



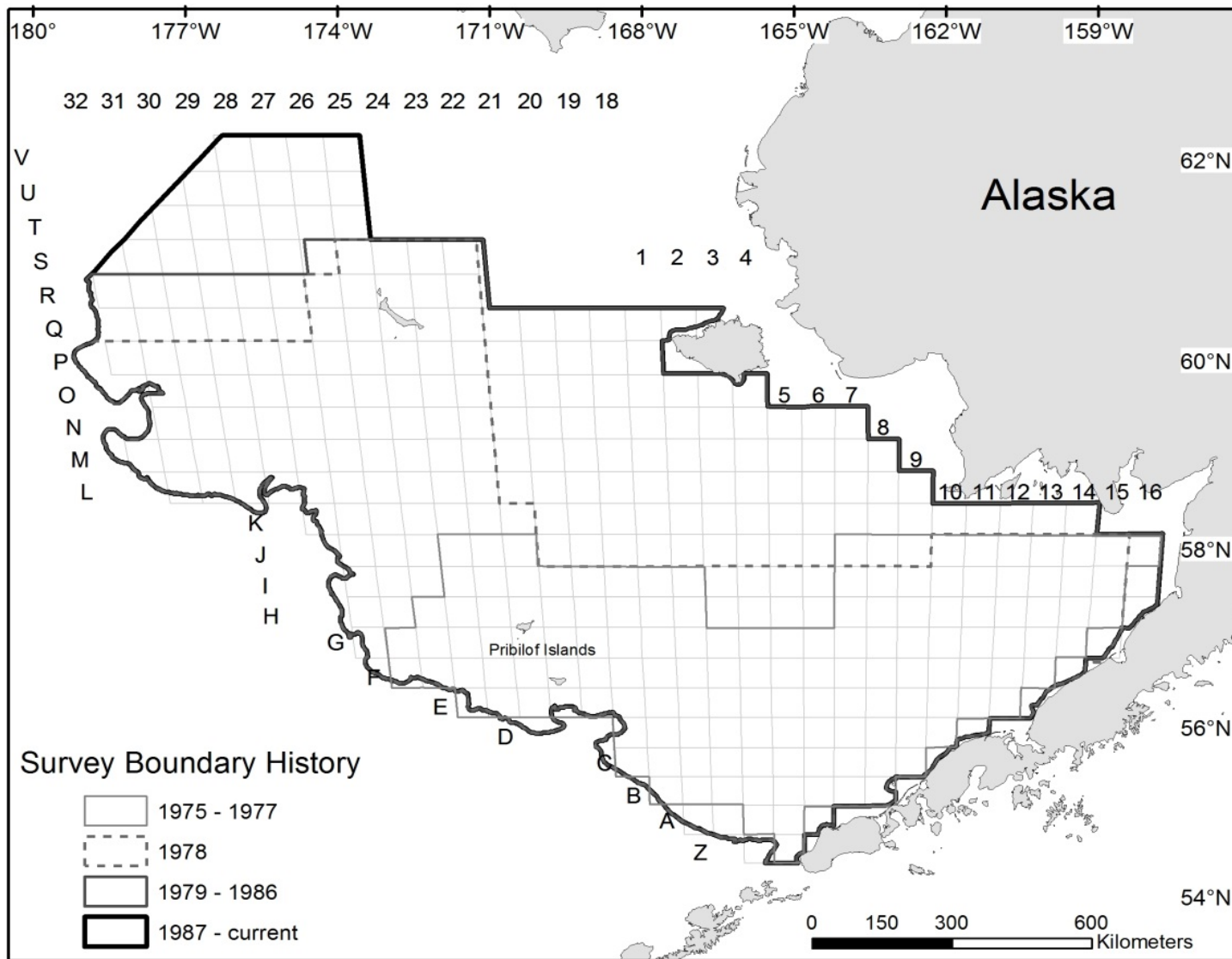
**NOAA
FISHERIES**

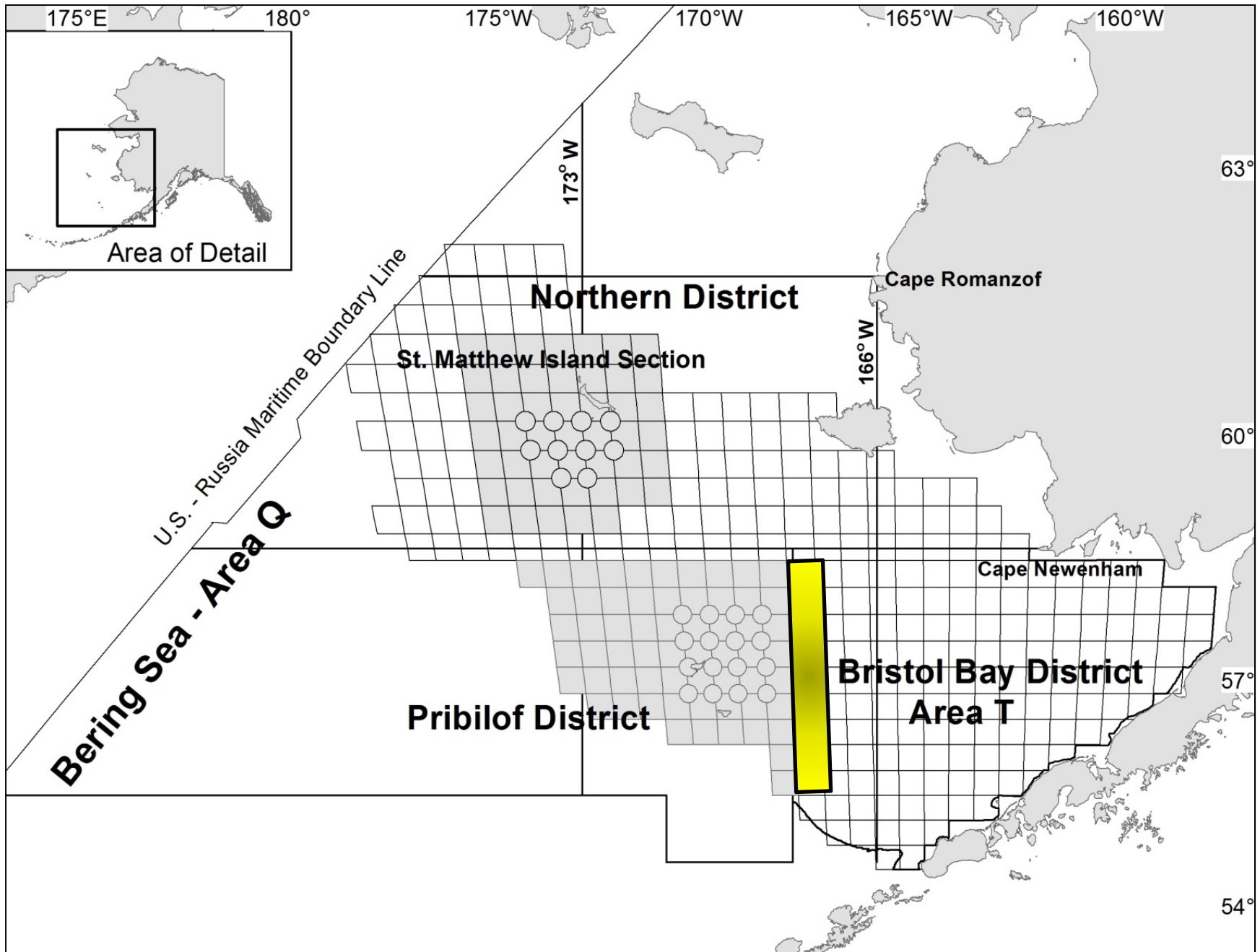
Alaska Fisheries
Science Center-
Kodiak Lab

The 2014 Eastern Bering Sea Continental Shelf Bottom Trawl Survey: Results for Commercial Crab Species

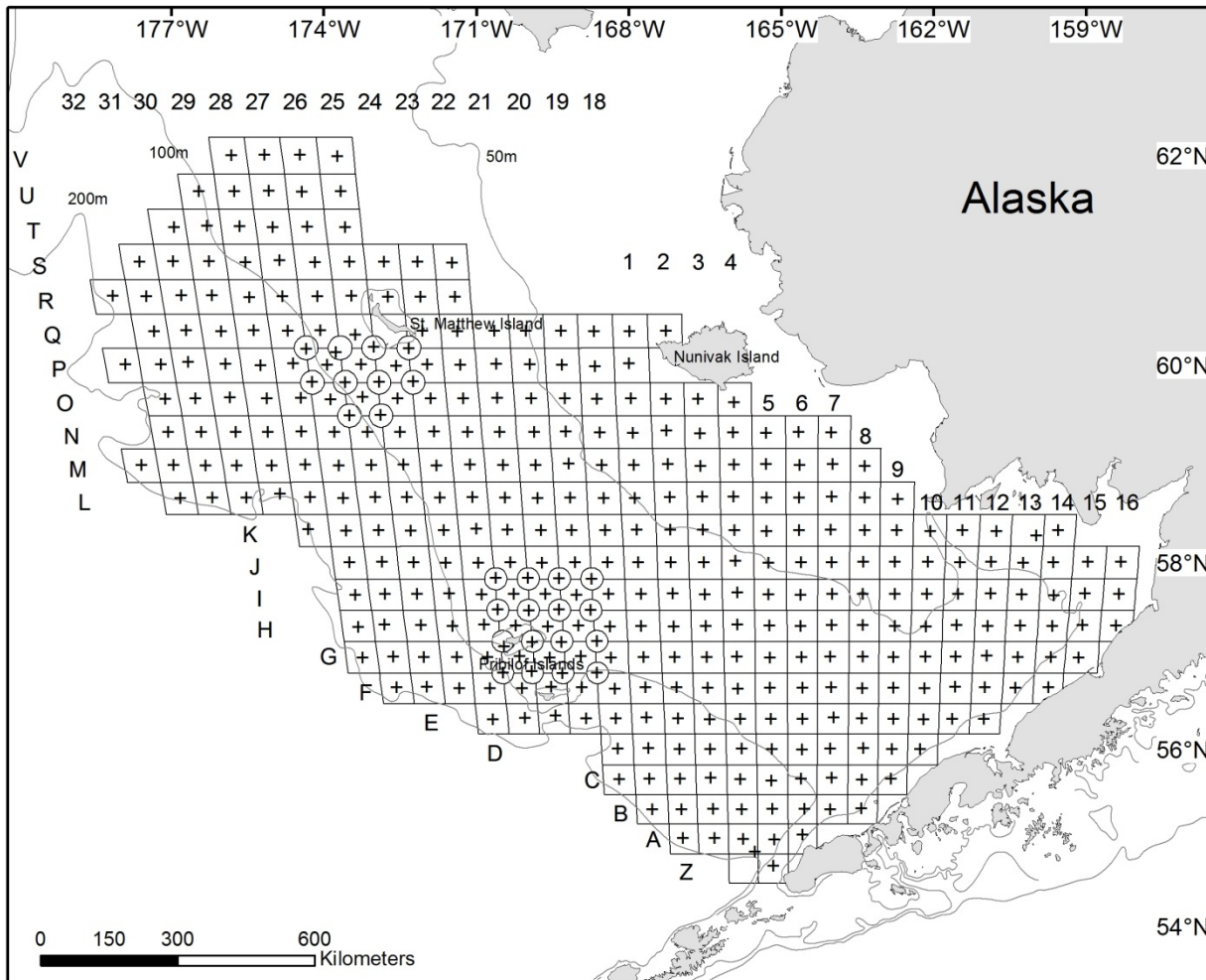
Robert Foy, Ben Daly, Claire Armistead, AFSC
SAP and GAP programs

Crab Plan Team
September 2014





2014 standard Bering Sea survey

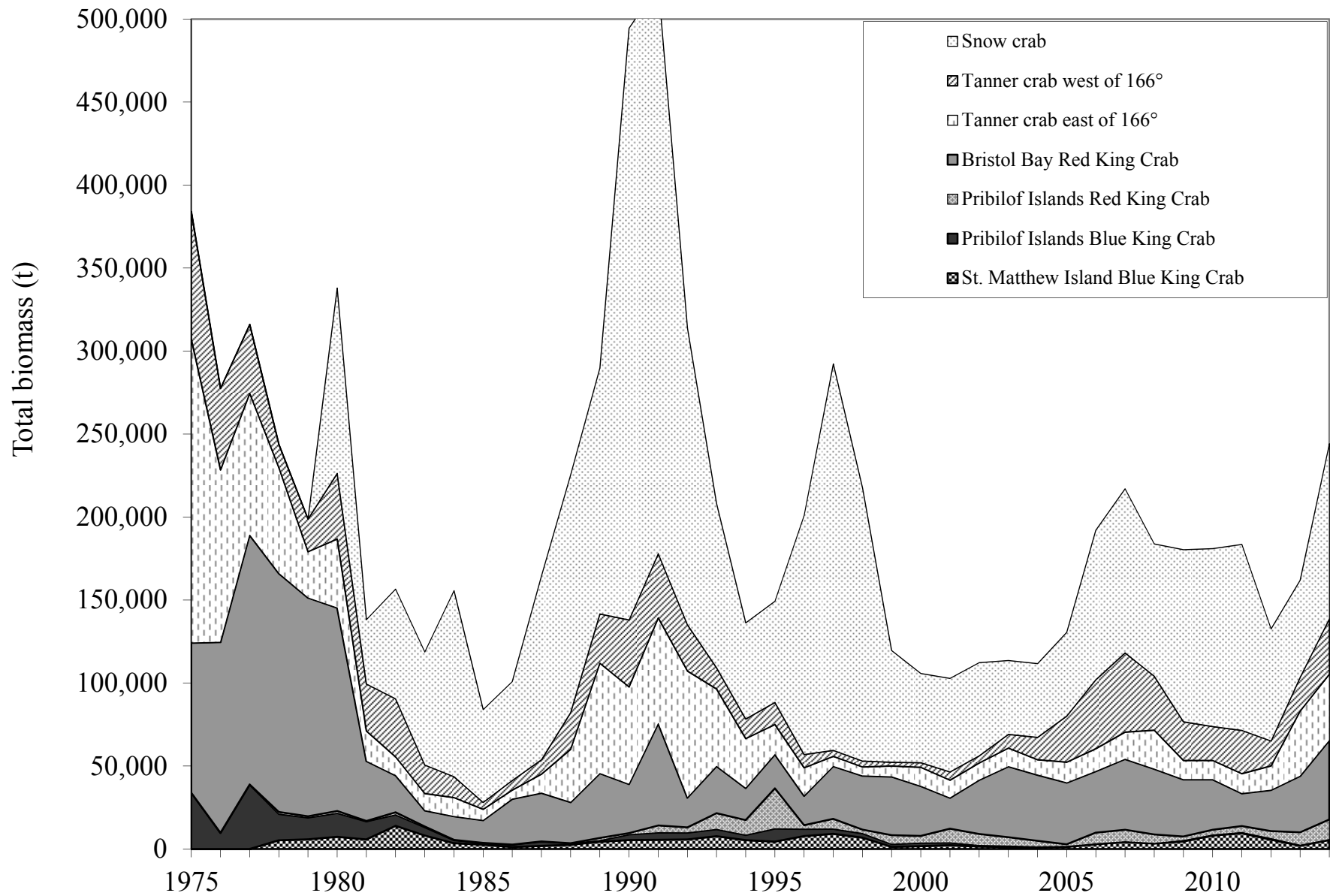


HIGHLIGHTS

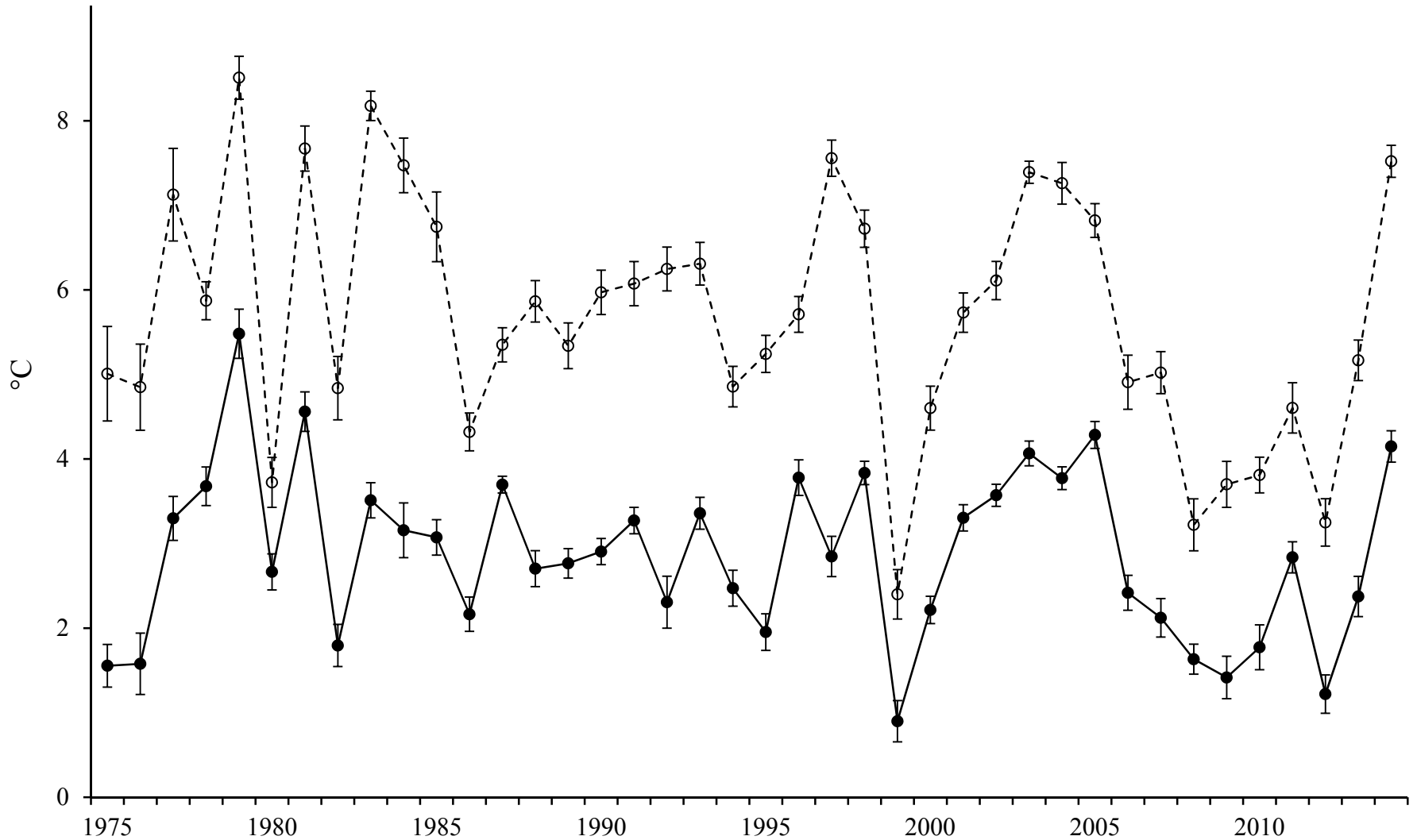
- June 8 – 2 Aug
- 376 standard stations
- 140,350 nm²
- 10 special crab projects
- Warmer water: red king crab female reproductive status
- NO resample

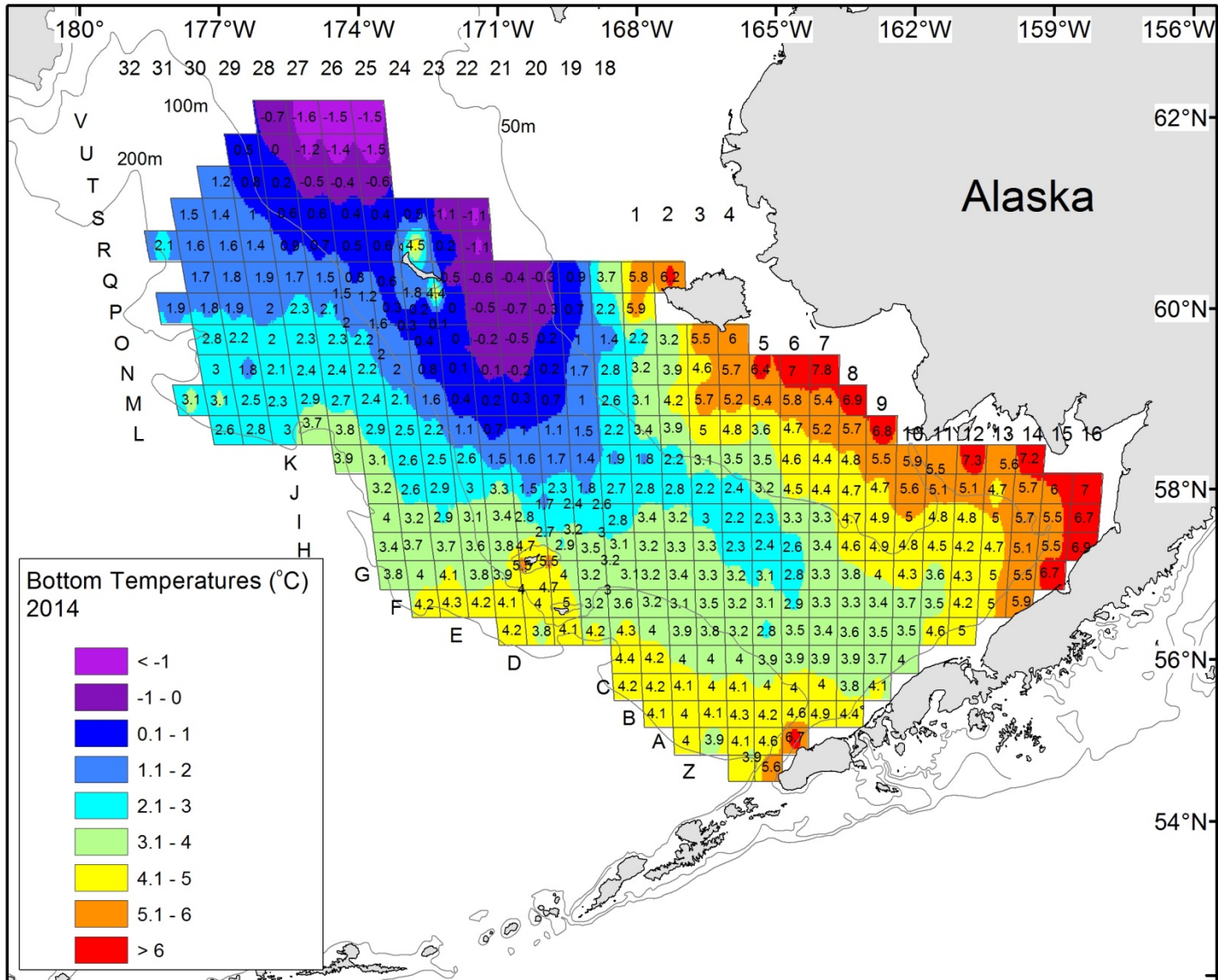
Special projects related to crab species

