# RED KING CRAB *(Paralithodes camtschaticus)* ARTIFICIAL CULTIVATION – AS A METHOD OF RESTORATION IT'S NATURAL POPULATIONS

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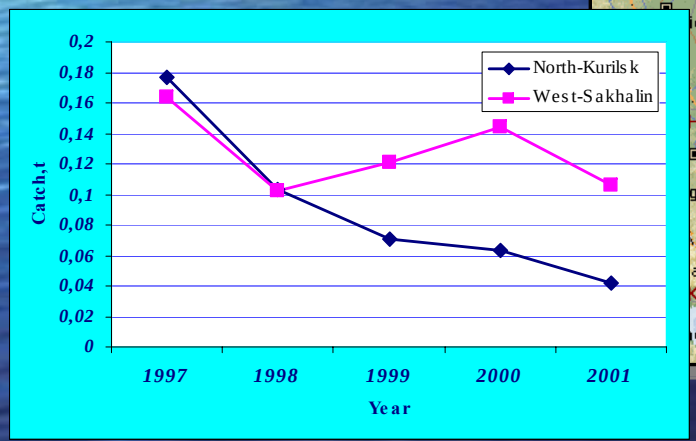
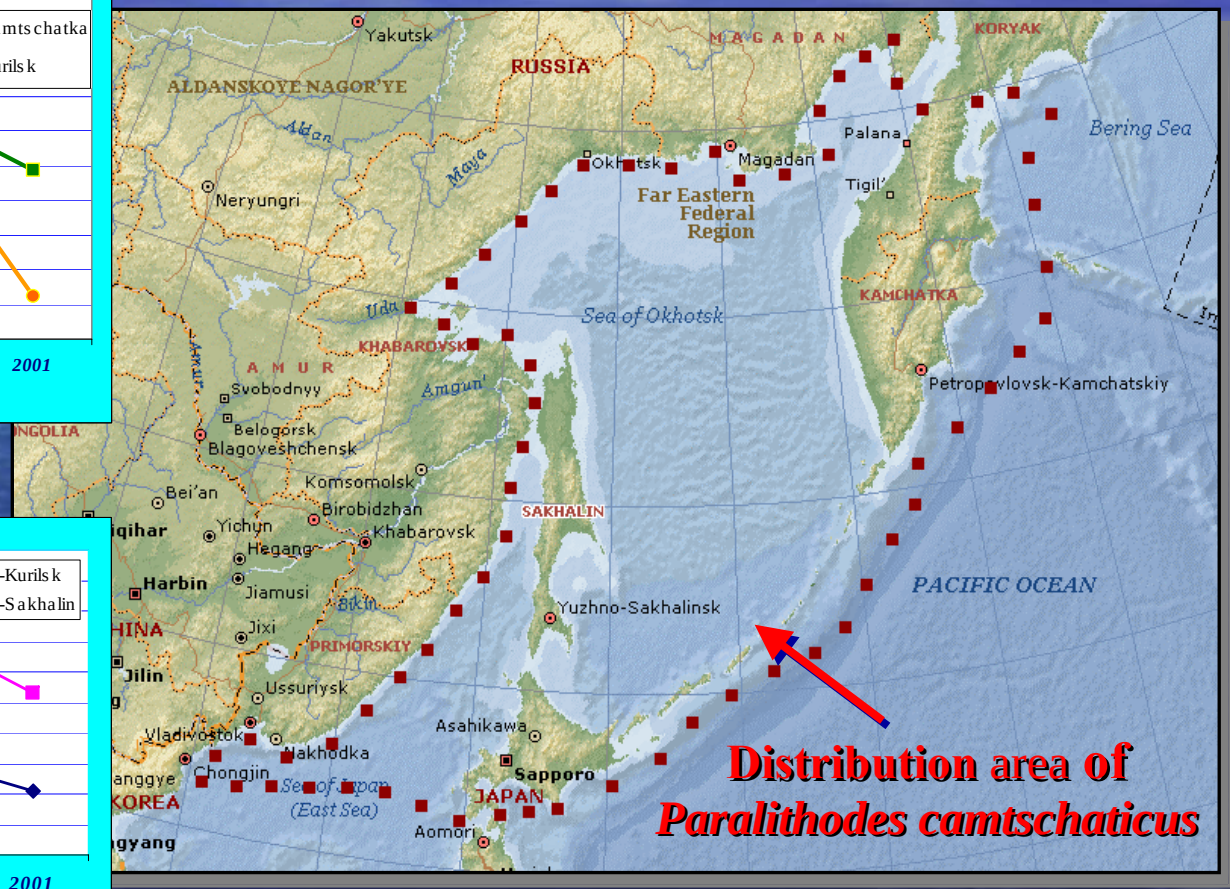
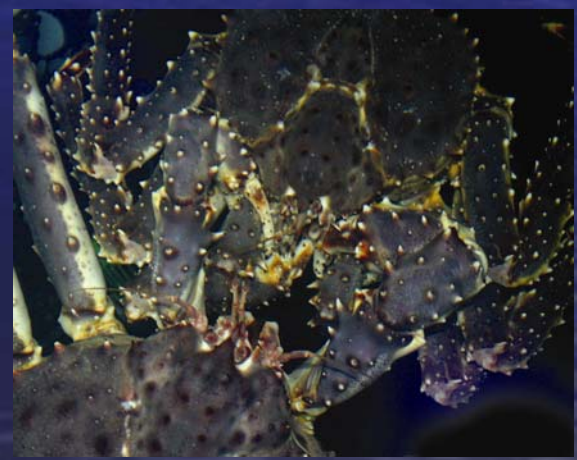
# Stock dynamics of the red king crab in some East Pacific Ocean areas (thousand tones)

