used to assess the above criteria should be taken from the following season(s) (circle all that apply):**

1995-96

1996-97

1997-98

1998-99

1999-00

2000-01

# TRAP TAG COSTS

## PERSONNEL COSTS - CREATE AND ORDER BUOY TAGS

Staff	Total Hours	Hourly Rate	Cost
Commercial Fishing Analyst (AGPA)	10	\$28.79	\$287.90
Procurement Analyst (AGPA)	10	\$28.79	\$287.90
Program Tech I	500	\$16.55	\$8,275.00
Key Data Operator	100	\$16.55	\$1,655.00
<b>Total Staff Cost</b>			<b>\$10,505.80</b>

## ANNUAL PRINTING

Item	Quantity	Cost
Crab Buoy Tags (600 vessels 375 tags per vessel)	225,000	\$155,250.00

\*.69 per tag from vendor

## ANNUAL COSTS ASSOCIATED WITH THE DISTRIBUTION AND ACCOUNTING FOR NEW ITEM

Description	Cost per Item	Number of Items	Cost
Warehouse and Staff Time to Inventory Distribute and account for new Item	\$ 0.27	225,000	\$ 60,750.00

<b>Postage for mailing</b>	<b>\$ 20,000.00</b>
<b>Total Annual On-going Costs</b>	<b>\$ 237,050.80</b>

# California CPFV Catch from Logs – 2004/05

PortCode	Total #Ang	Total #Kept	Total #Released	Total CPUE	annual partyboats fishing crab 1995 - 12
220 EUR	55	347	0	6.3	1996 - 9
223 FB	1,470	10,913	6,302	7.4	1997 - 10
231 TRN	499	4,262	33	8.5	1998 - 11
425 EMER	1,623	8,288	1,368	5.1	1999 - 13
440 SF	26	60	8	2.3	2000 - 13
452 HMB	10	60	18	6.0	2001 - 22
472 BERK	1,170	6,424	917	5.5	2002 - 28
473 BOD	1,009	5,299	933	5.3	2003 - 23
550 MON	118	252	12	2.1	2004 - 27
593 SCRZ	32	24	0	0.8	
<b>Grand Total</b>	<b>6,012</b>	<b>35,929</b>	<b>9,591</b>	<b>6.0</b>	