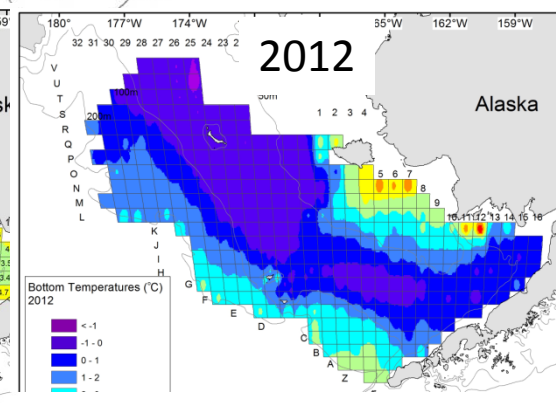
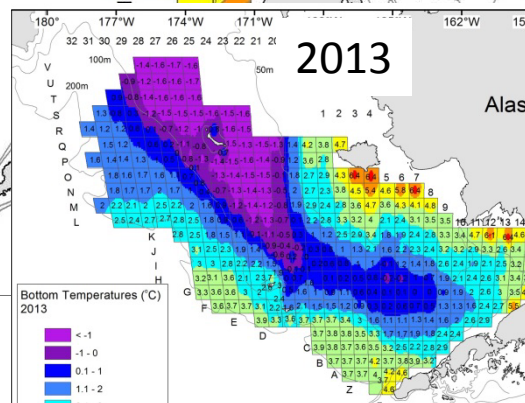
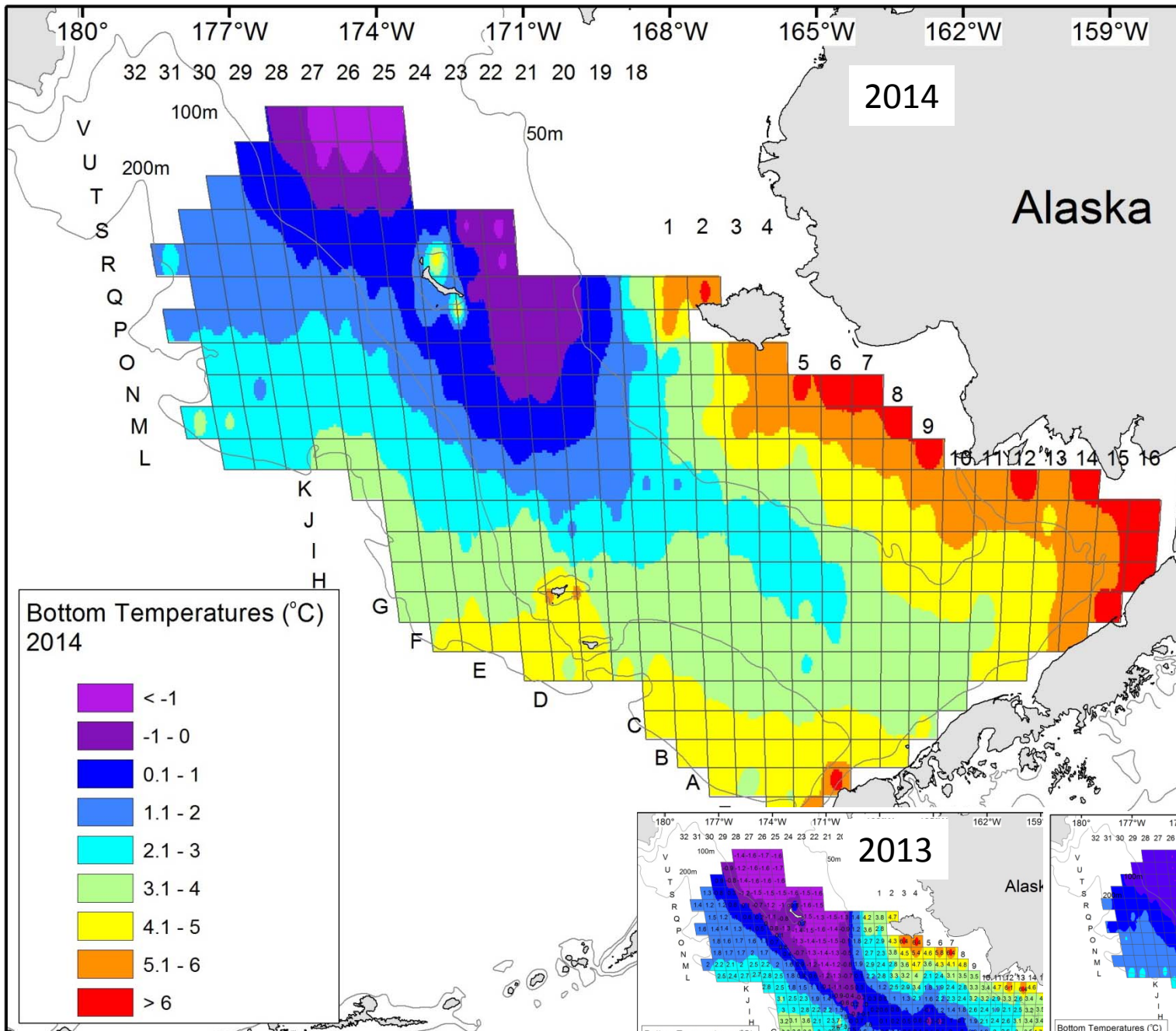
Project Title	Principle Investigator	Agency
Bitter crab syndrome	Pam Jensen	RACE ¹ -SAP ²
Snow crab age determination	Pam Jensen	RACE ¹ -SAP ²
Cod predation on red king crabs	Ben Daly	RACE ¹ -SAP ²
Effects of ocean acidification on snow crabs	Kathy Swiney	RACE ¹ -SAP ²
Male snow crab physiological maturity	Kathy Swiney	RACE ¹ -SAP ²
Annual vs. biennial snow crab reproductive cycle	Kathy Swiney	RACE ¹ -SAP ²
Location of red king crab spawning grounds	Chris Long	RACE ¹ -SAP ²
Snow crab growth and habitat associations	Cliff Ryer	RACE ¹ -FBE ³
Reproductive potential of female Tanner crabs	Laura Stichert	ADF&G ⁴
Reproductive potential of female snow crabs	Laura Stichert	ADF&G ⁴

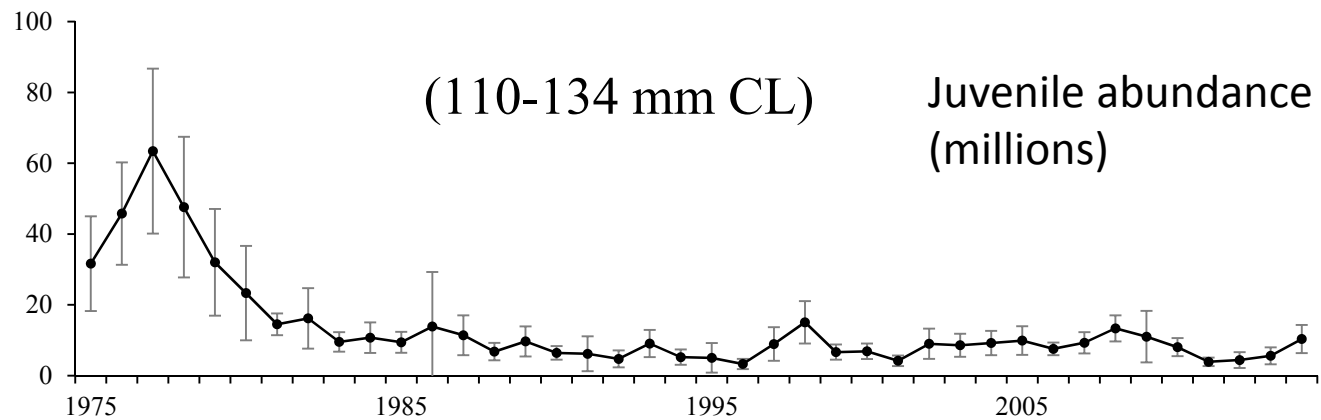
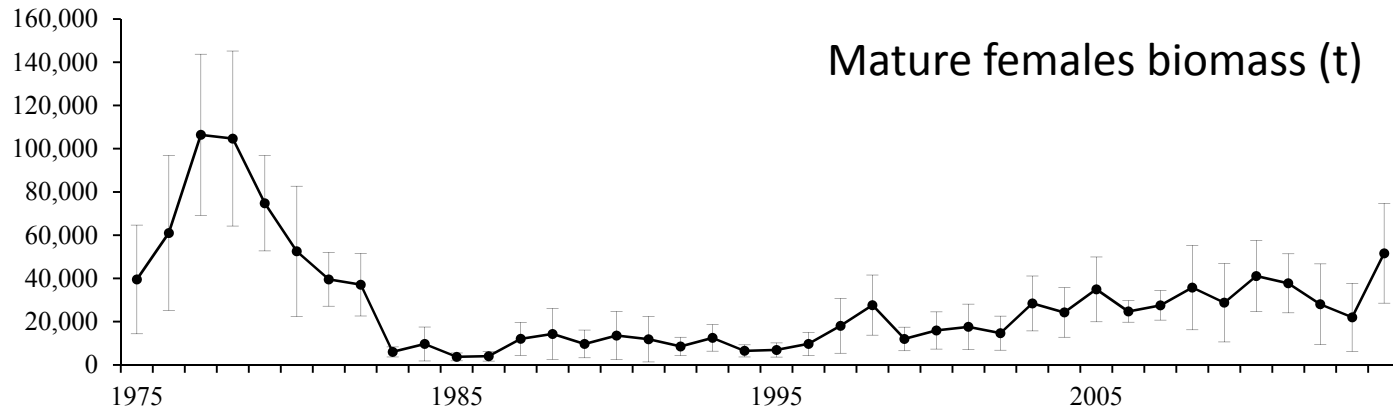
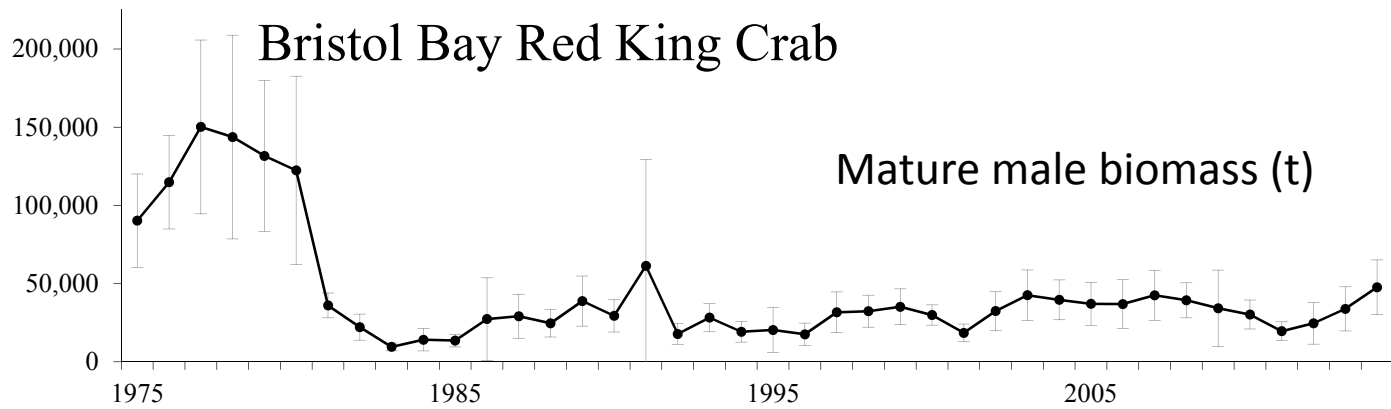


Bristol Bay Surface (dashed) and Bottom (solid) temperatures

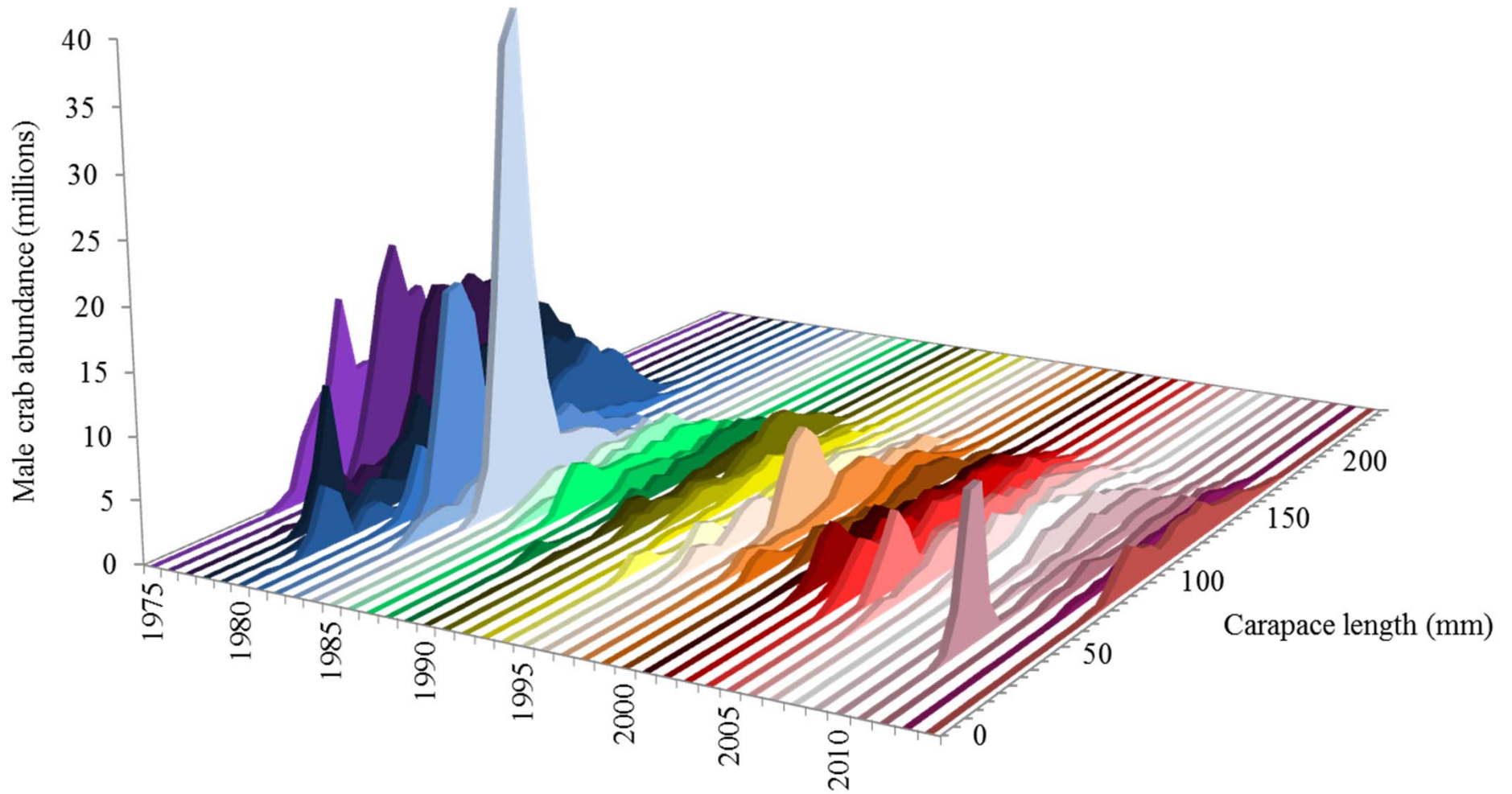




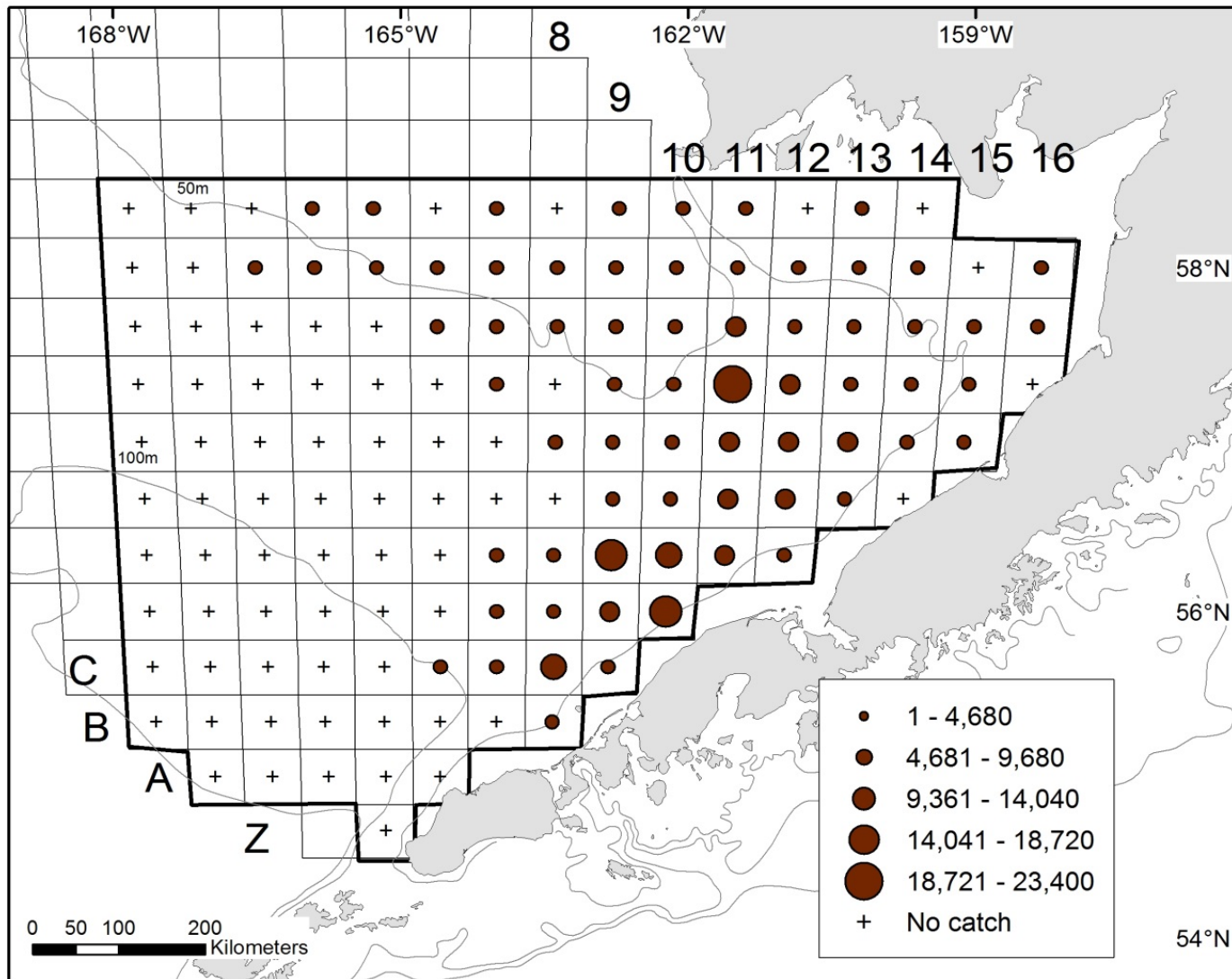




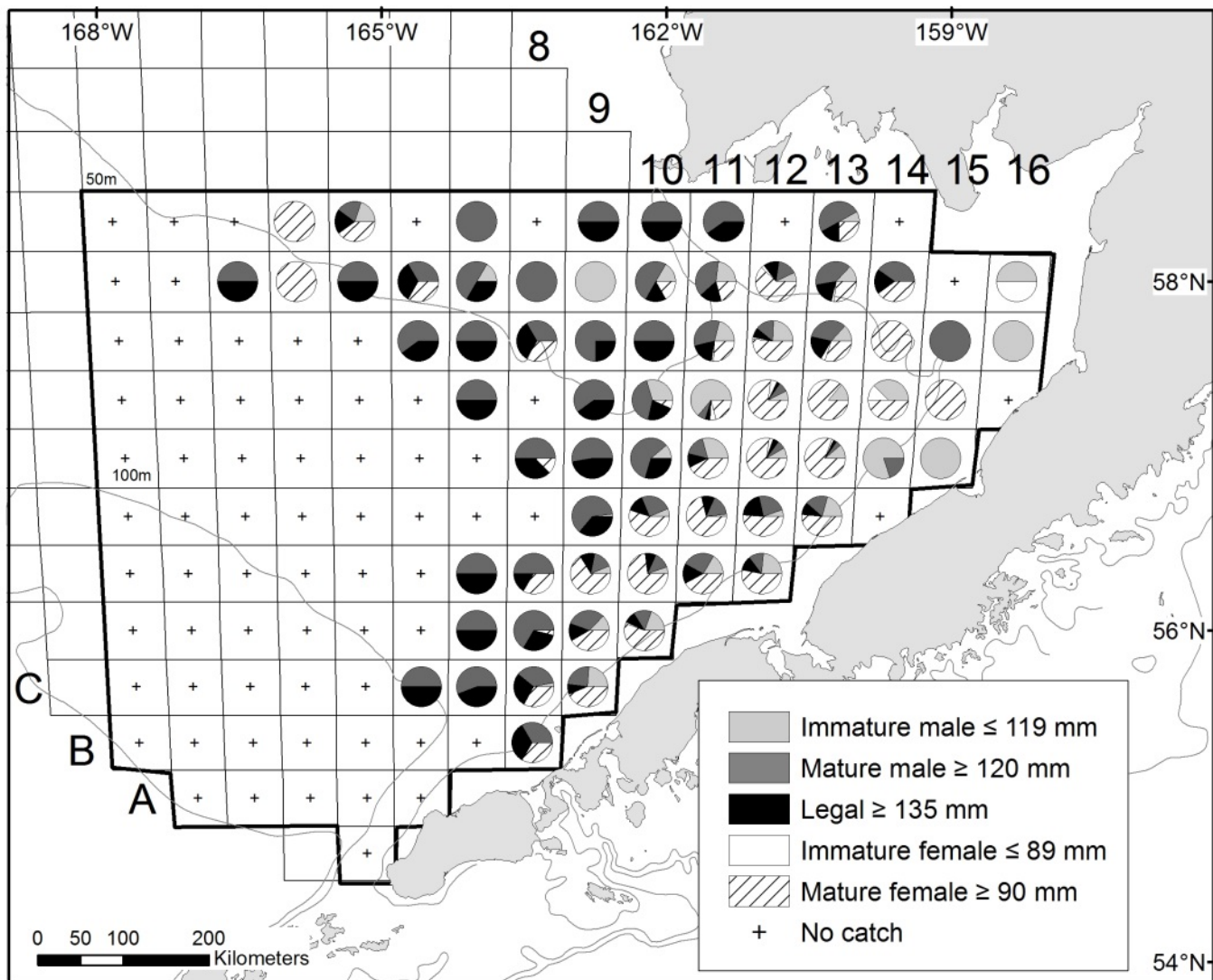
Bristol Bay Red King Crab



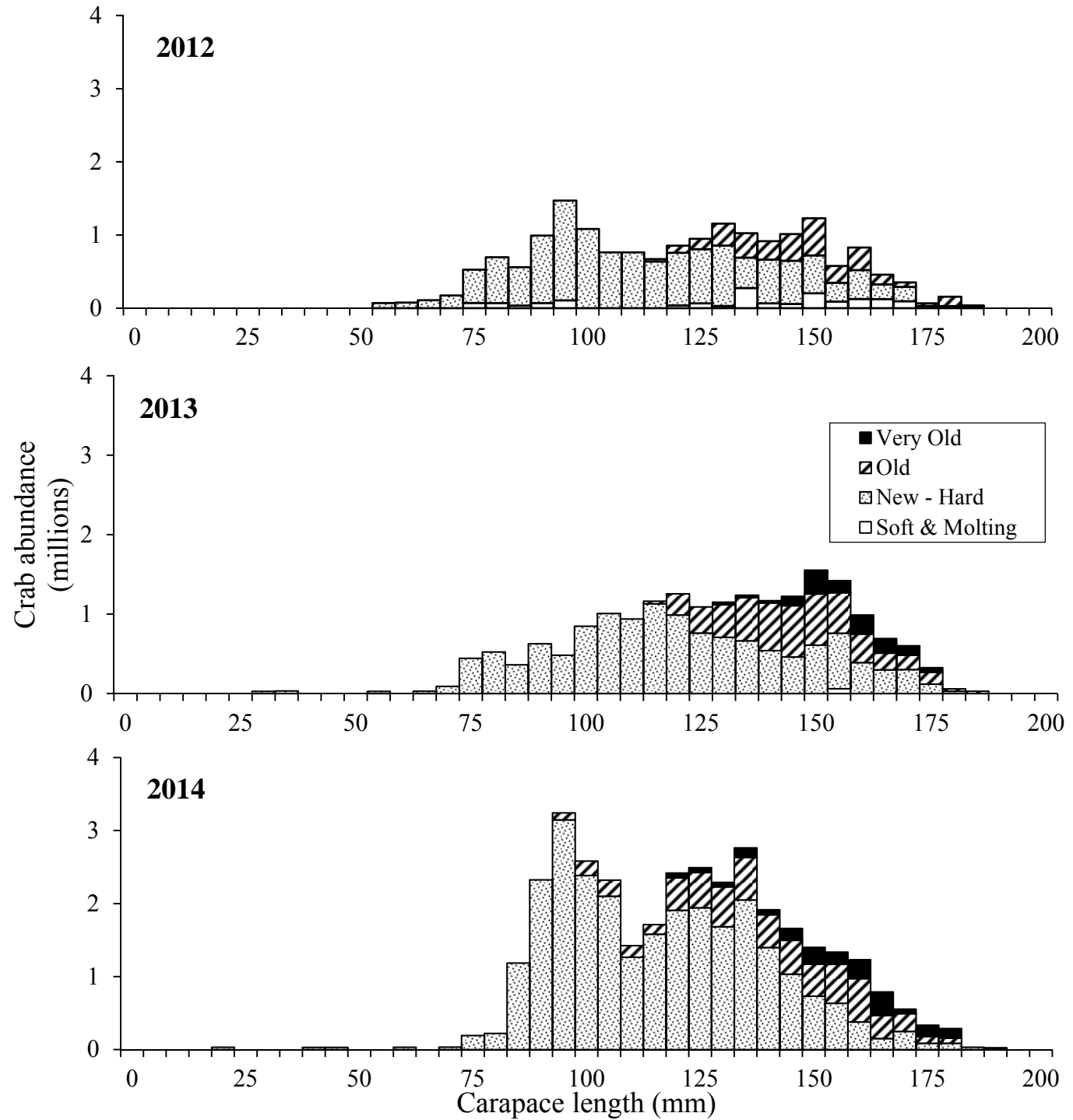
Bristol Bay red king crab (*Paralithodes camtschaticus*) total density