# Red king crab cultivation methods

- post larvae and juveniles settling on artificial collectors in the sea
- artificial cultivation from eggs to the vital juvenile stage in the coast farm;
- artificial cultivation from eggs to the market size in the coast farm.



# Closed Recirculation Water System (CRWS) for red king crab cultivation - VNIRO

**Short female storage to the start of hatching (7 – 14 days)**

# Artificial cultivation steps:

❶ **bearing female catch , transportation and holding in the tanks before hatching;**

Catch of the breeding females

*2000: 31.03. Sea of Japan*

*2001-02: 20-23.03 Barents Sea*

Egg-bearing females transportation to the tanks, March – April (5 – 24 h)

# Artificial cultivation steps:

❷ hatching and larvae transfer in the breeding tanks;

Larvae hatching

# Artificial cultivation steps:

❸ larvae feeding and permanent conditions control;

❹ zoea IV cultivation and settling substrate preparing;

Breeding of larvae (zoea) stage I, II, III, IV (April – May, 35 - 40 days)

I - 8-10 days 56-70 degree days

II - 7-8 days 56-64 degree days

III - 9-10 days 72-80 degree days

IV- 11-12 days 88-96 degree days

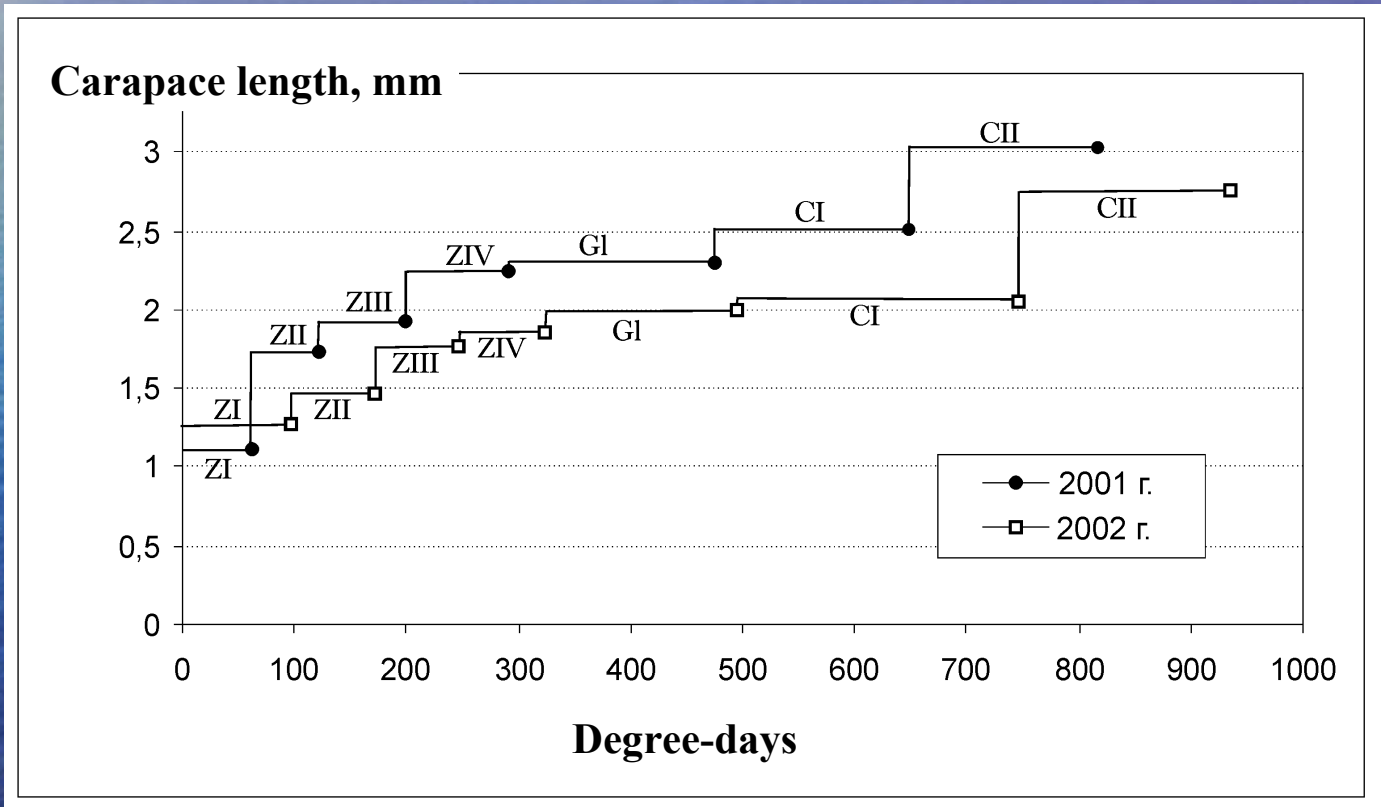
# Artificial cultivation steps:

❺ post larvae settling and its breeding to the juvenile stage;

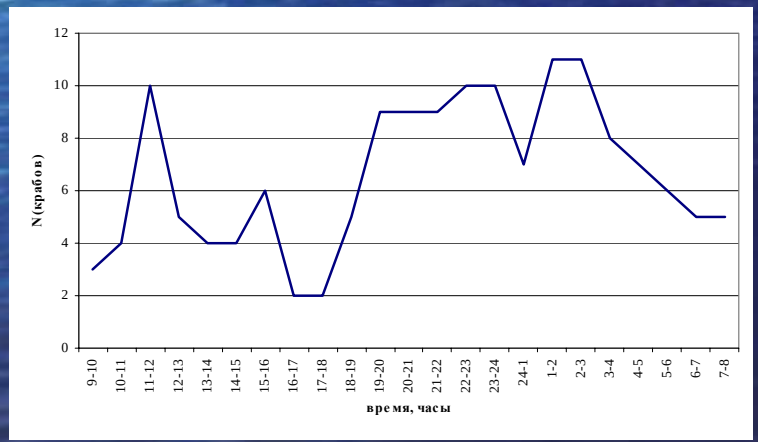
❻ juvenile cultivation to the viable stage (2-3mm carapace length).

**Breeding of the juveniles in the tanks with substrate**
***(June – July, 14 – 20 days, 