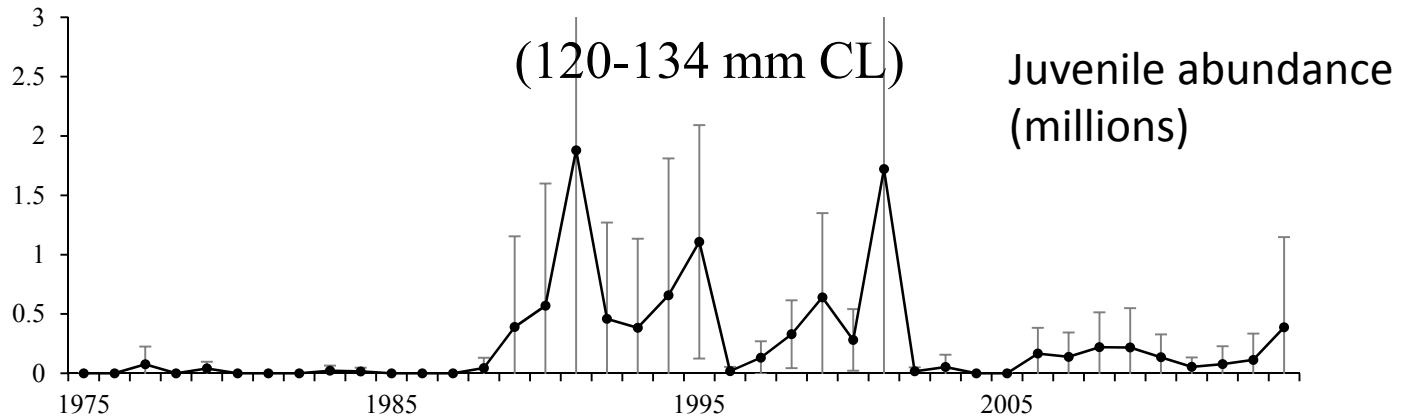
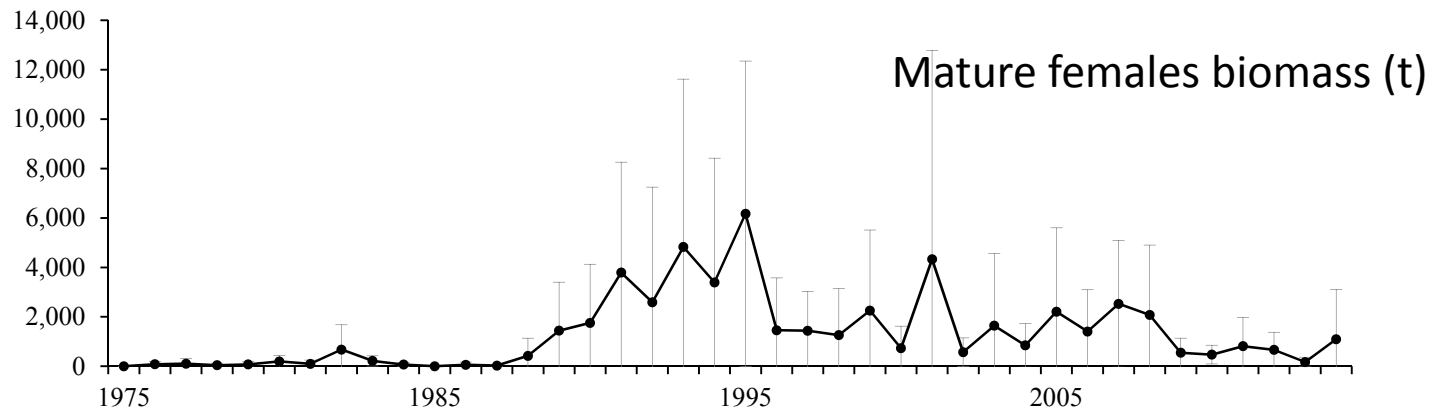
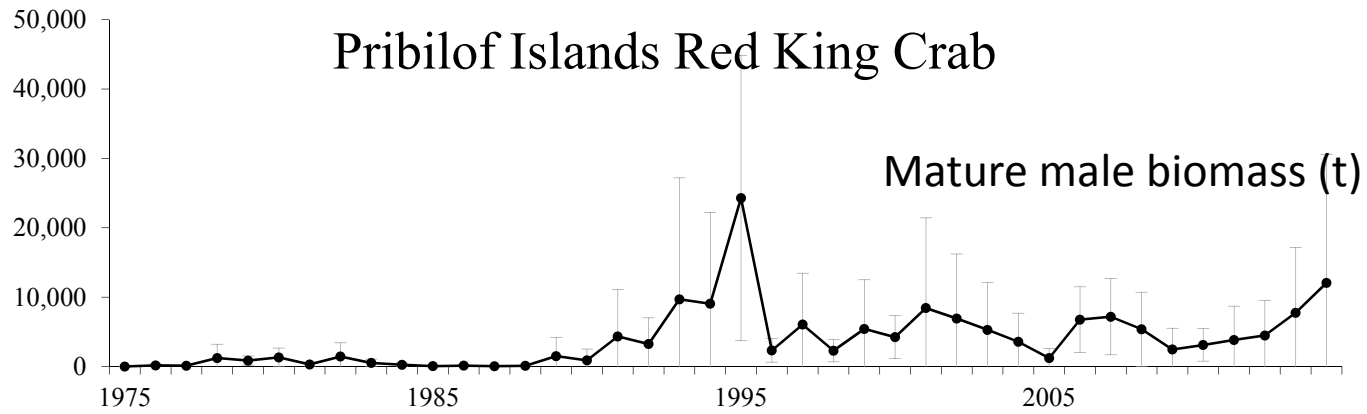
Bristol Bay red king crab (*Paralithodes camtschaticus*)



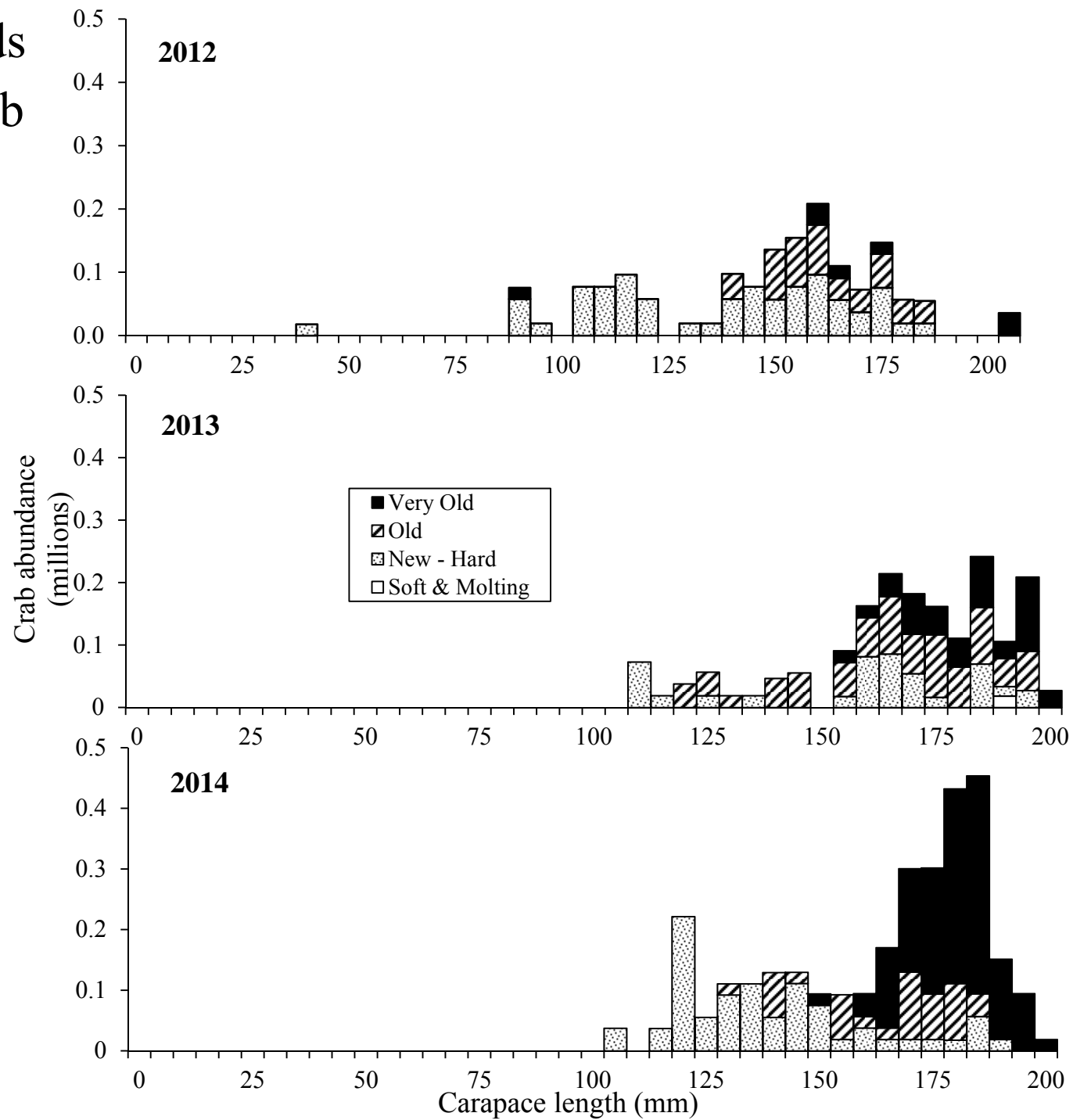
Bristol Bay red king crab



Pribilof Islands Red King Crab

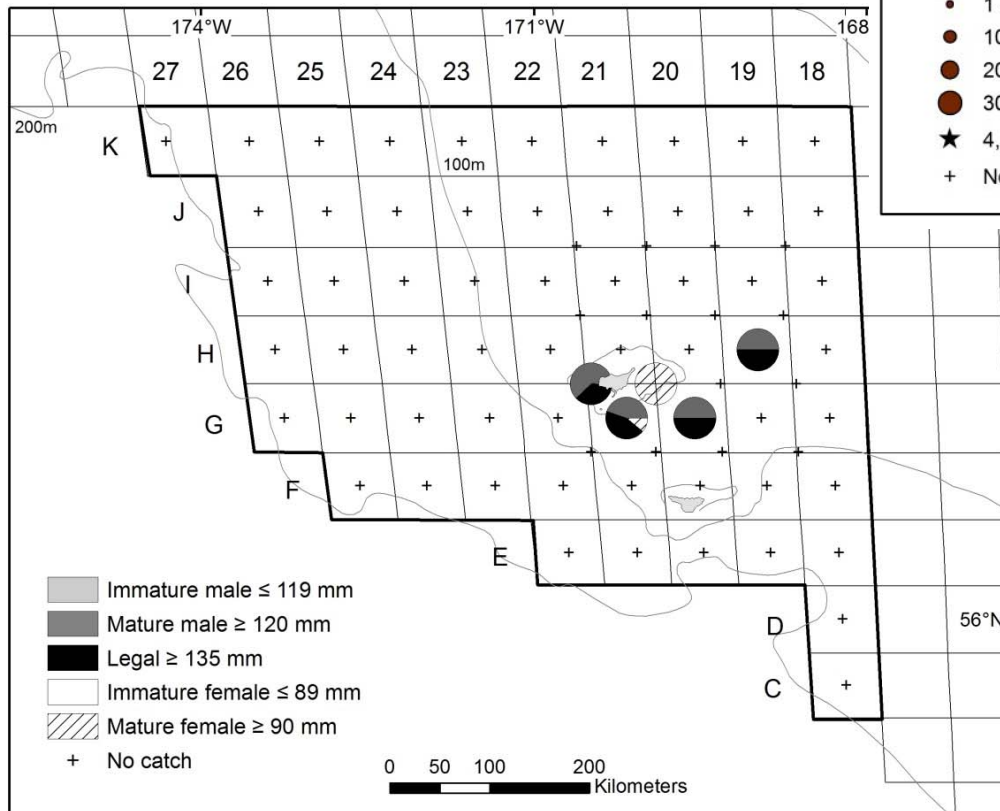
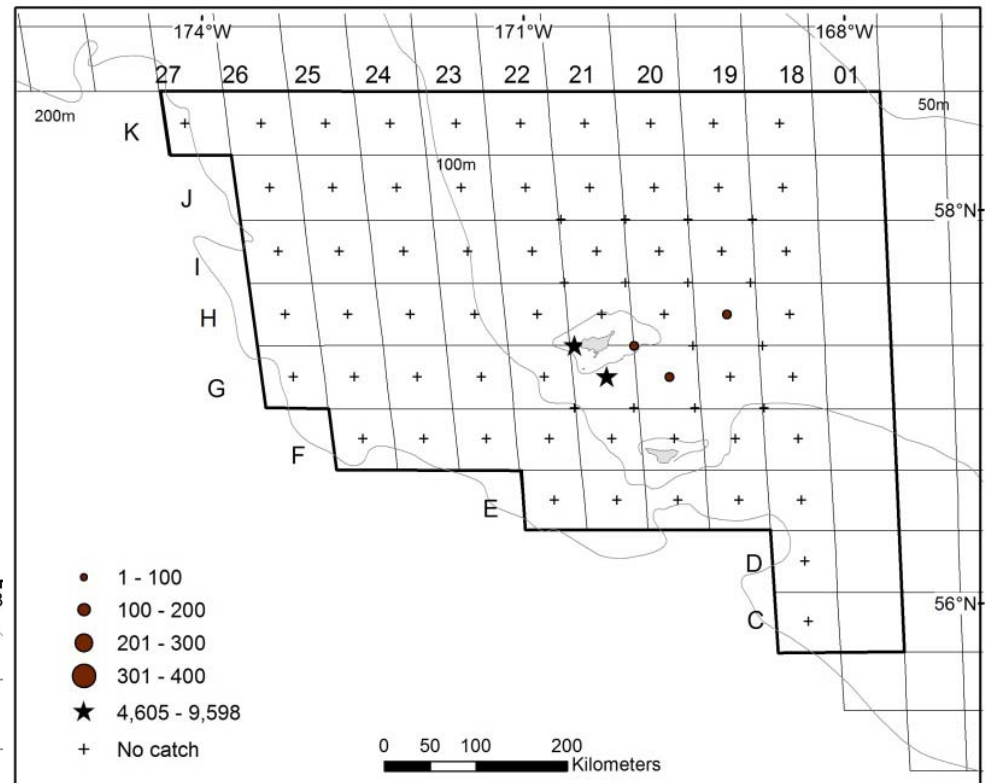


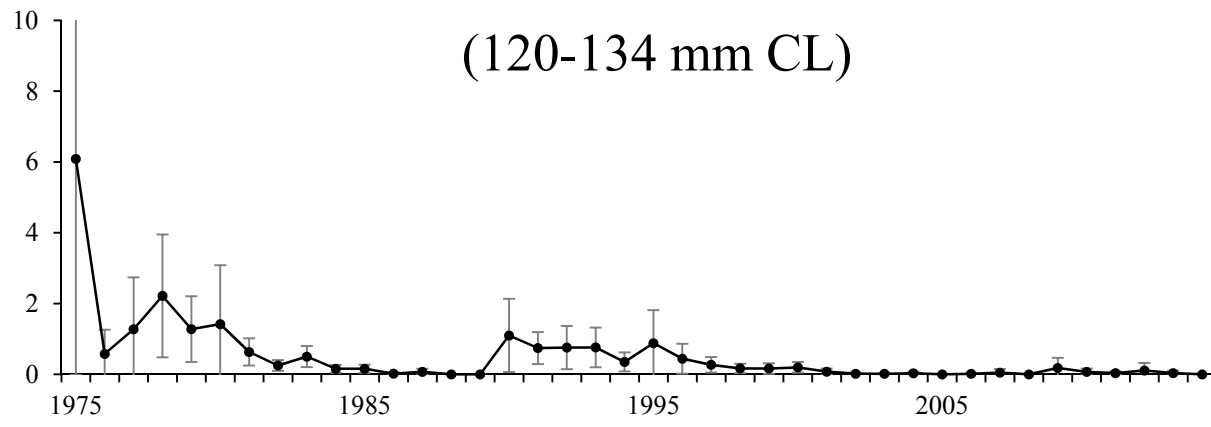
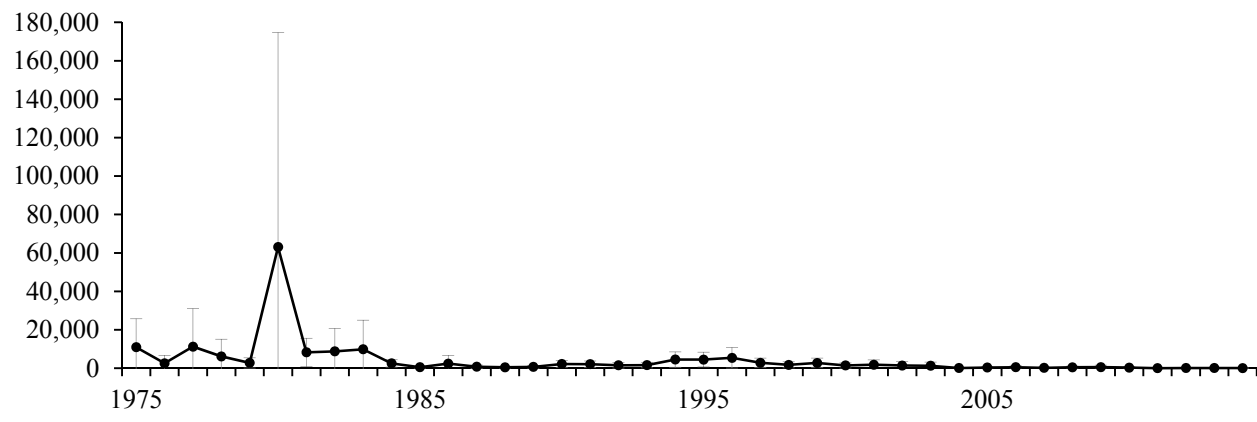
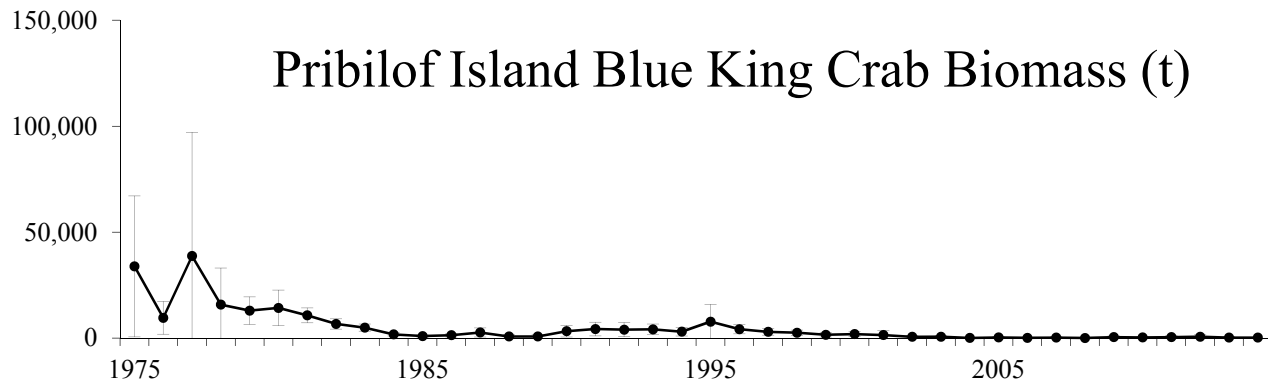
Pribilof Islands Red King Crab



Pribilof Islands

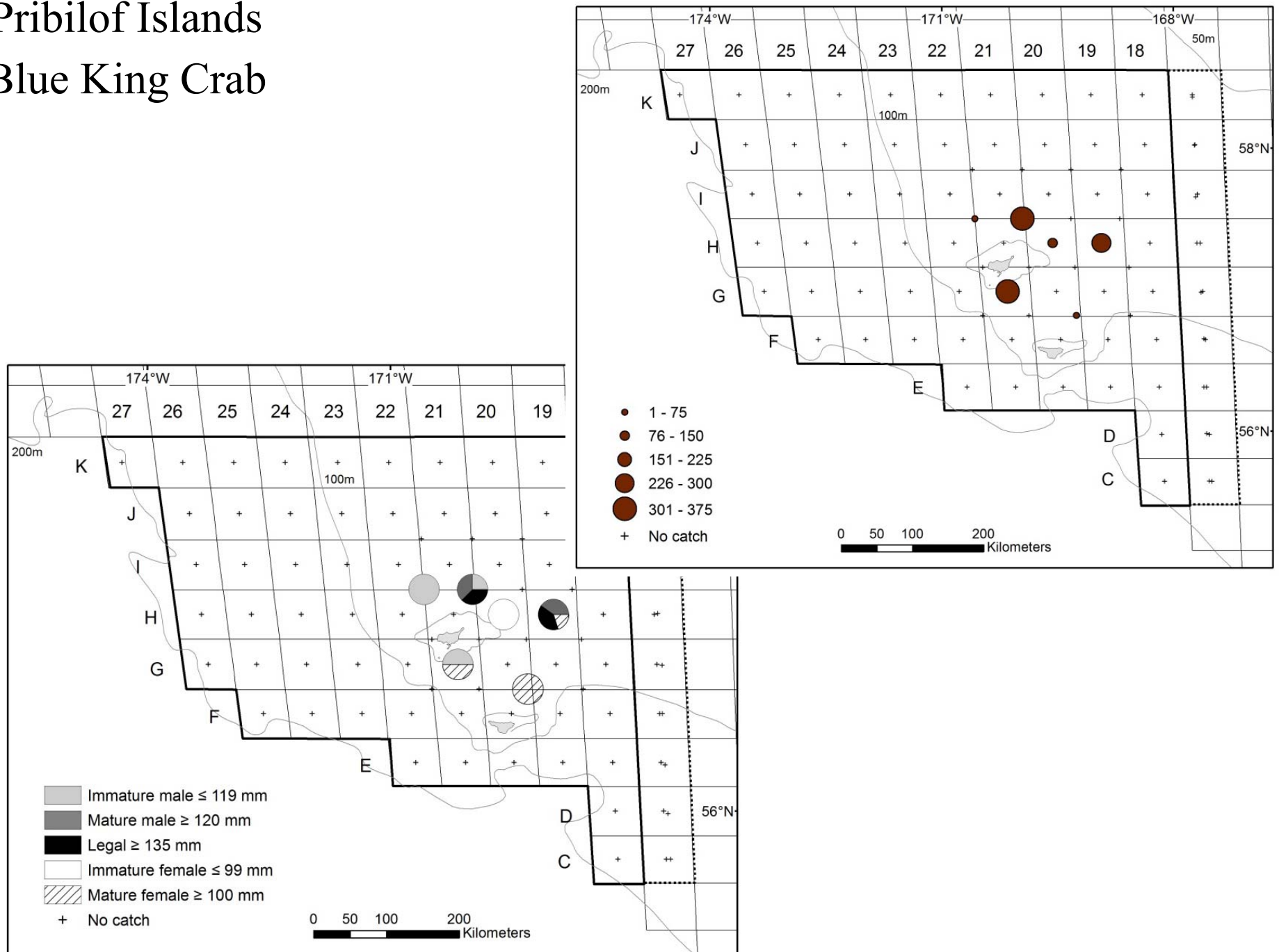
Red King Crab

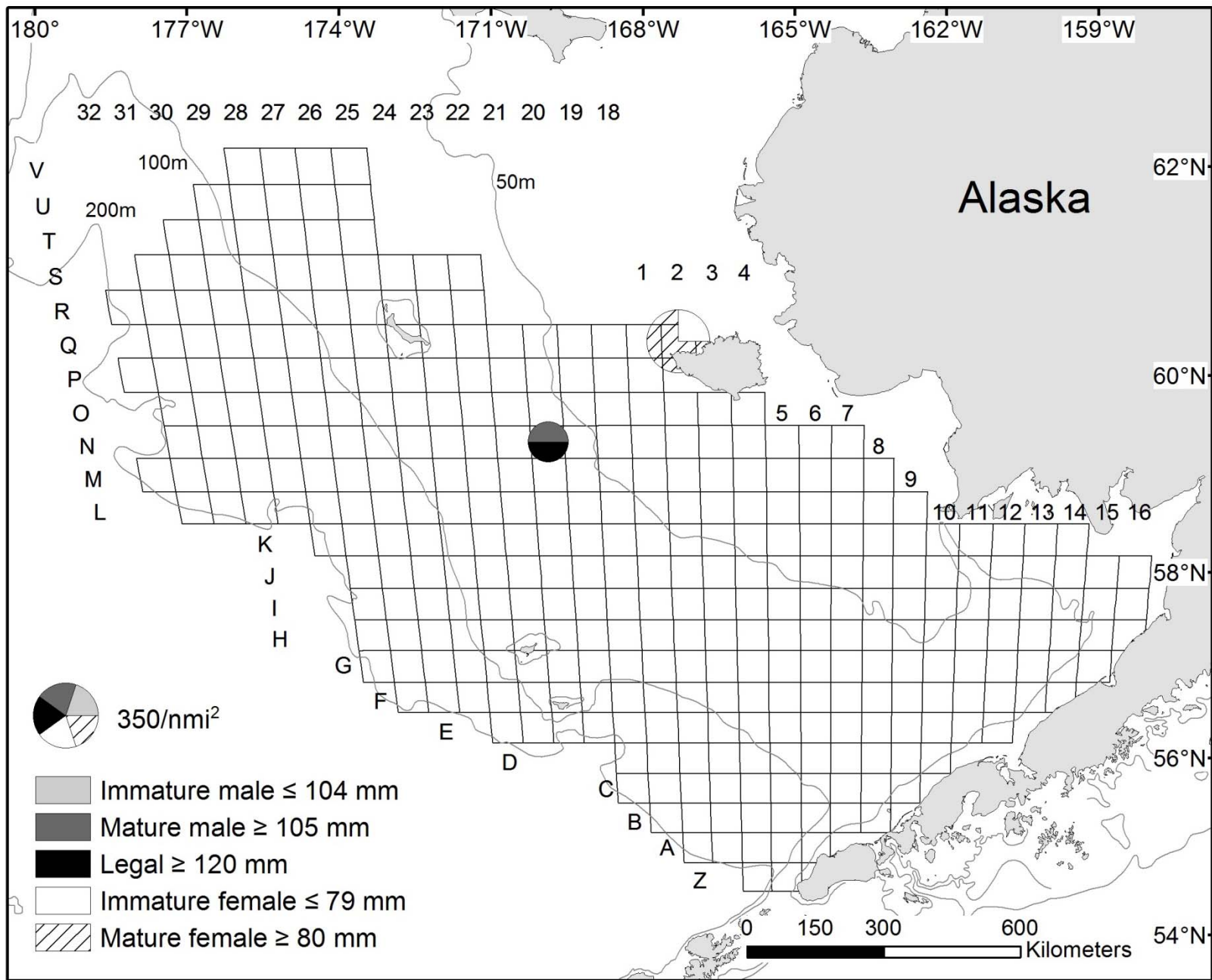


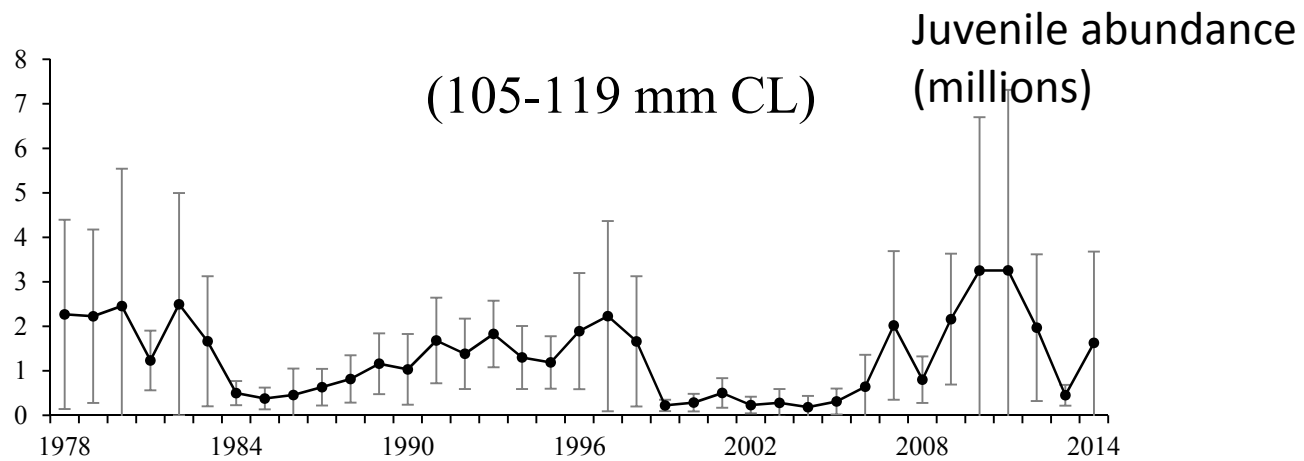
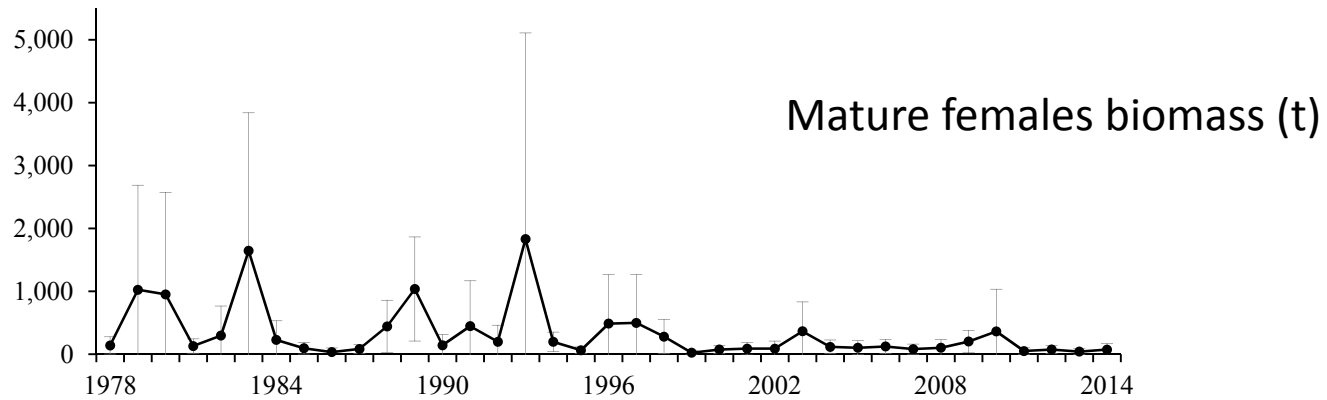
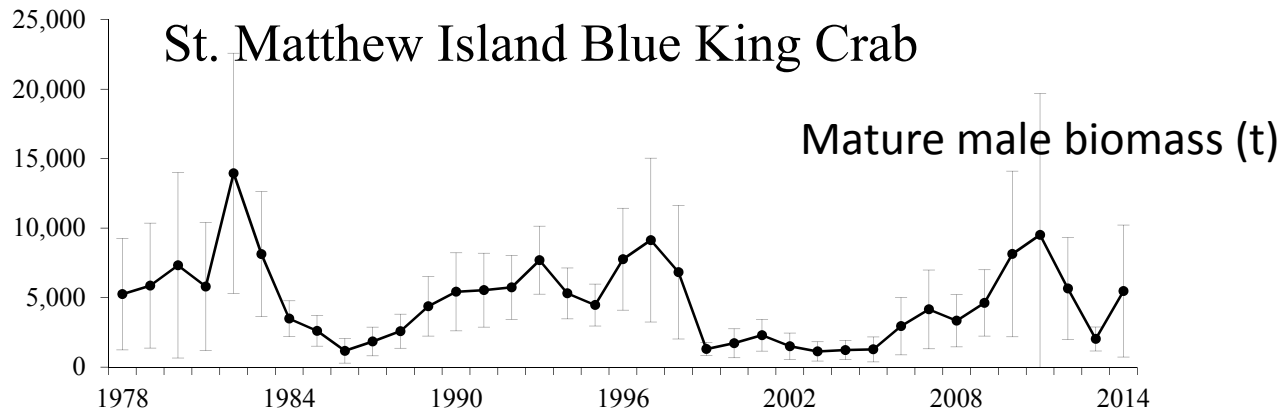


Pribilof Islands

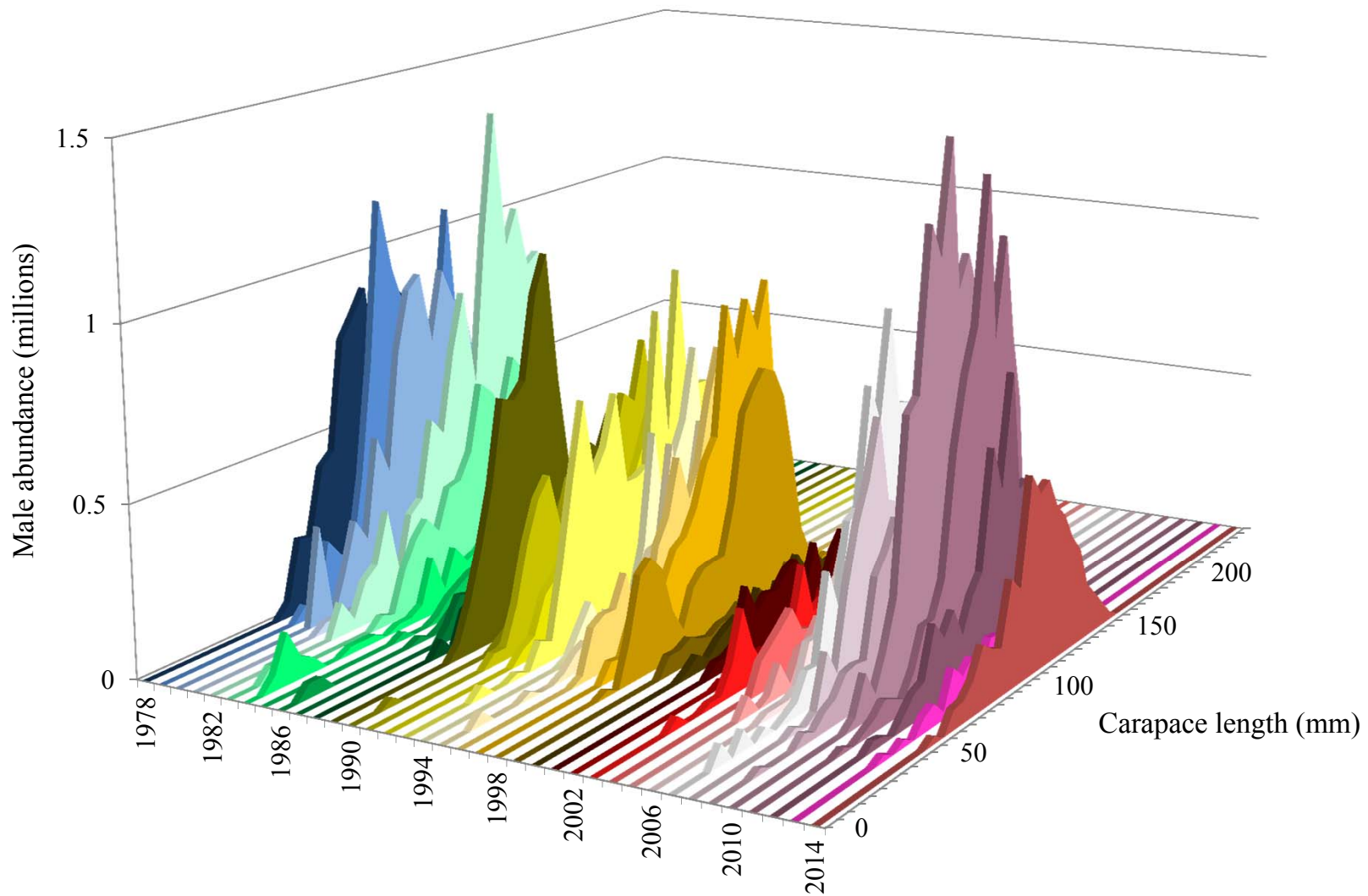
Blue King Crab



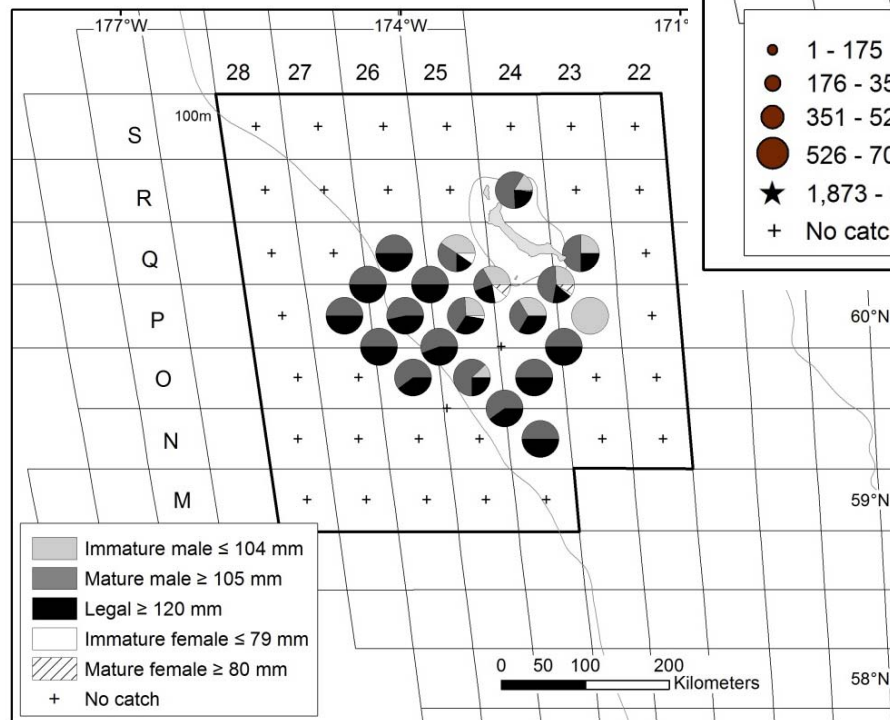
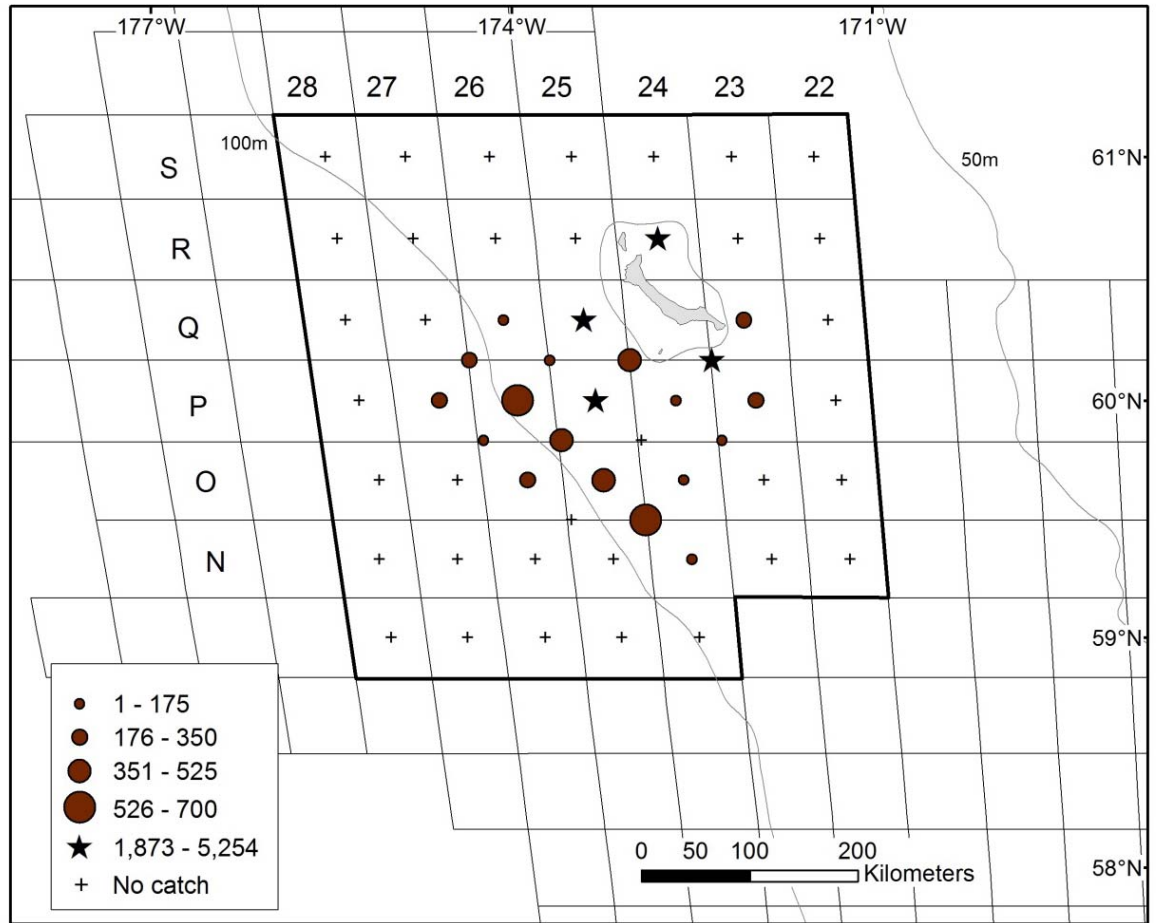




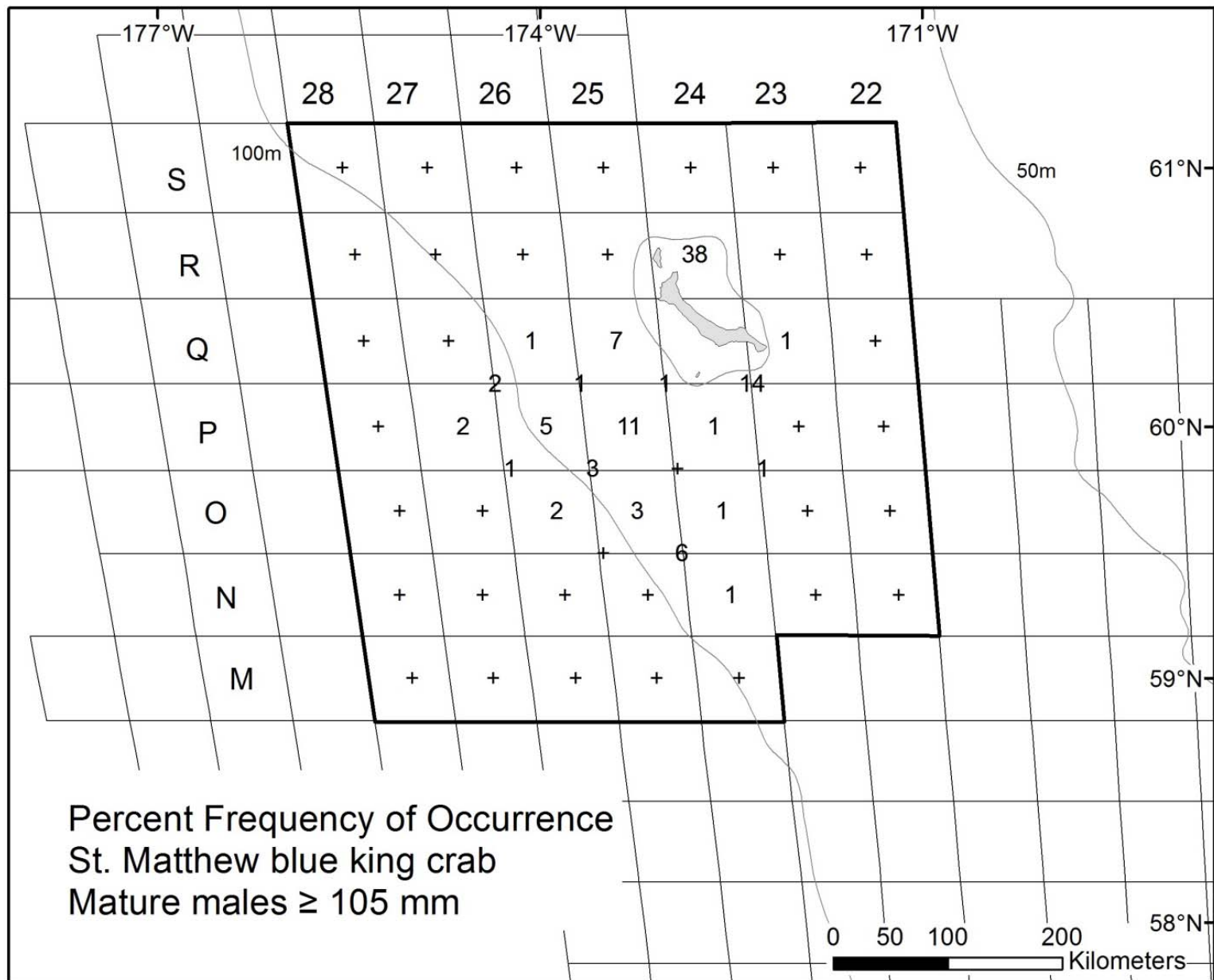
St Matthew Blue King Crab



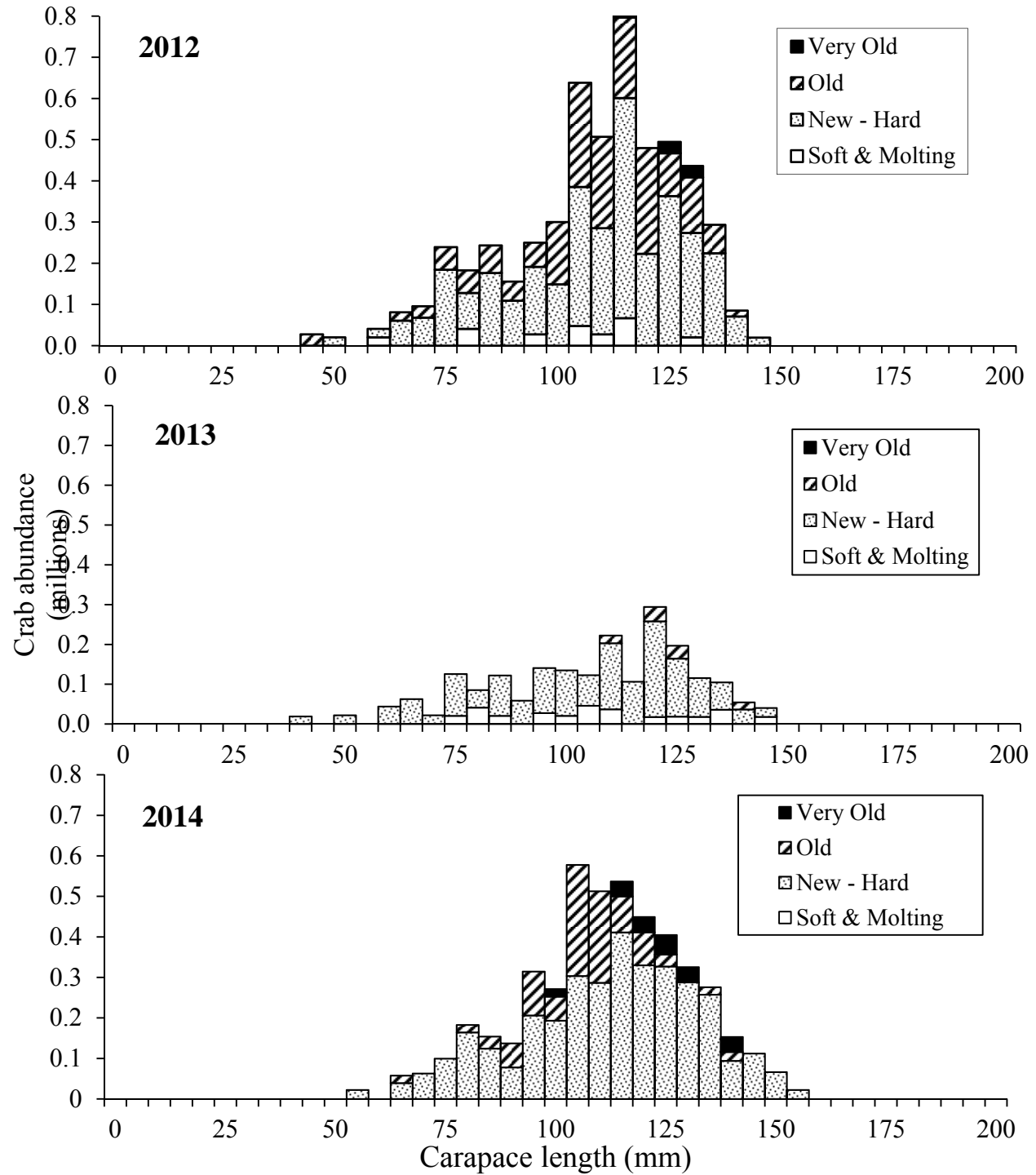
St Matthew Island blue king crab

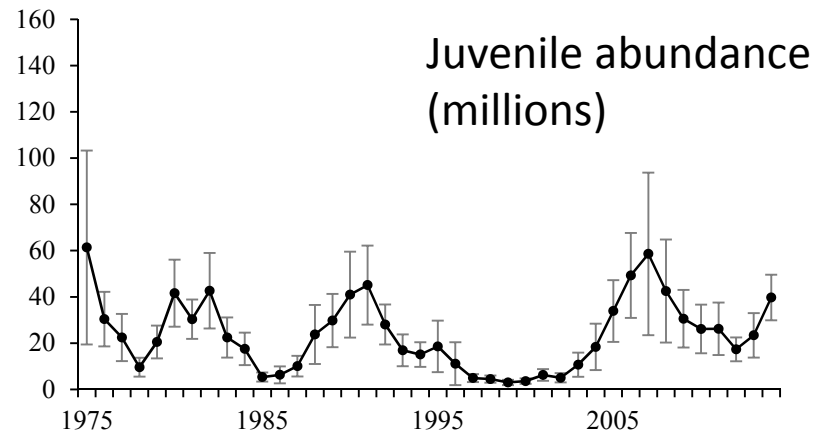
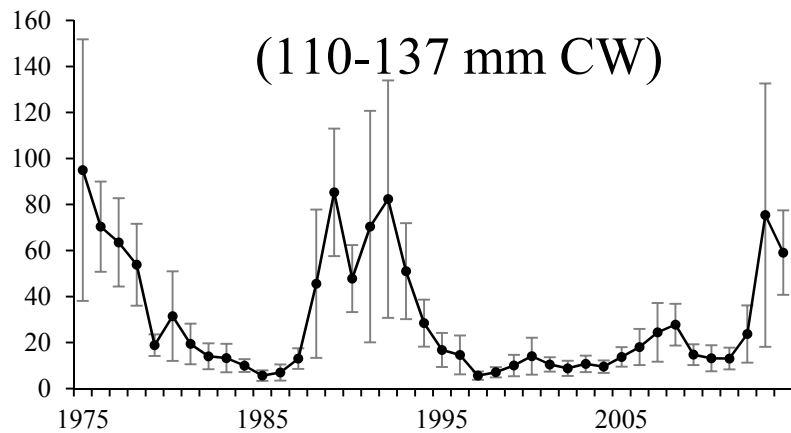
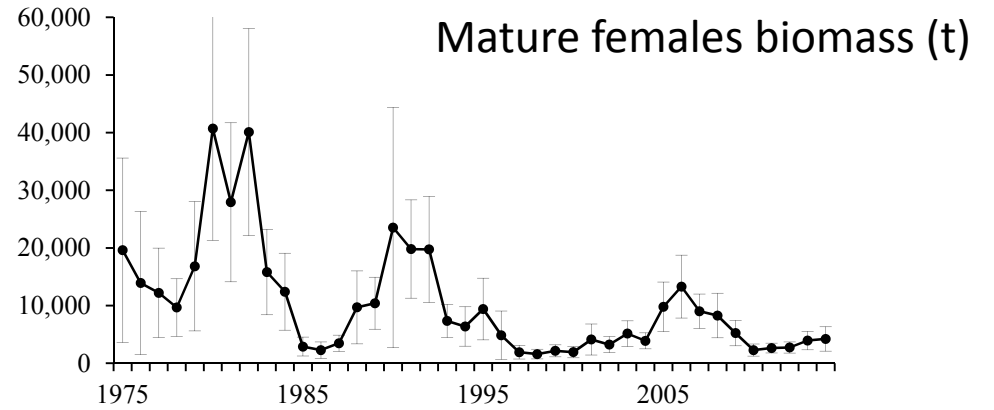
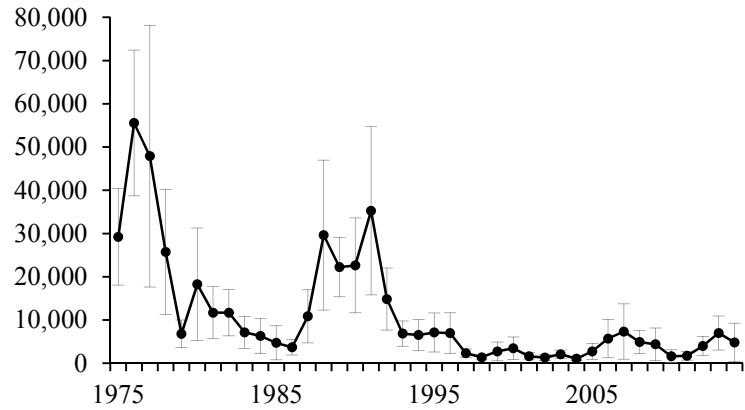
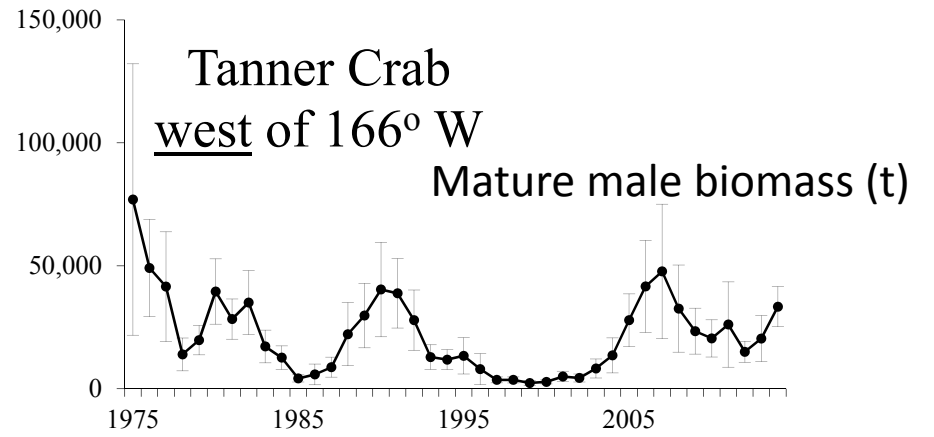
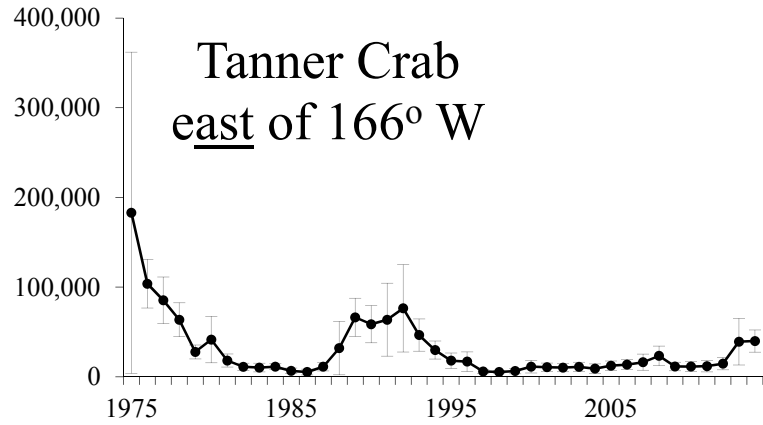