140 – 200 degree days)***

# Duration of larvae, post larvae and juvenile stages in CRWS (VNIRO)

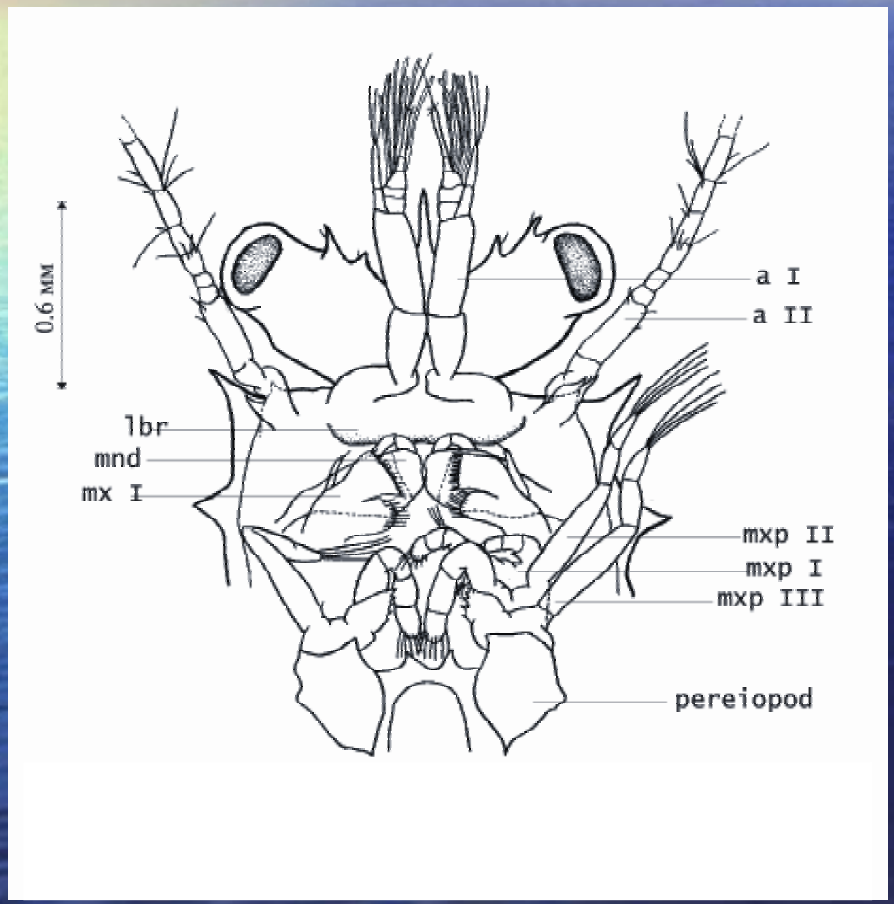


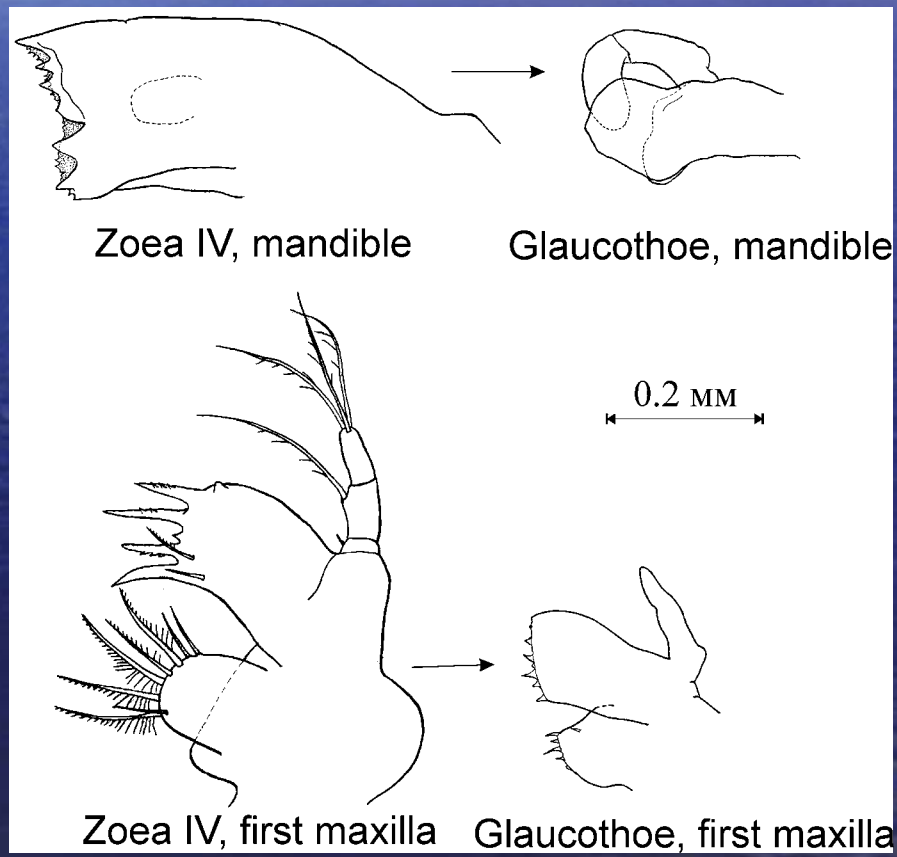
# Behavior and substrate preferences of post larva and juveniles (VNIRO)