St Matthew Island blue king crab (*Paralithodes platypus*)

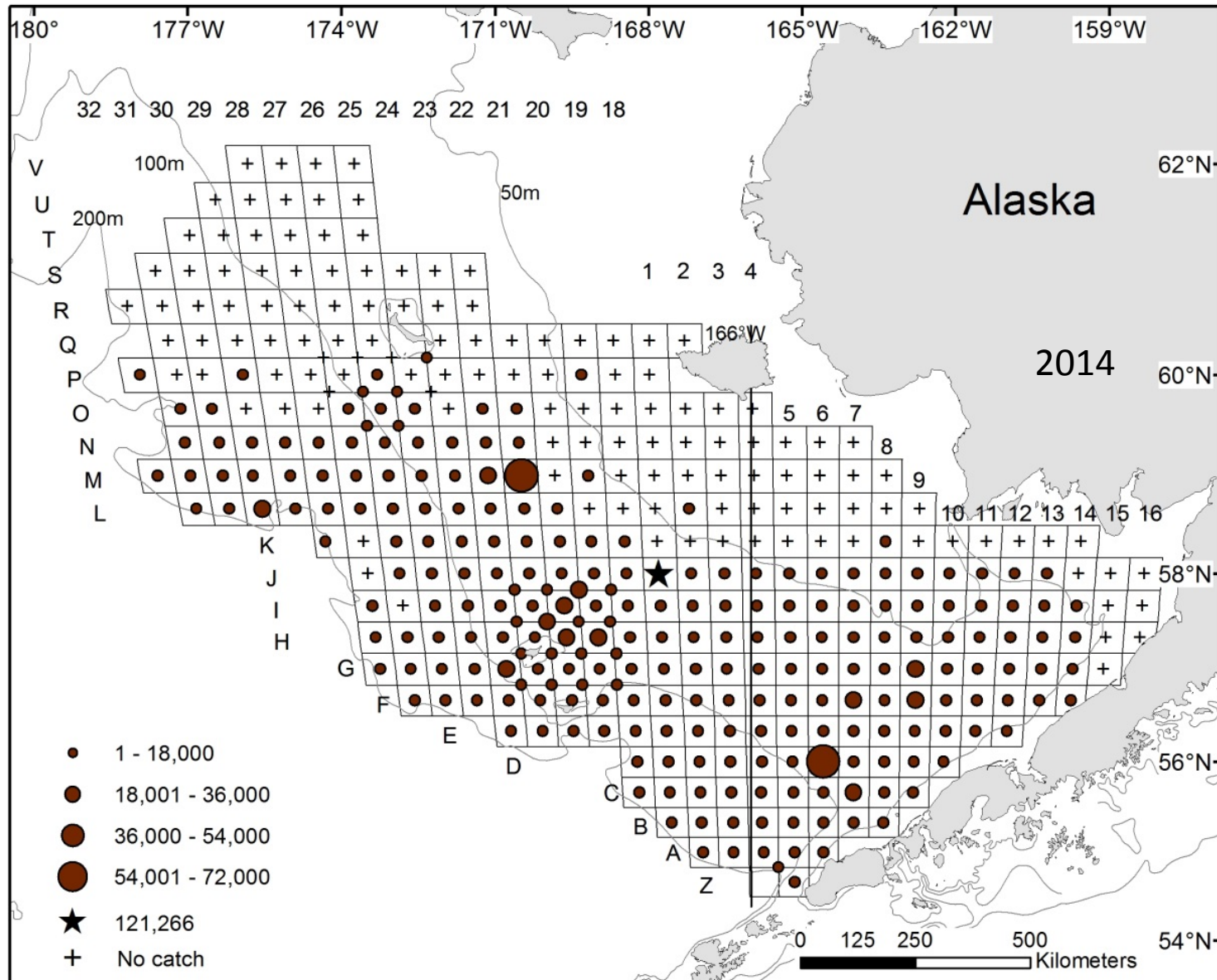


St. Matthew Island male
blue king crab
(*Paralithodes platypus*)

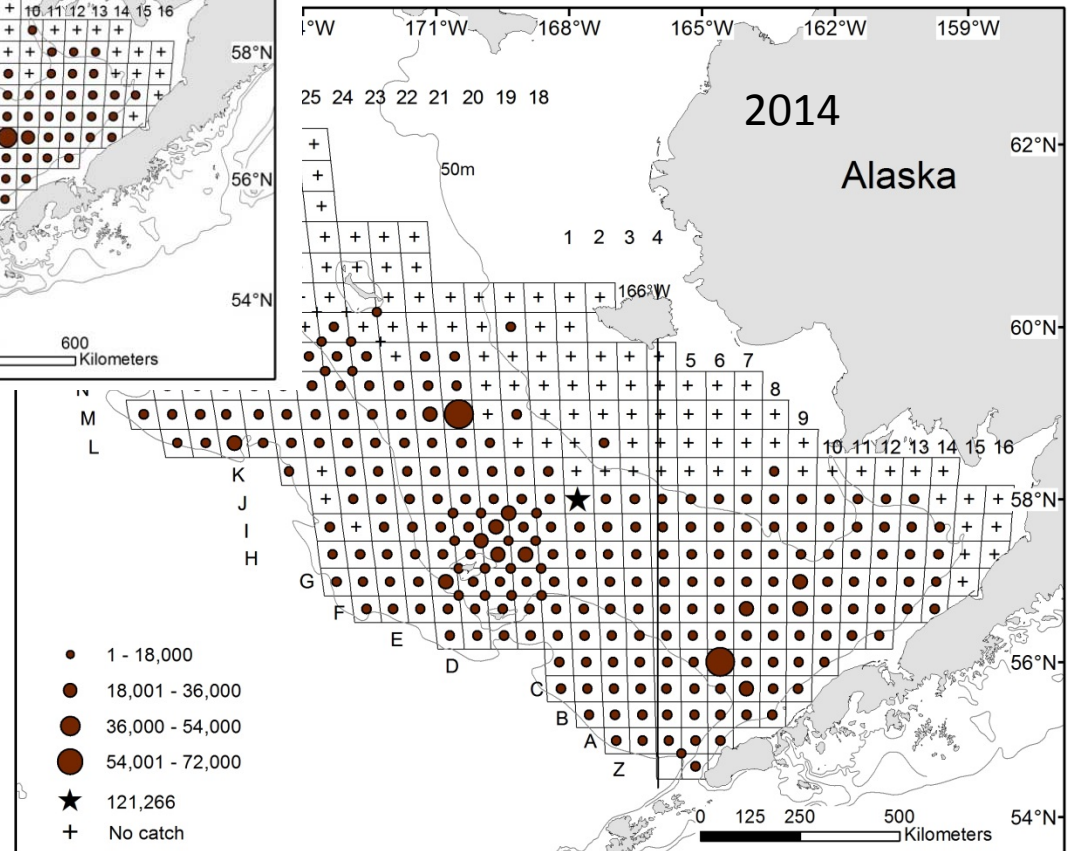
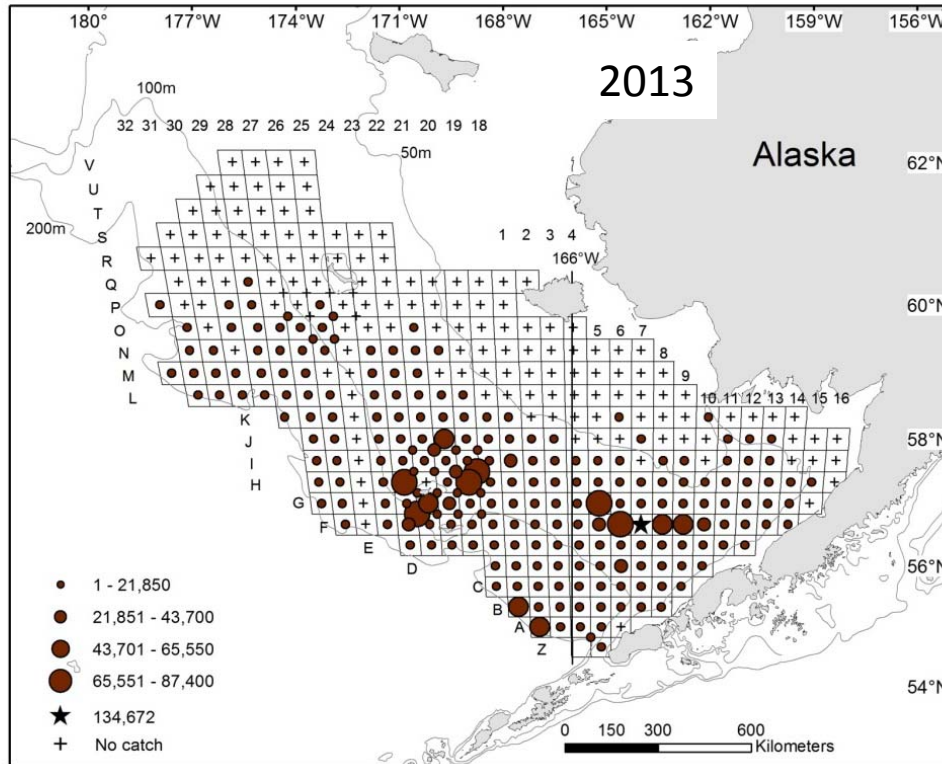




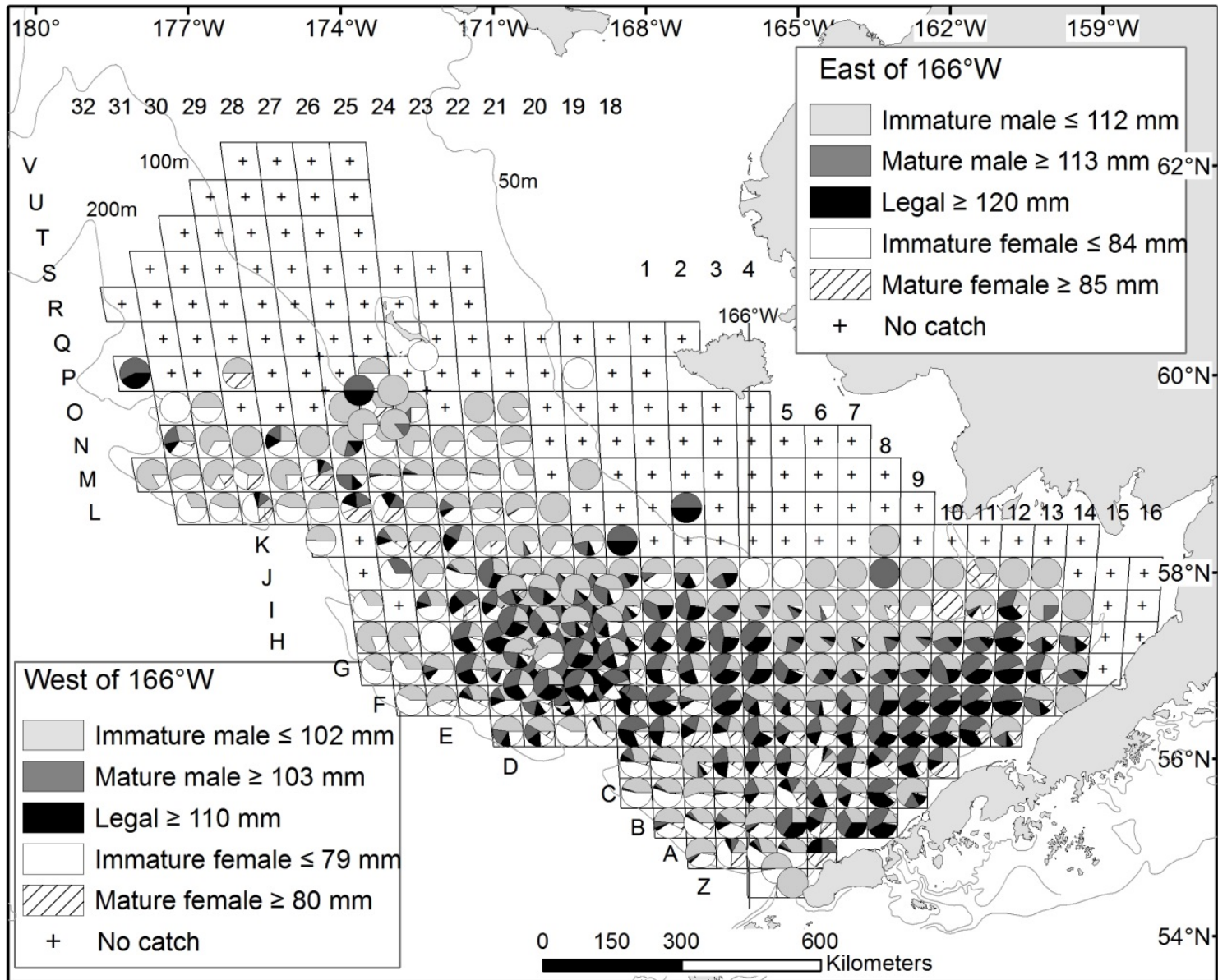
Tanner crab (*Chionoecetes bairdi*) total density



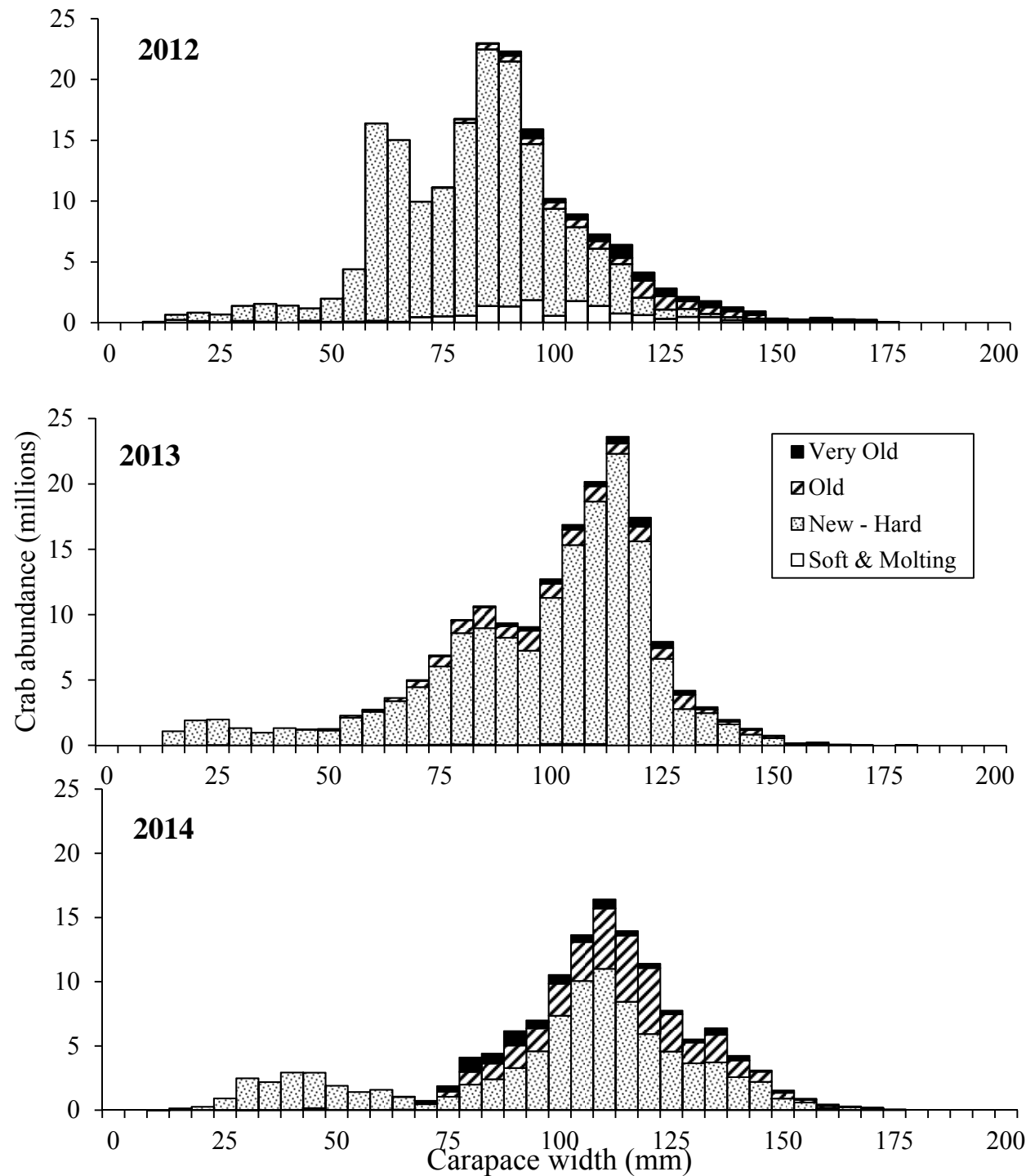
Tanner crab (*Chionoecetes bairdi*) total density

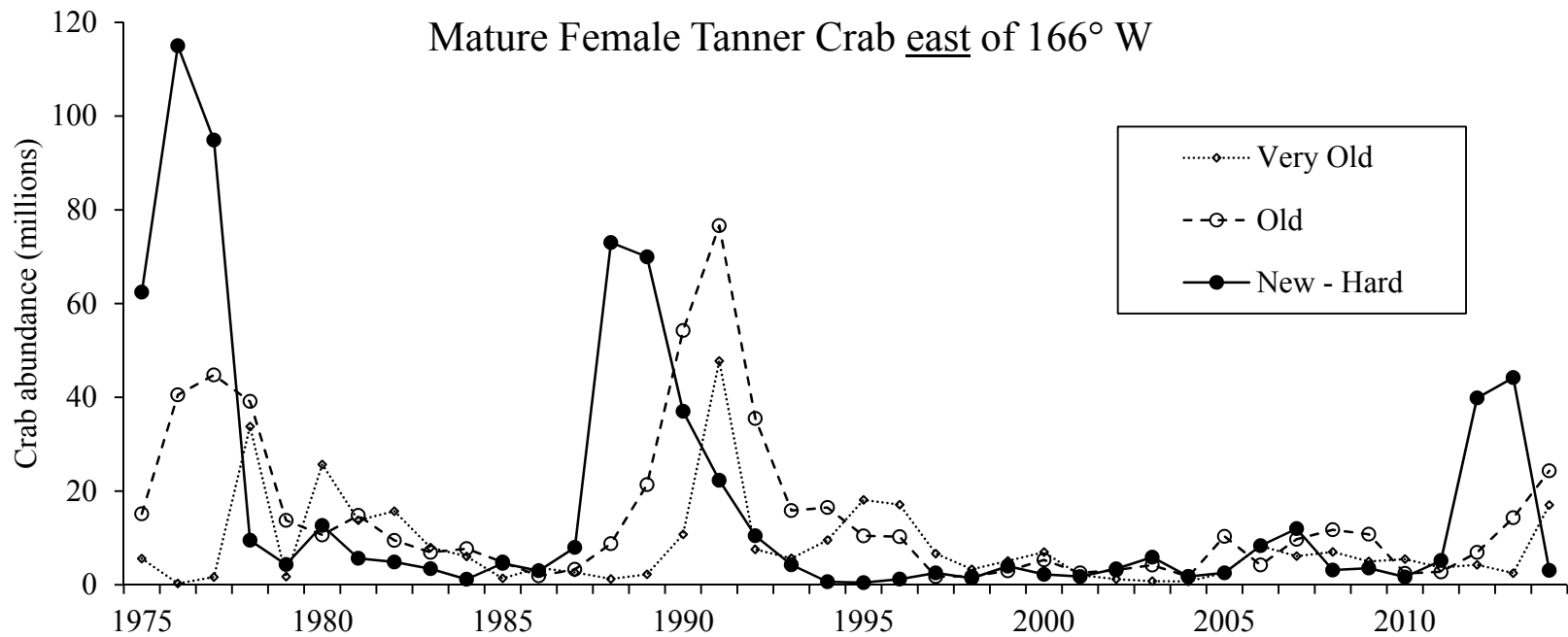
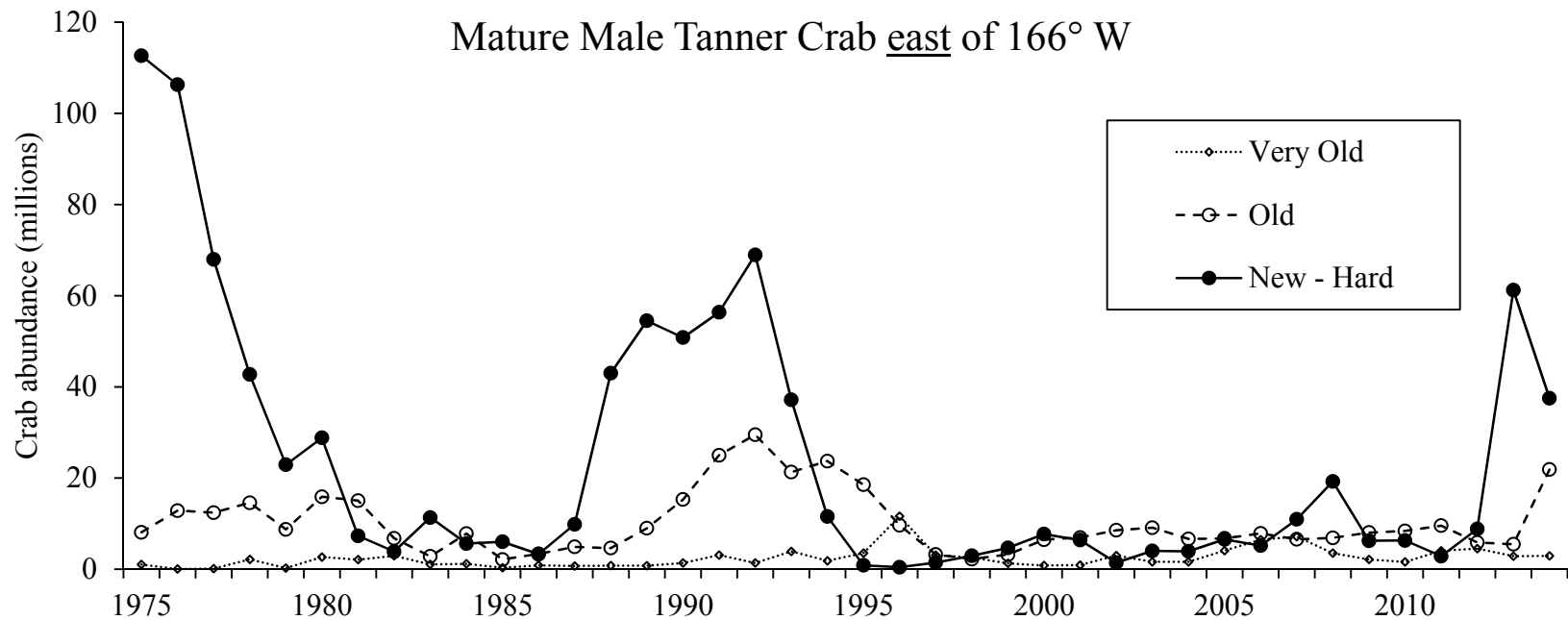


Tanner crab (*Chionoecetes bairdi*)

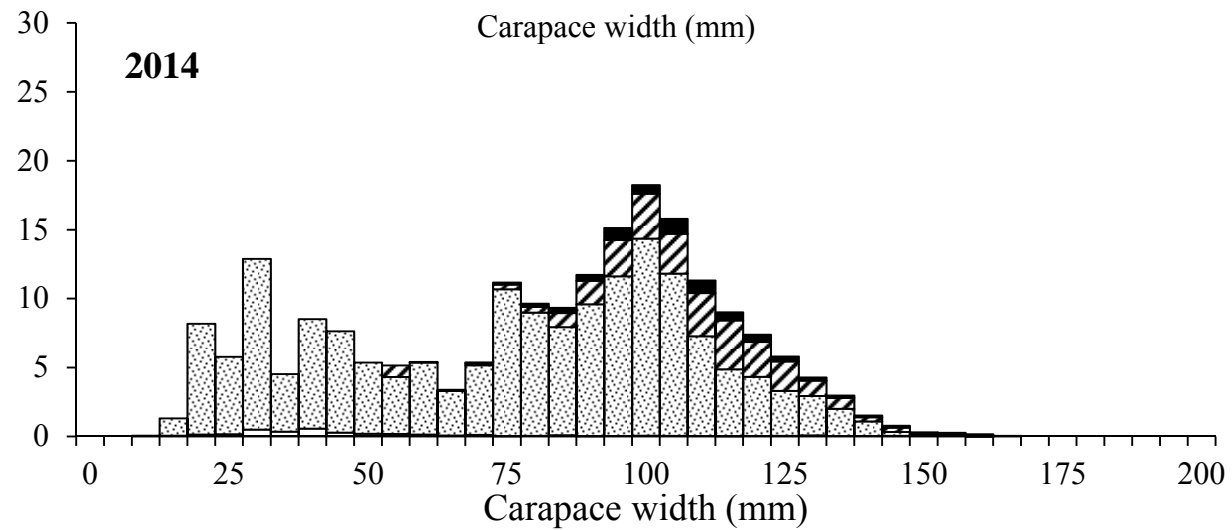
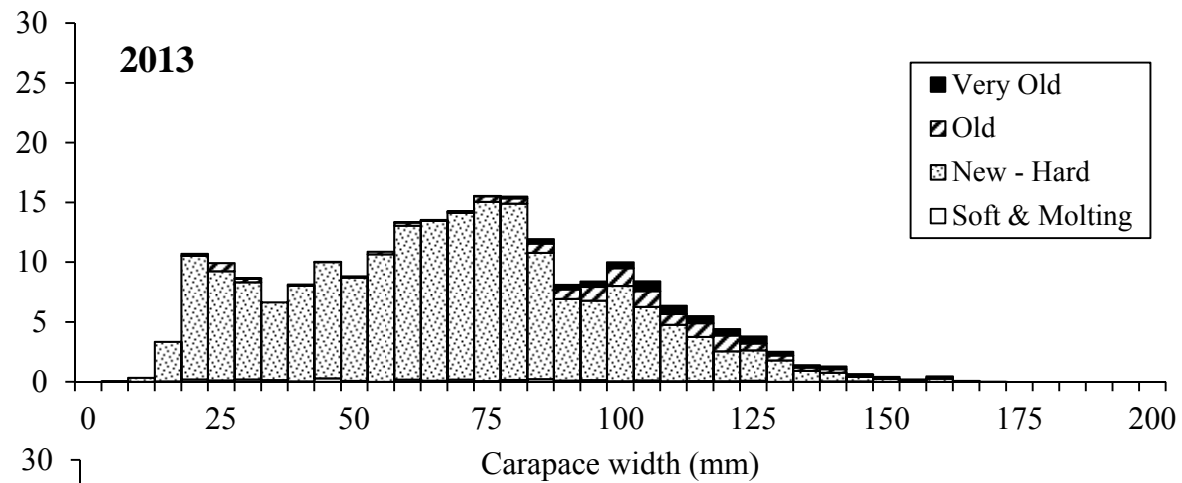
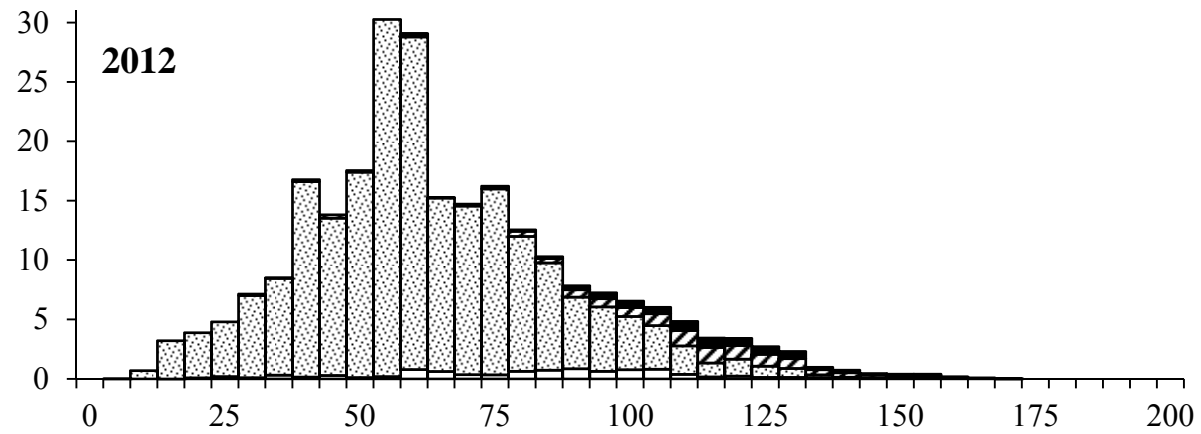


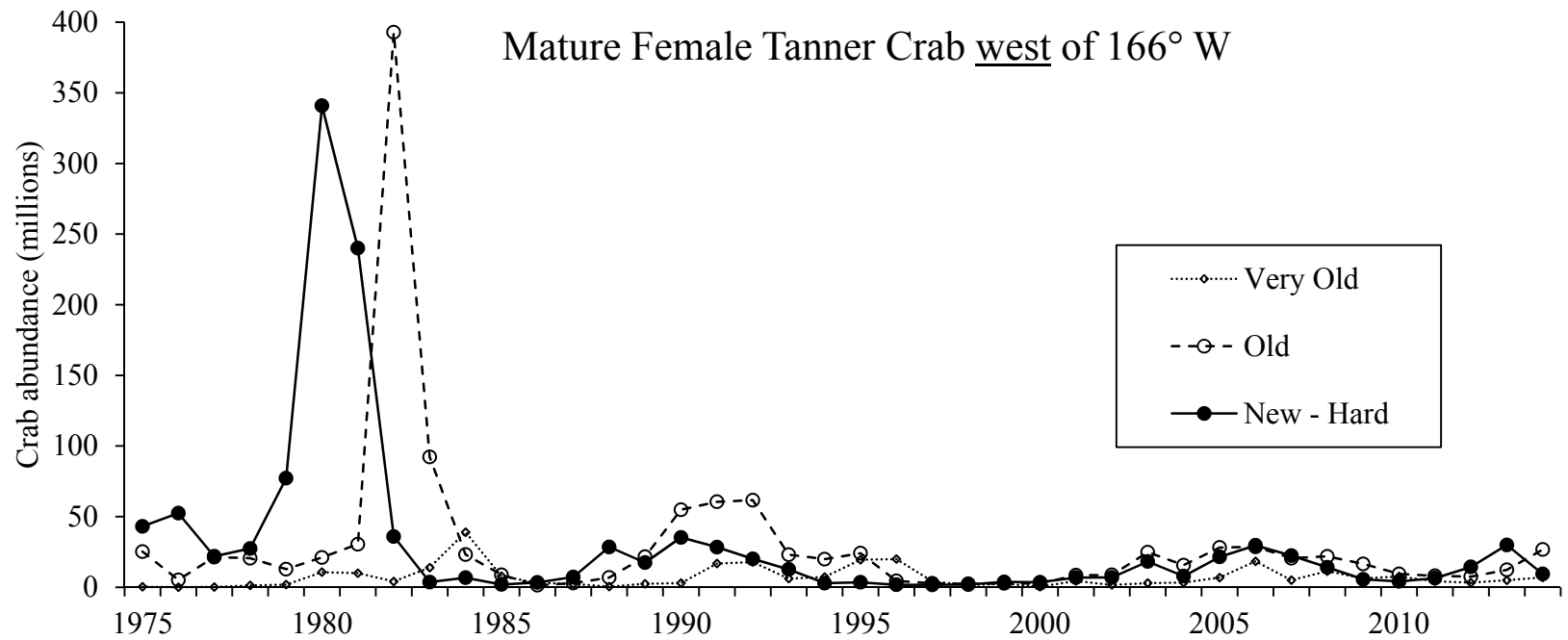
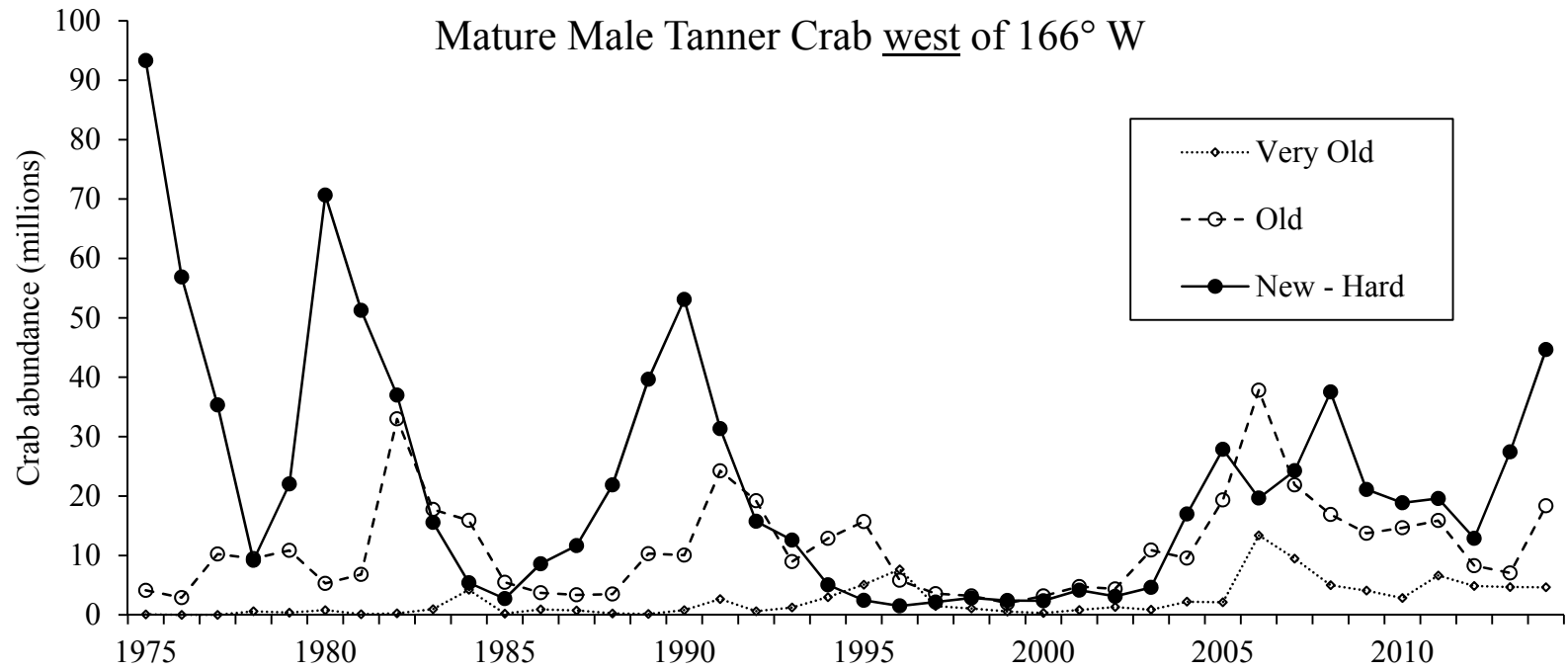
male Tanner crab
(*Chionoecetes bairdi*)
east of 166°

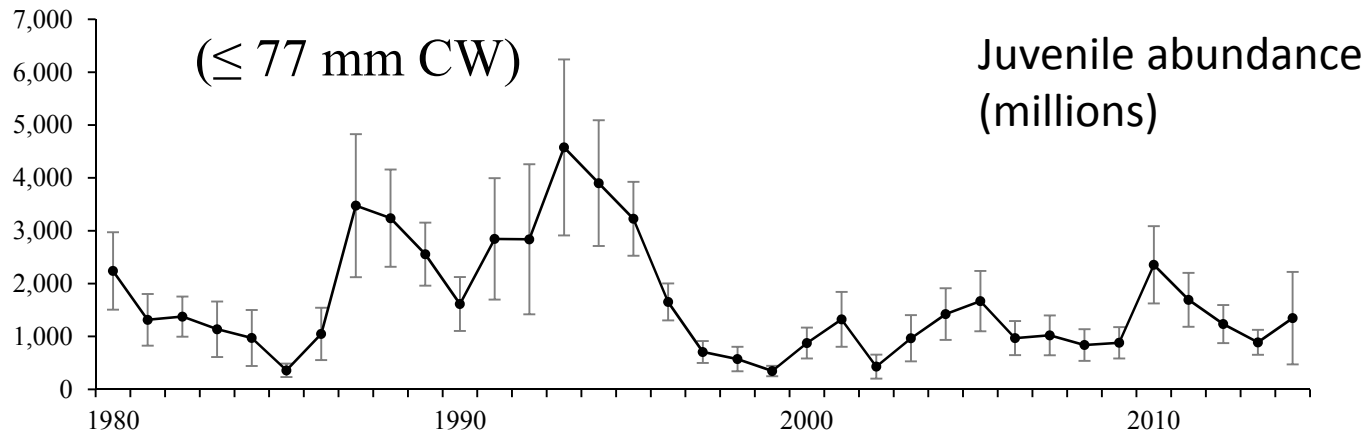
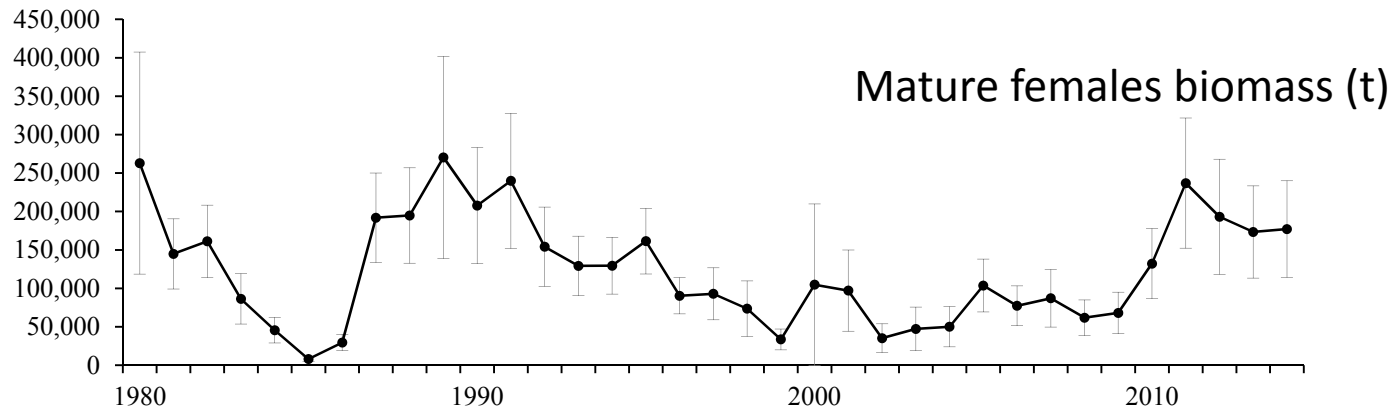
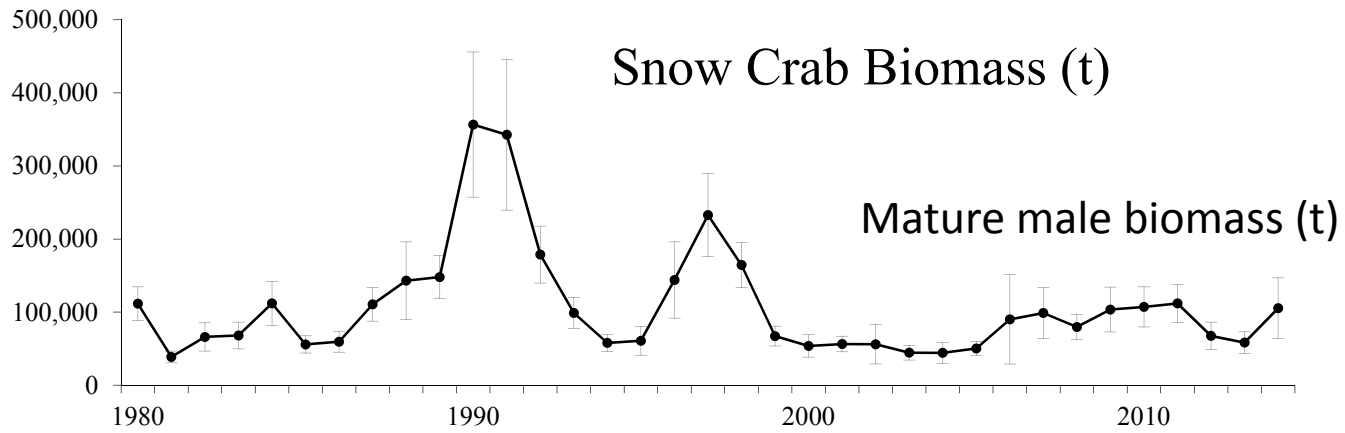




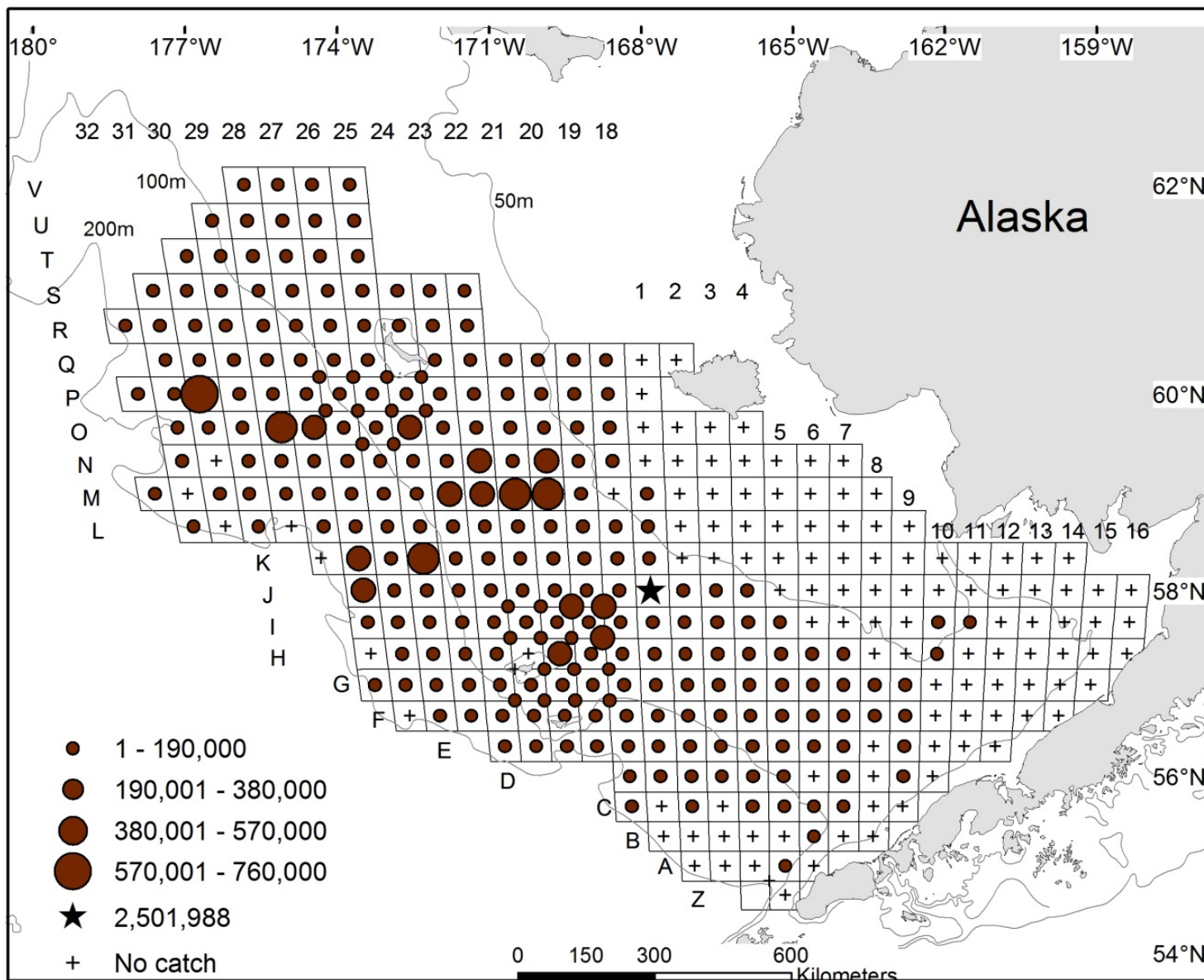
male Tanner crab
(*Chionoecetes baird*)
west of 166°



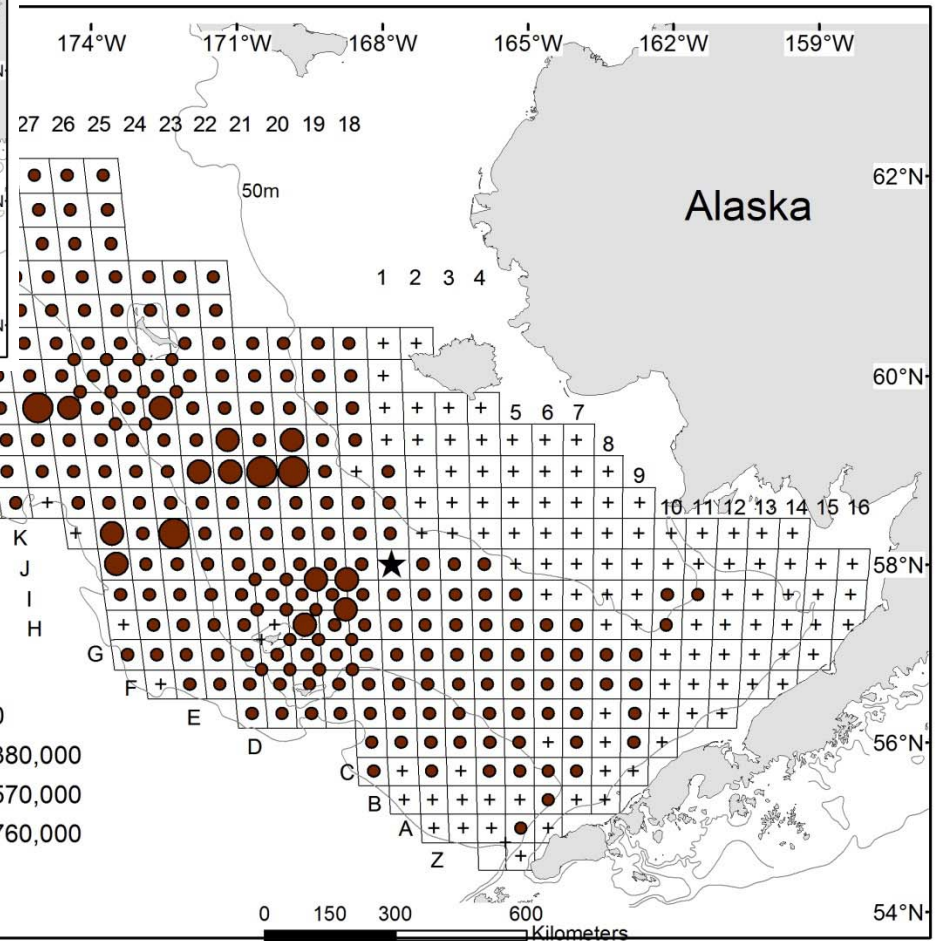
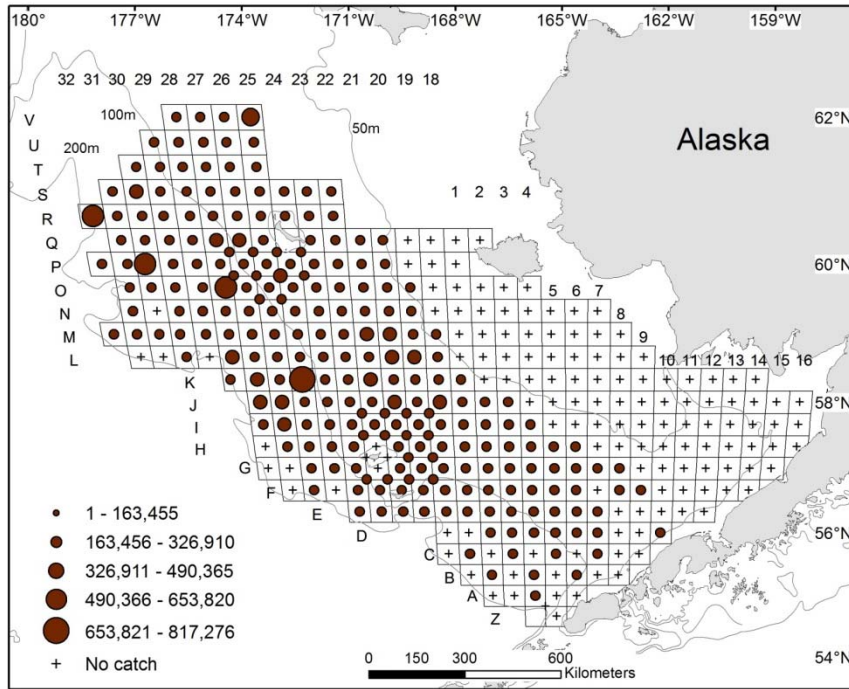