*24 h Juveniles moving activity*

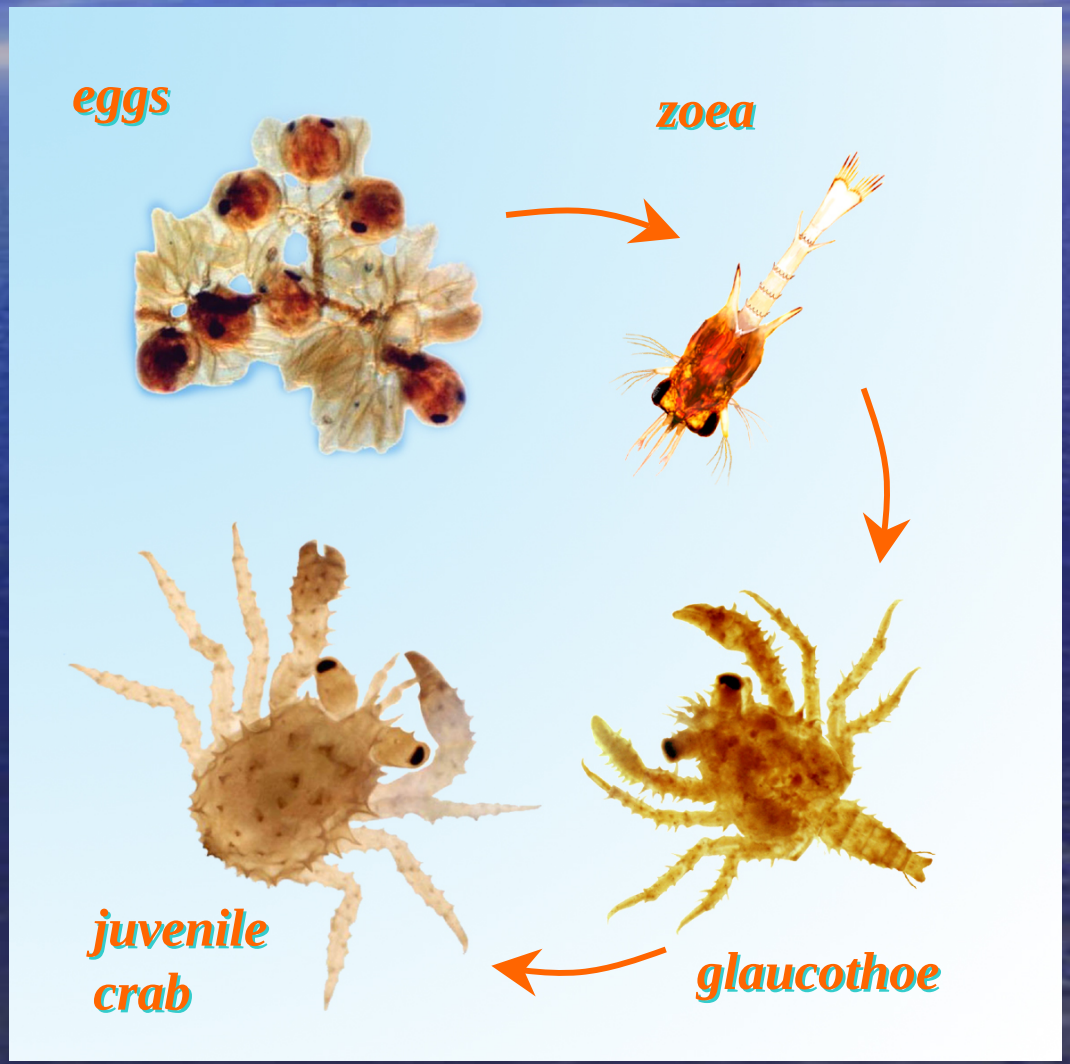
# Mouth part morphological changes of the larvae, post larvae and juvenile red king crab (VNIRO)



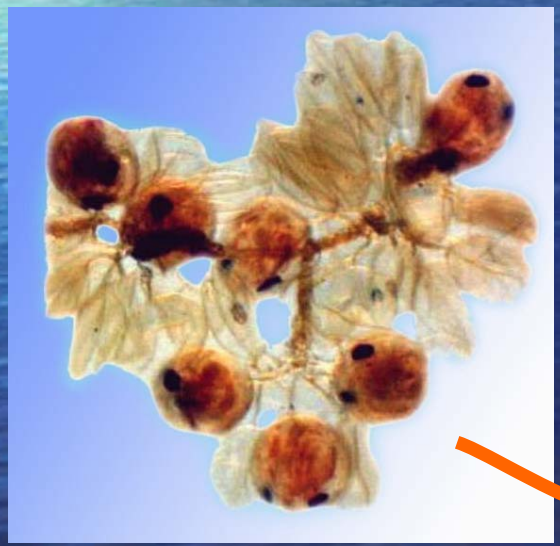
# Three different concepts for crab culture could be implemented:

❶ Rearing juveniles for releasing to sea;



## Three different concepts for crab culture could be implemented:

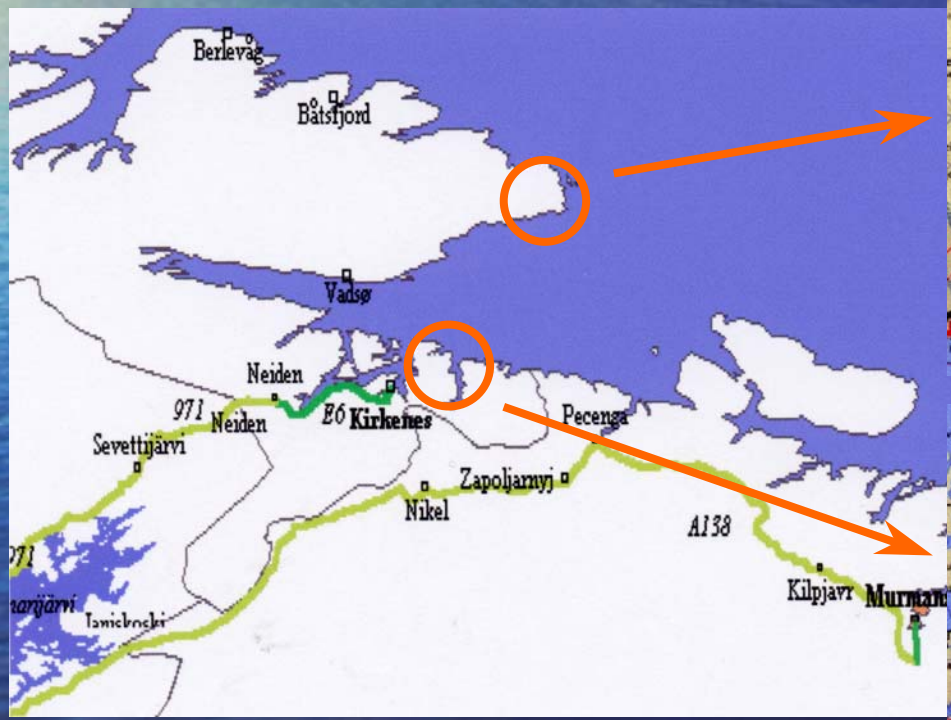
❷ Rearing crabs from eggs to market size;

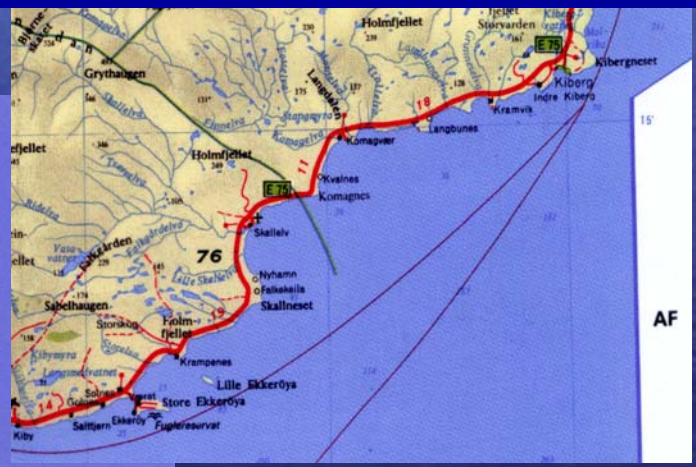


# Three different concepts for crab culture could be implemented:

❸ Fattening of wild-caught crabs

# “Technology elaboration and creation of complex for artificial reproduction, selection of juveniles and commercial cultivation of red king crab in specialized basin complex in Varanger-fiord aquatorium (the Barents Sea)” - 2002-2012.




# The main goals of the Program:

- **Elaboration of technology for obtaining and rearing red king crab larvae to adults of commercial size in basin complex.**
- **Elaboration of technology for fattening non-conditional crabs to crabs of commercial size in basin complex.**
- **Elaboration of technology for fattening recruit crabs in basin complex.**

# RED KING CRAB ARTIFICIAL CULTIVATION
## Laboratory of Crustacea Reproductin, VNIRO

**THANK YOU FOR YOUR ATTENTION!**
**We hope that our knowledge and experience in red king crab cultivation will find more followers!**

**Acknowledgments**

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