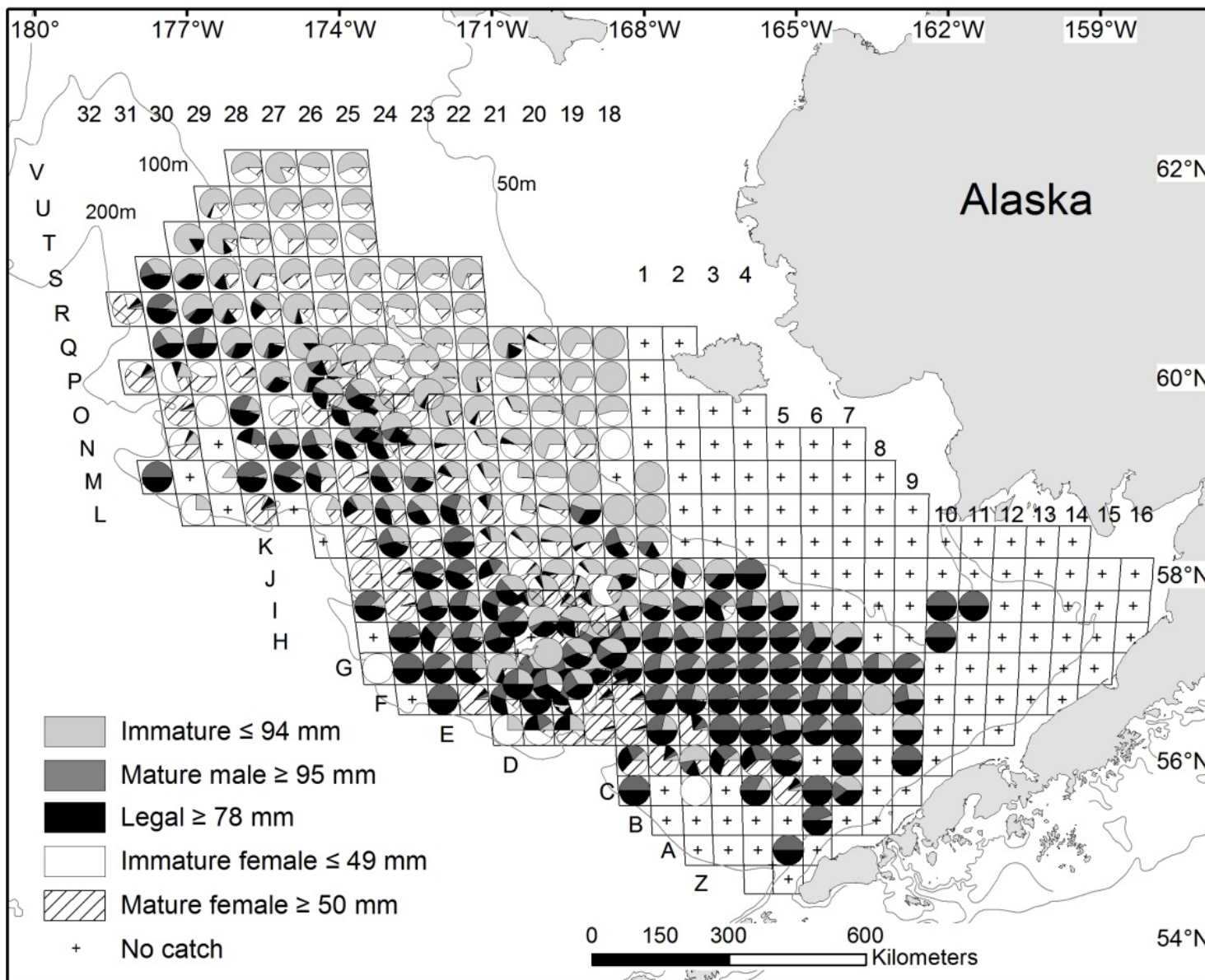
snow crab (*Chionoecetes opilio*) total density



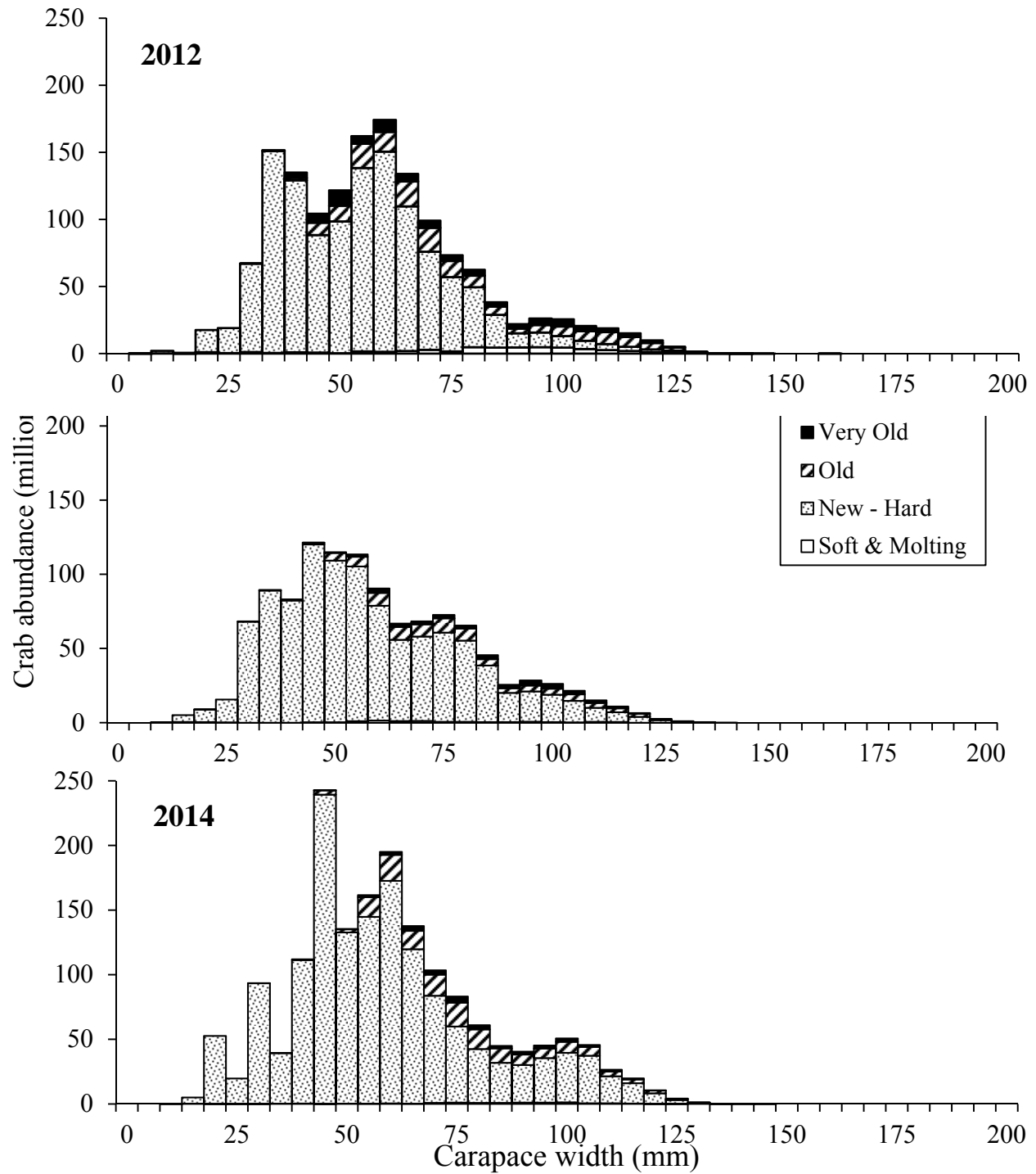
snow crab (*Chionoecetes opilio*) total density

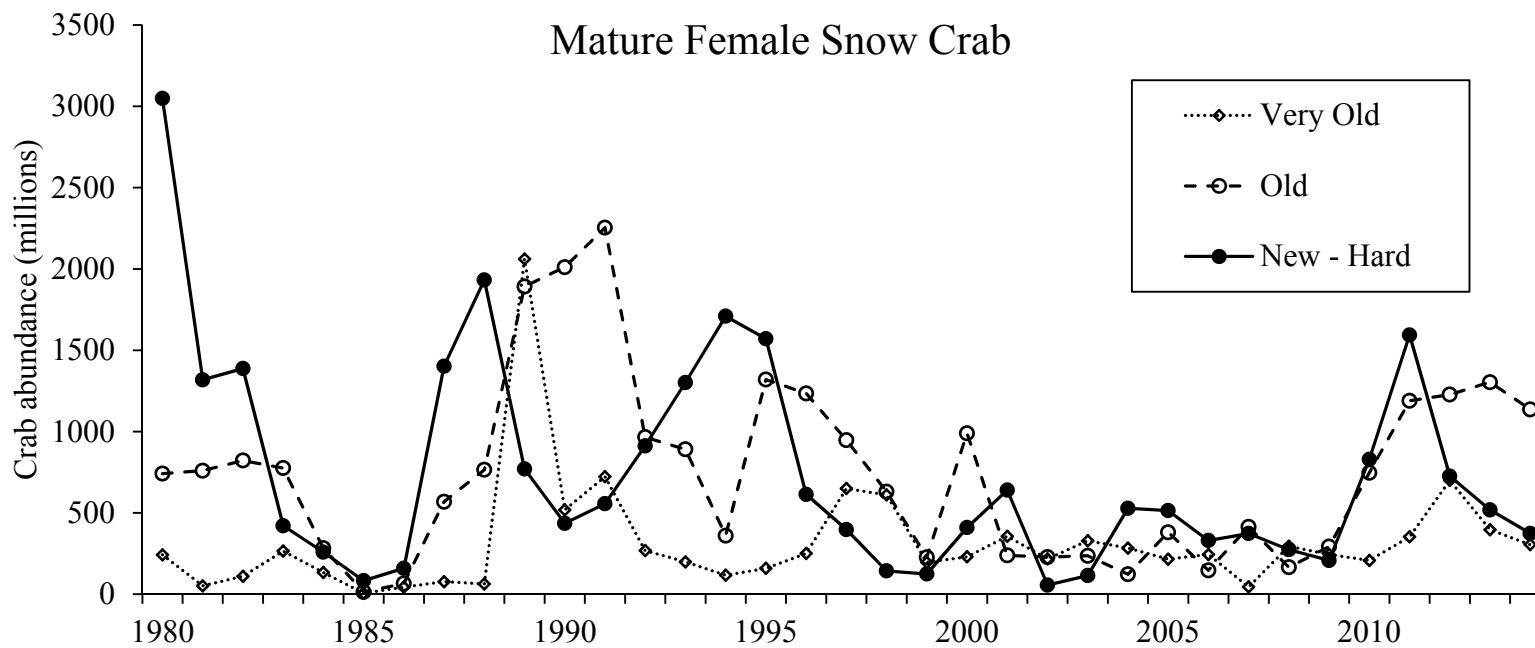
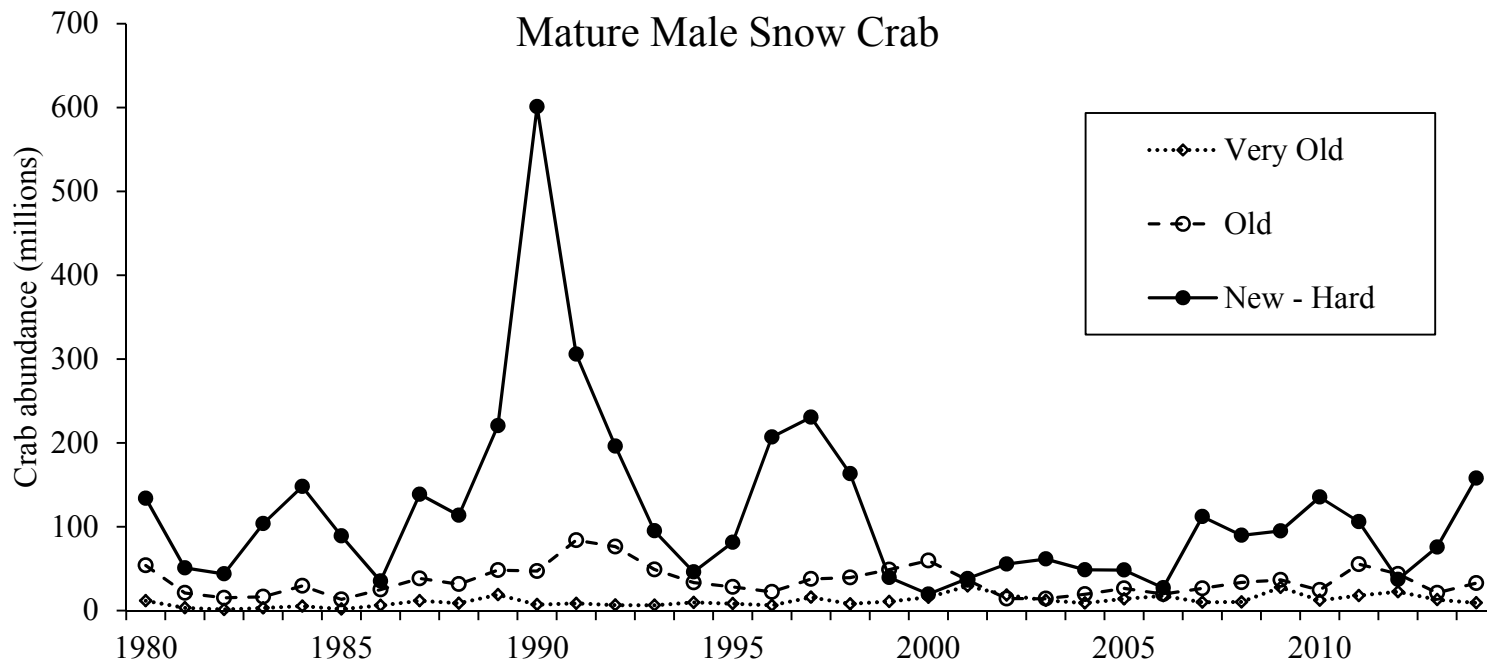


snow crab (*Chionoecetes opilio*)

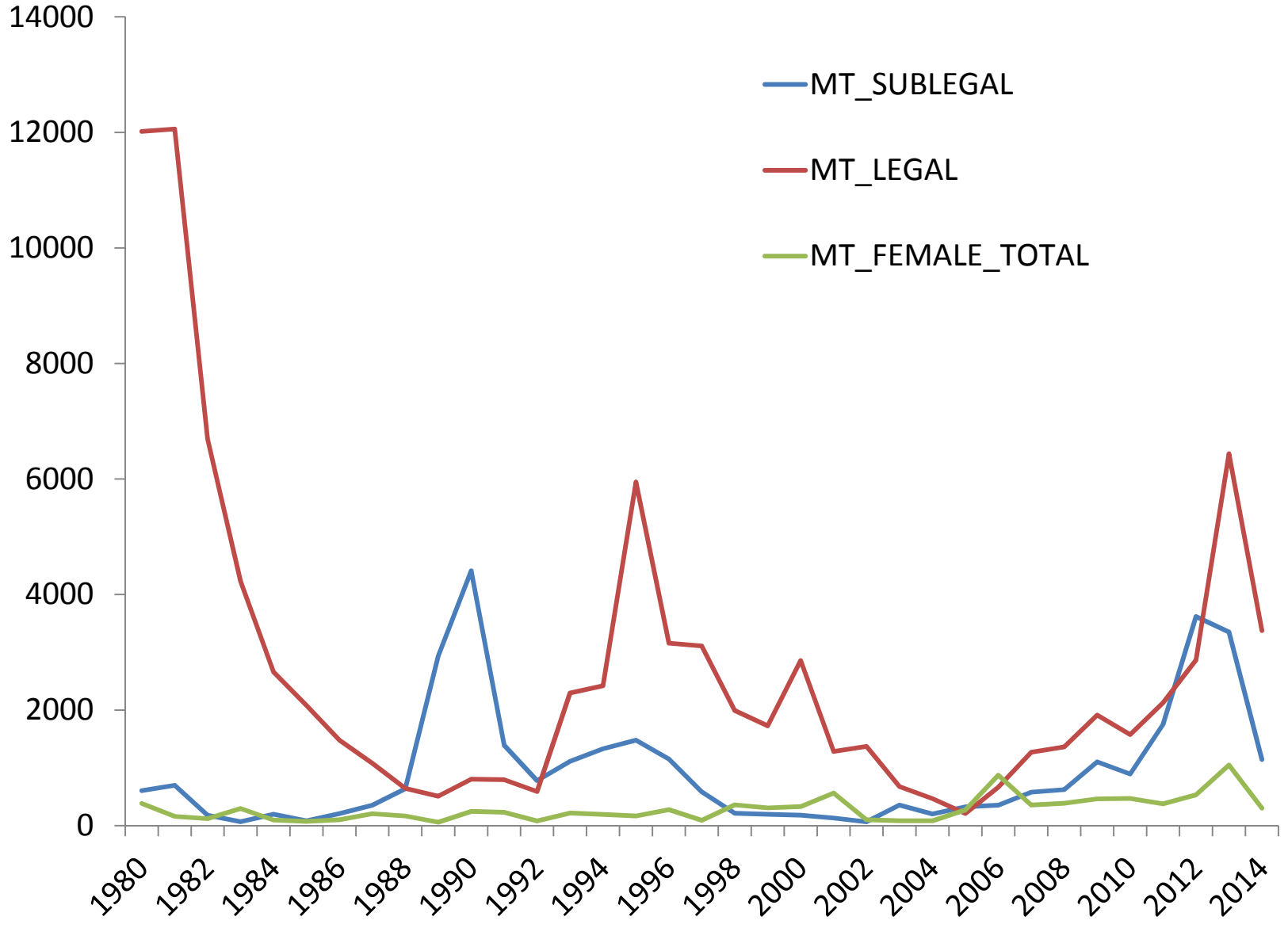


snow crab (*Chionoecetes opilio*)

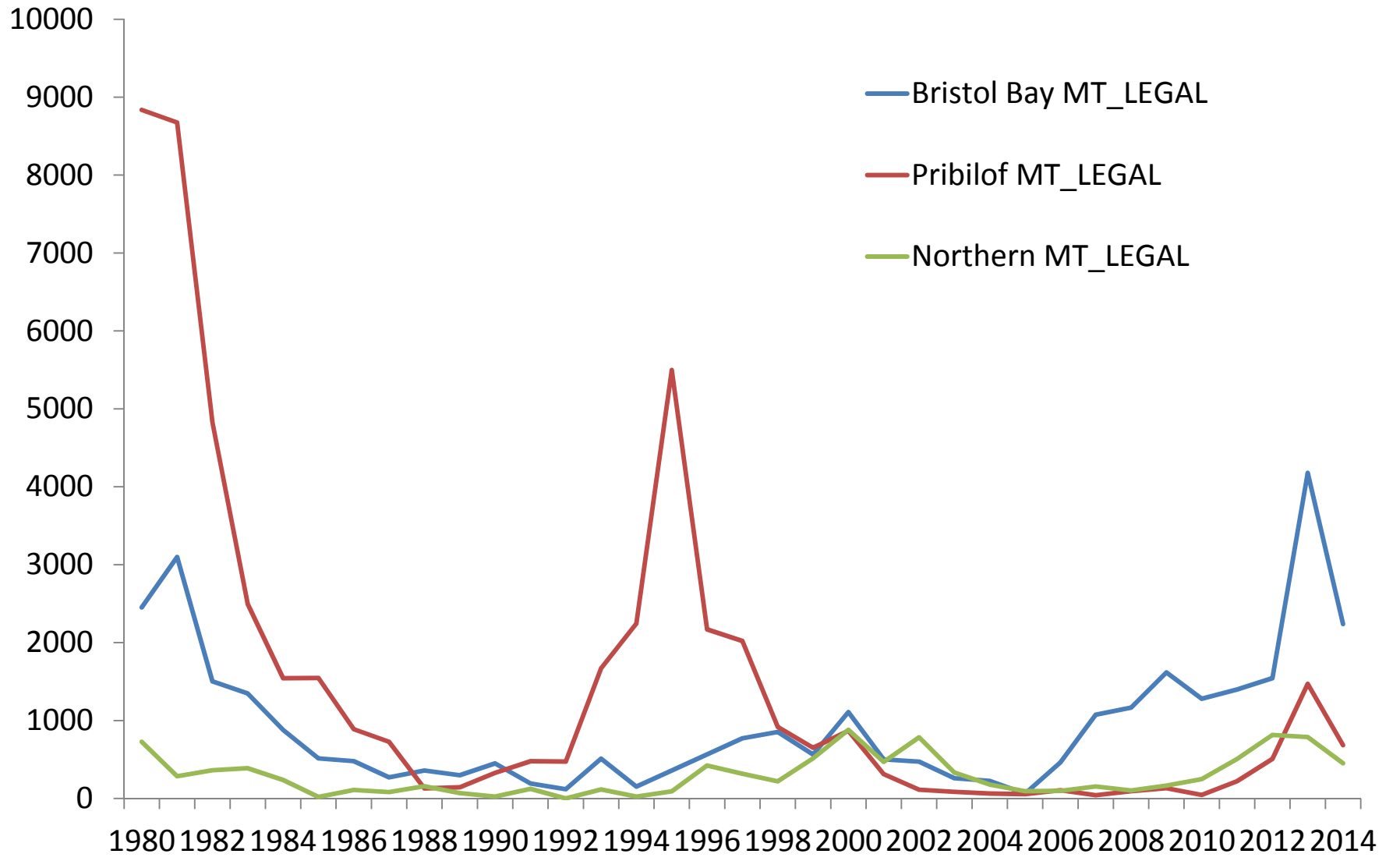




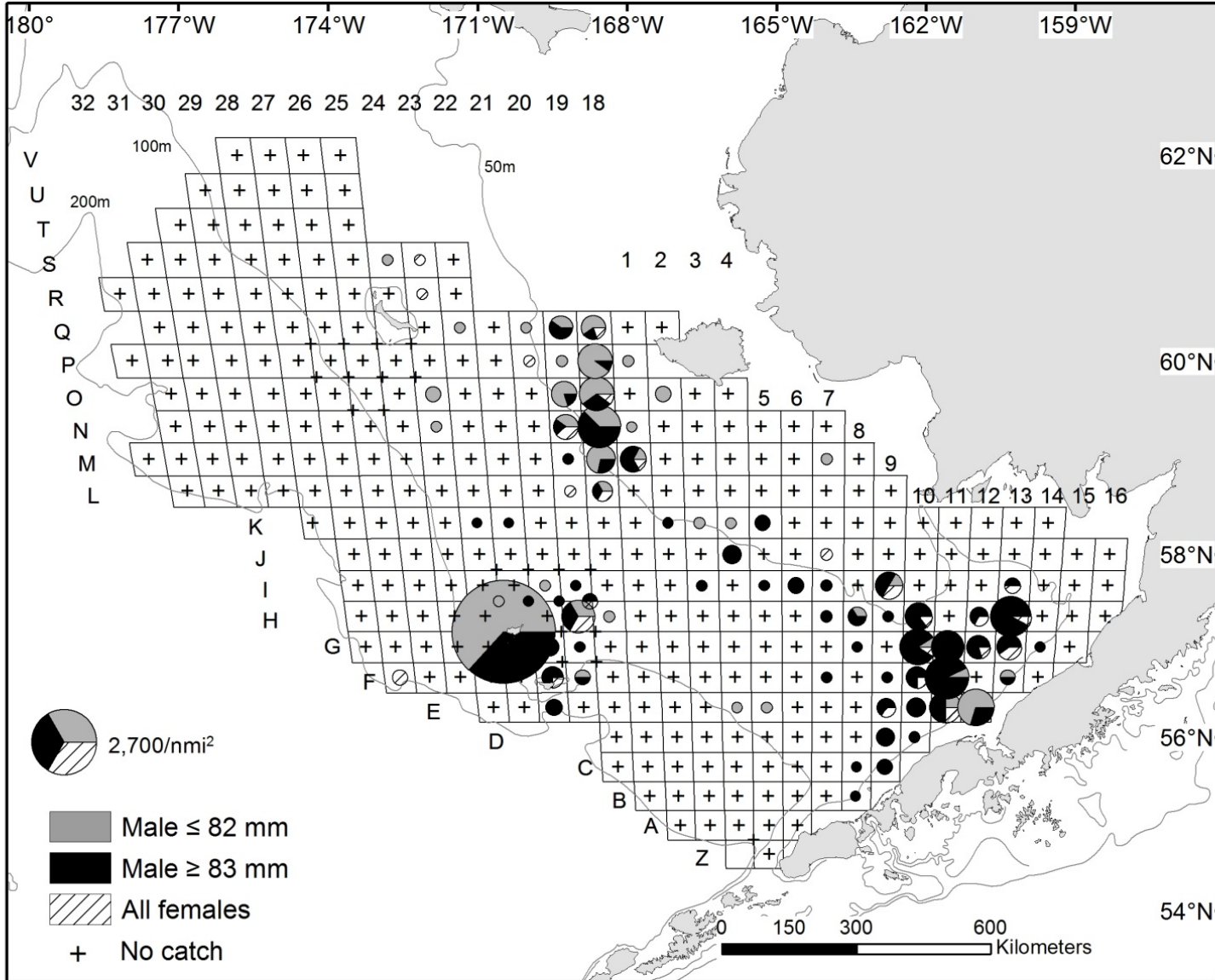
Hair crab



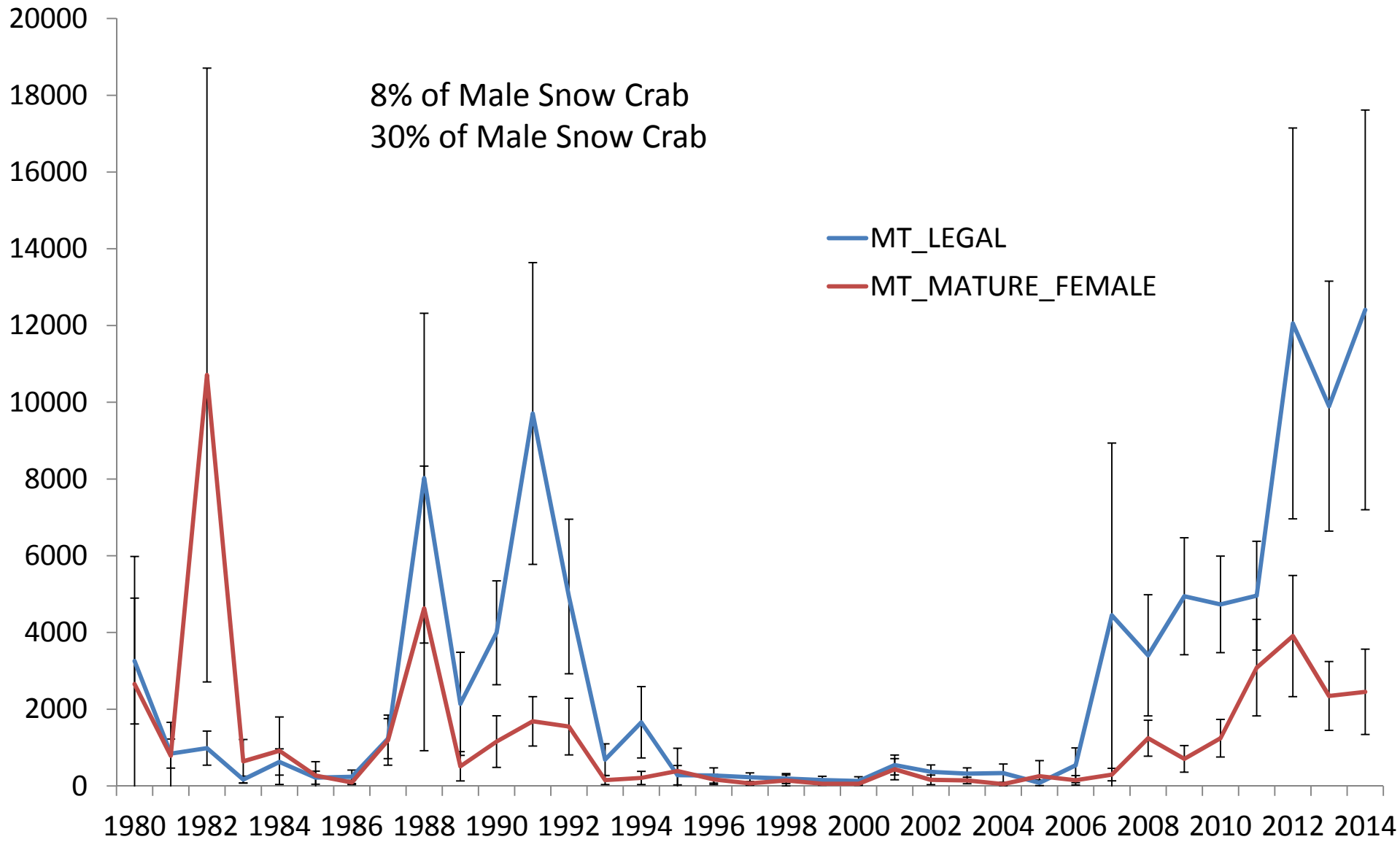
Hair crab



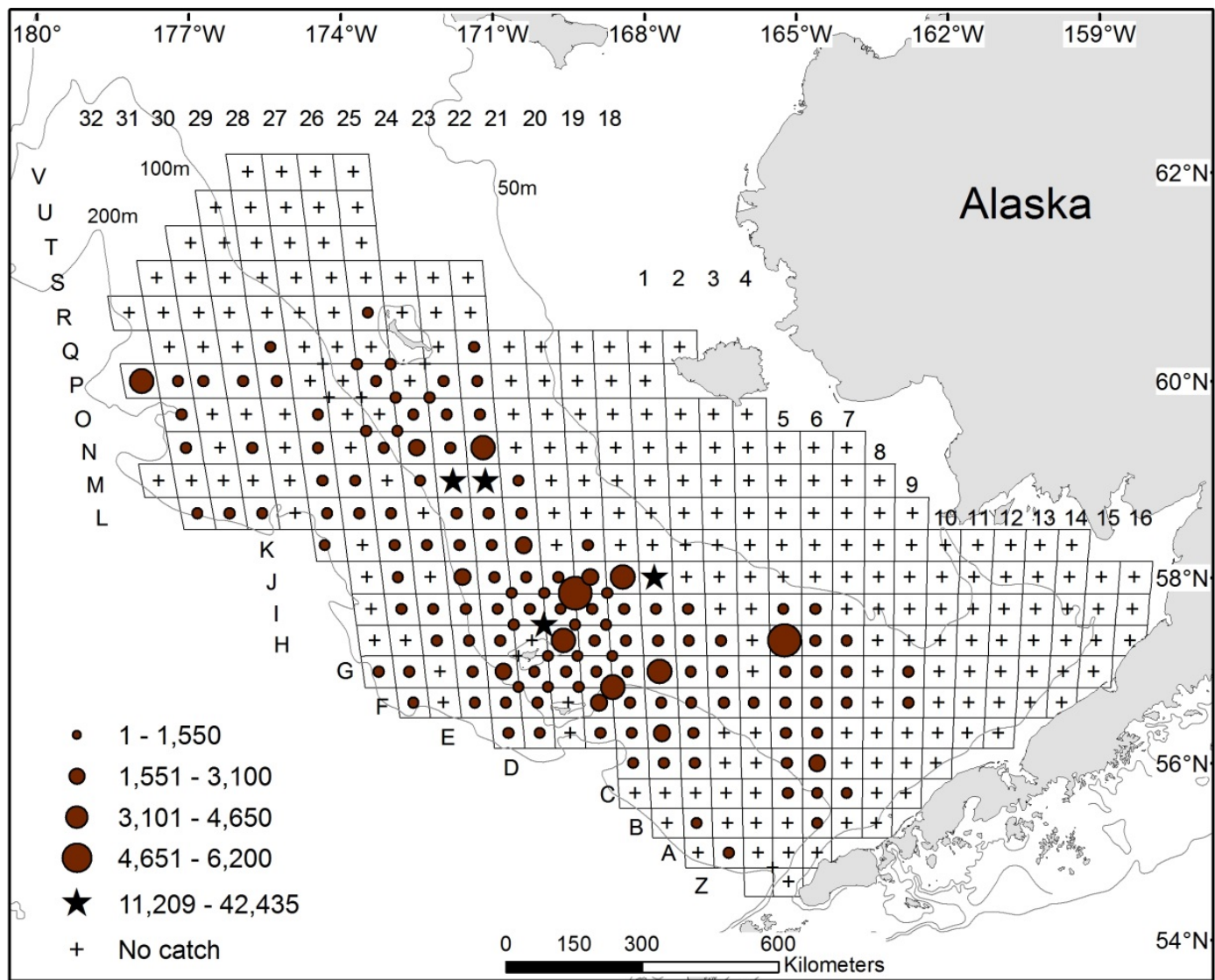
Hair crab



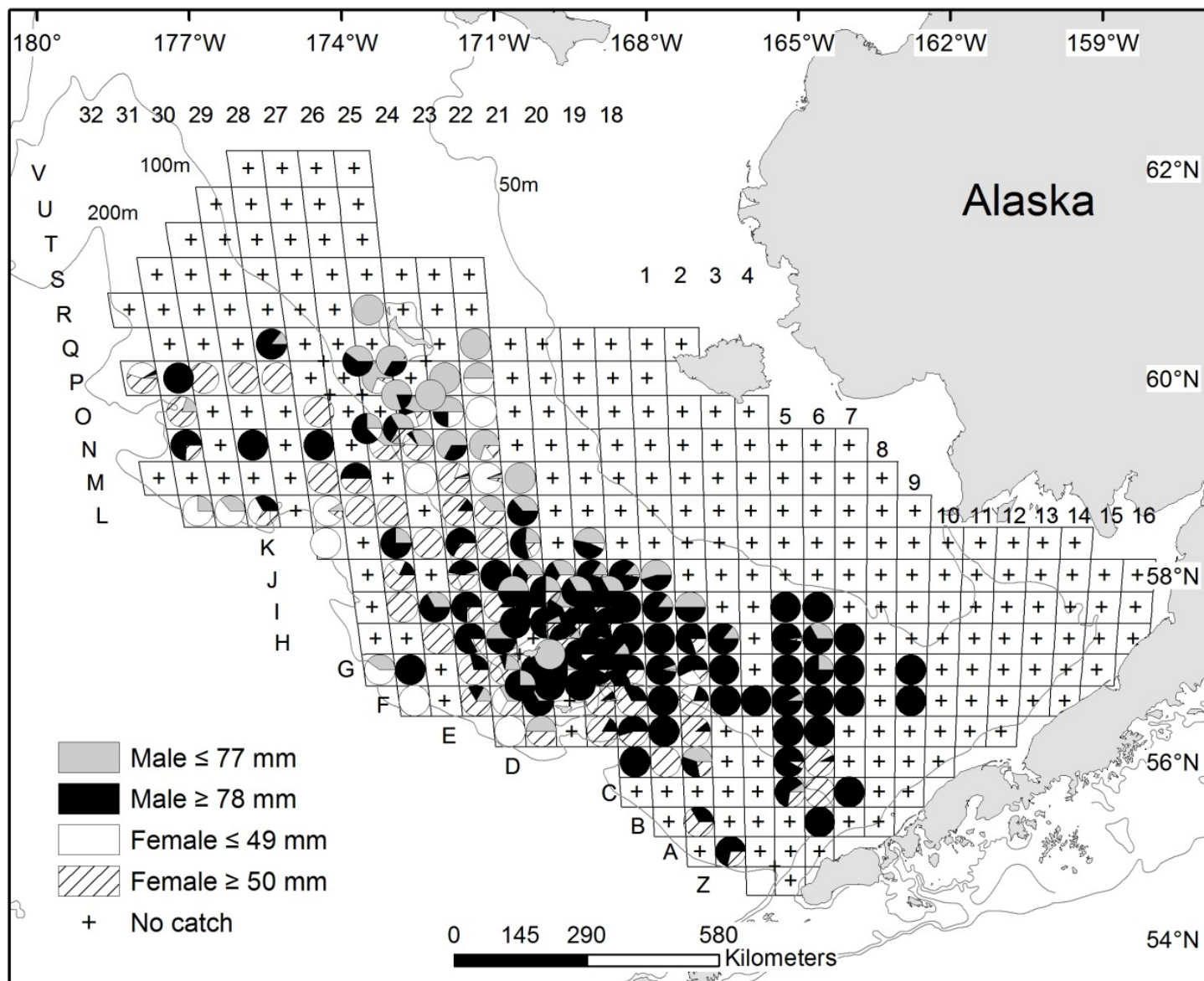
Chionoecetes bairdi/opilio hybrid crab



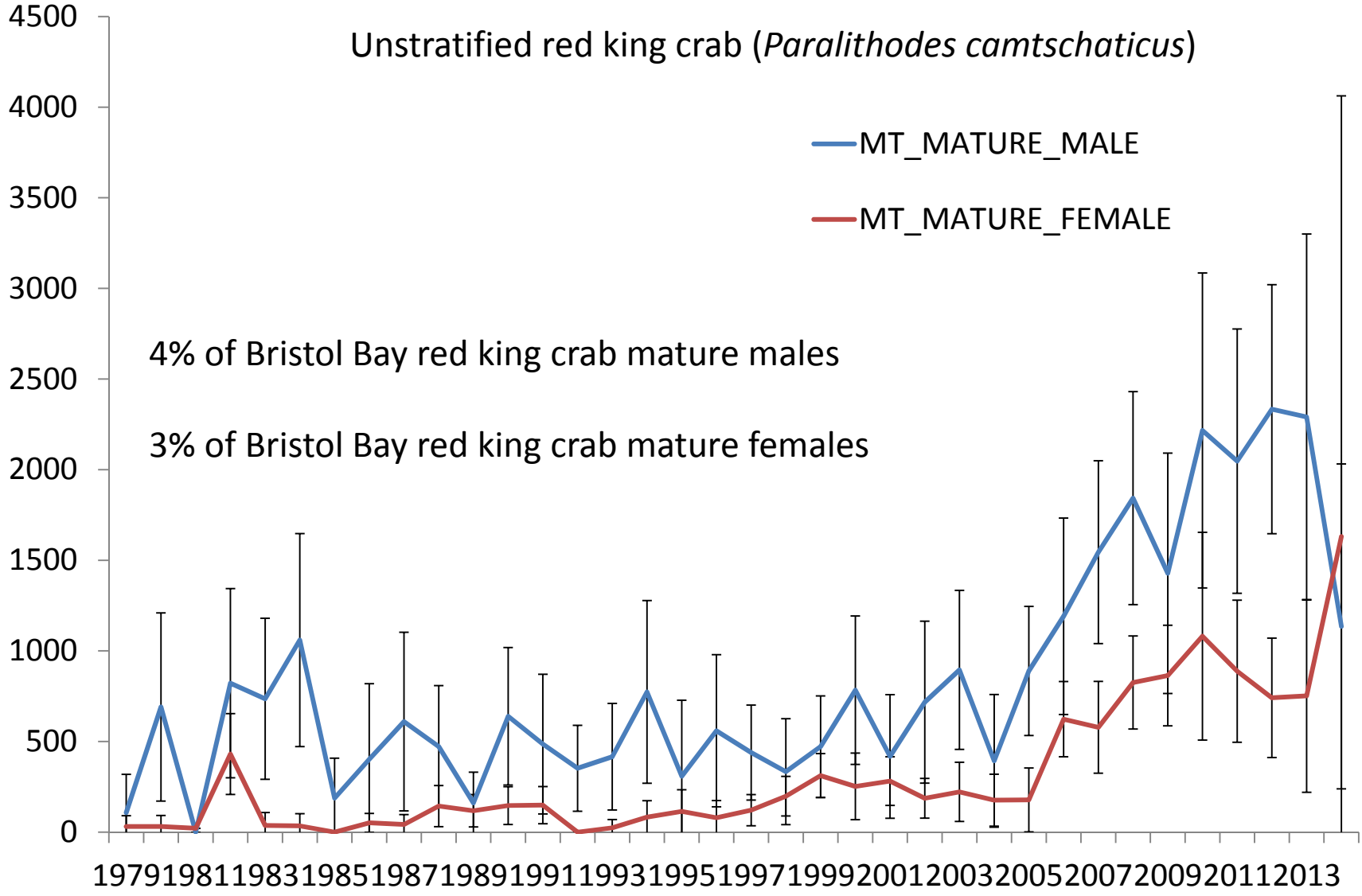
Chionoecetes bairdi/opilio hybrid crab



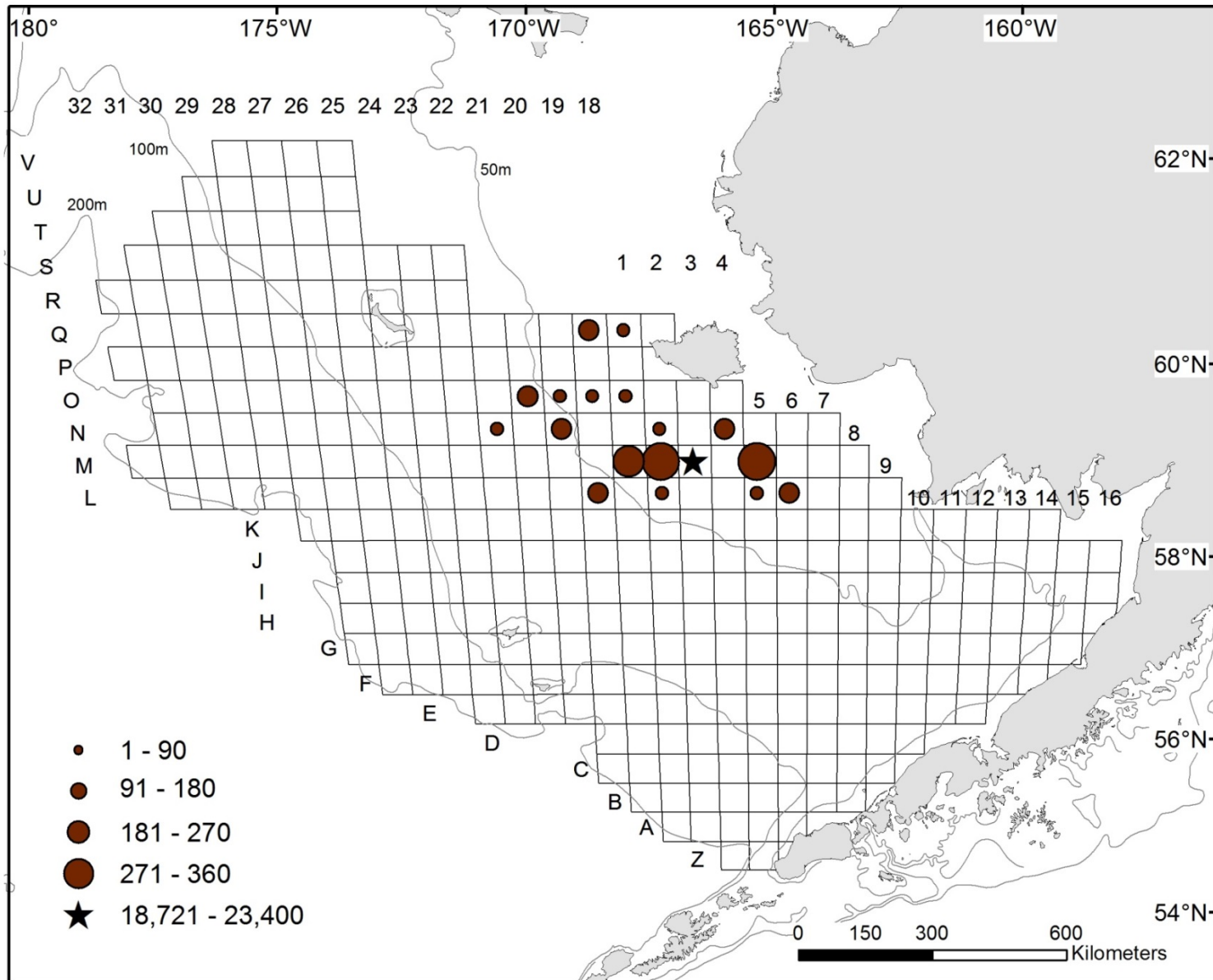
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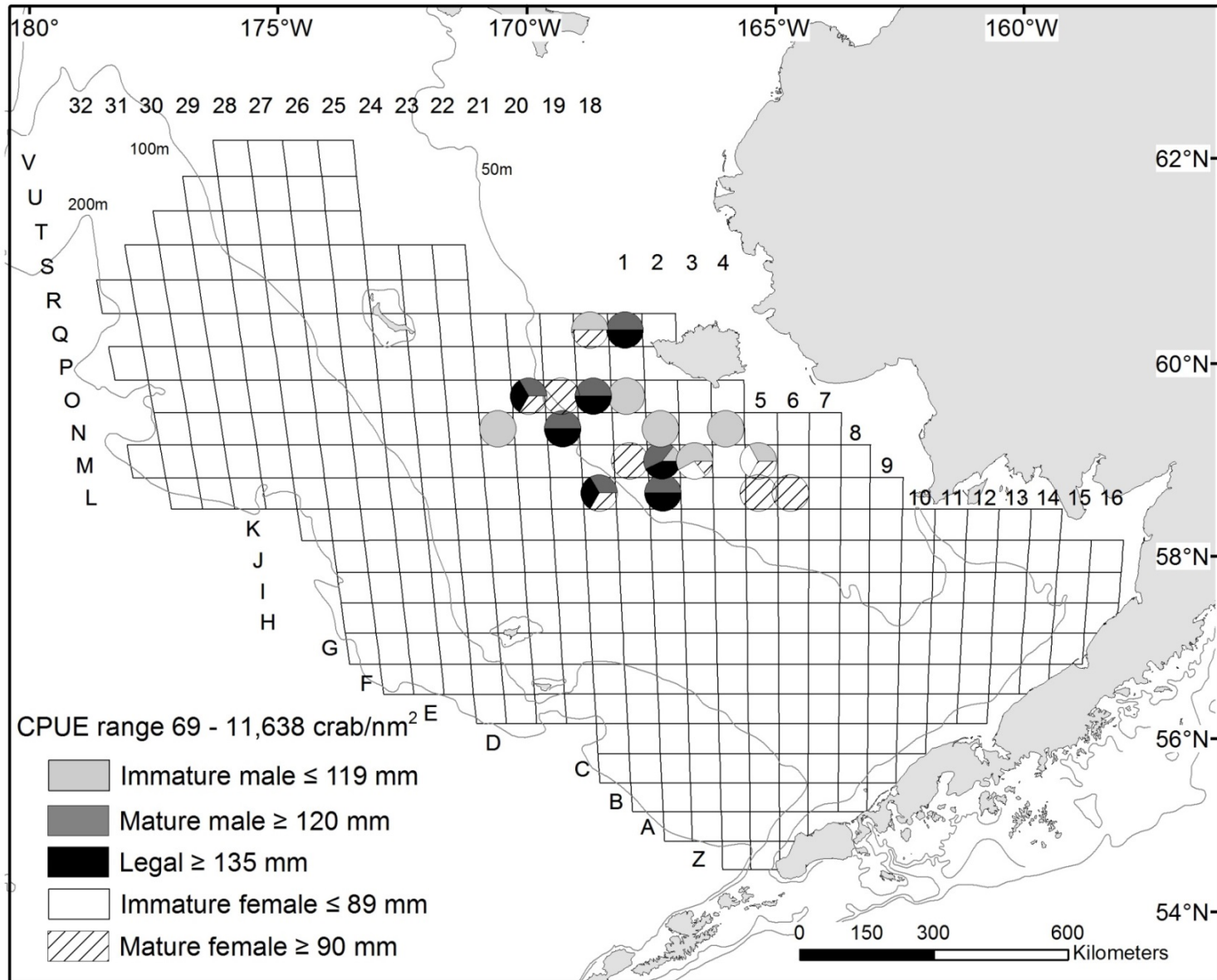
Unstratified red king crab (*Paralithodes camtschaticus*)



Unstratified red king crab (*Paralithodes camtschaticus*)



Unstratified red king crab (*Paralithodes camtschaticus*)



	# tows	#tows with crab	# caught	%	Biomass (t)
BB RKC	136	57	631	100	47,688
PI RKC	77	4	158	100	12,047
PI BKC	86	2	5	100	233
SM BKC	56	20	150	100	5,472
TC east	121	70	2,030	94	39,910
TC west	255	105	3,068	86	33,394
SC -mature	376	193	7,386	77	105,441

Crab Management Process

Survey ended data sent to Kodiak	August 4
Trawl area swept data	August 11
Final abundance and biomass to SOA	August 15
Draft Survey Result Document to public	Sept 3
Crab Plan Team	Sept 15-18
SSC Meeting	Oct 6
TAC setting	Oct 6-10
TACs set	Oct 10
Fishery Start	Oct 15

<http://www.afsc.noaa.gov/Kodiak/shellfish/crabEBS/2014EBSSurveyTechMemoDraft.pdf>



2014 Cooperative Research

**NOAA
FISHERIES**

Alaska Fisheries
Science Center-
Kodiak Lab



NOAA FISHERIES

Cooperative Research

- Red King Crab Selectivity
 - 2013 side by side tows
 - Industry net higher catchability
 - 2014 repeat due to sample size
- Red King Crab Recruitment Index
 - Nearshore stations in 2013 and 2014
- Tanner crab growth
- Crab tag development
- Crab larval drift
 - Snow crab, blue king crab, red king crab