# Sea Scallop

(*Placopecten magellanicus*)

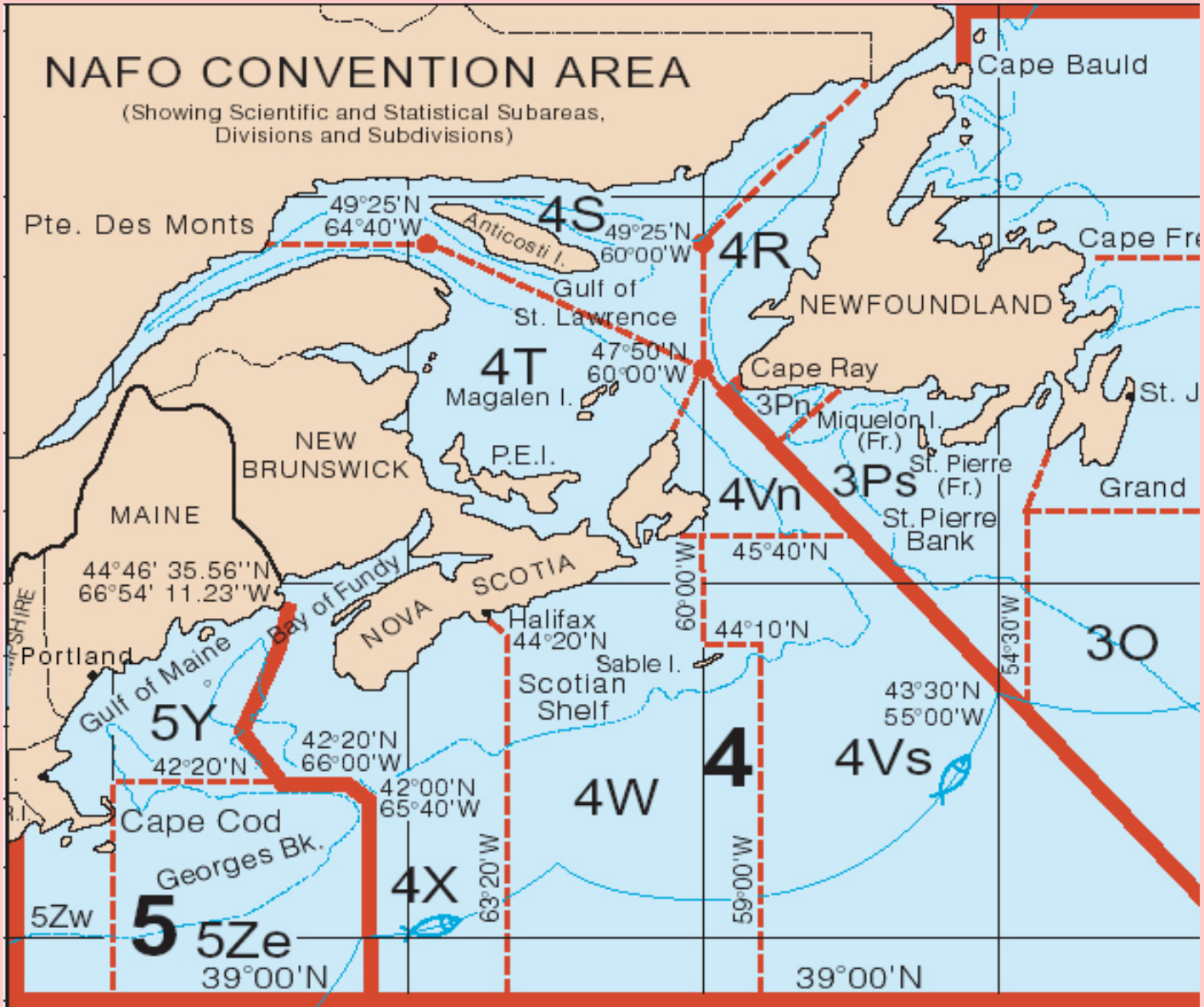
# Spat Collection

Presented by

**Leslie-Anne Davidson**

**Fisheries and Oceans Canada**

# Study sites


NAFO CONVENTION AREA
(Showing Scientific and Statistical Subareas, Divisions and Subdivisions)
Cape Bauld
Pte. Des Monts
49°25'N
64°40'W
4S
Anticosti I.
49°25'N
60°00'W
4R
Cape Fre
Gulf of
St. Lawrence
NEWFOUNDLAND
4T
47°50'N
60°00'W
Cape Ray
Magalen I.
3Pn
St. J
Miquelon I.
(Fr.)
NEW
BRUNSWICK
P.E.I.
St. Pierre
(Fr.)
3Ps
4Vn
Grand
MAINE
St. Pierre
Bank
45°40'N
44°46' 35.56''N
66°54' 11.23''W
Bay of Fundy
NOVA
SCOTIA
60°00'W
Halifax
44°20'N
44°10'N
54°30'W
3O
Portland
Gulf of Maine
Sable I.
Scotian
Shelf
43°30'N
55°00'W
5Y
42°20'N
66°00'W
4
4Vs
42°20'N
42°00'N
65°40'W
4W
Cape Cod
Georges Bk.
4X
63°20'W
59°00'W
5Zw
5
5Ze
39°00'N
39°00'N

# Partners

(Incomplete list)

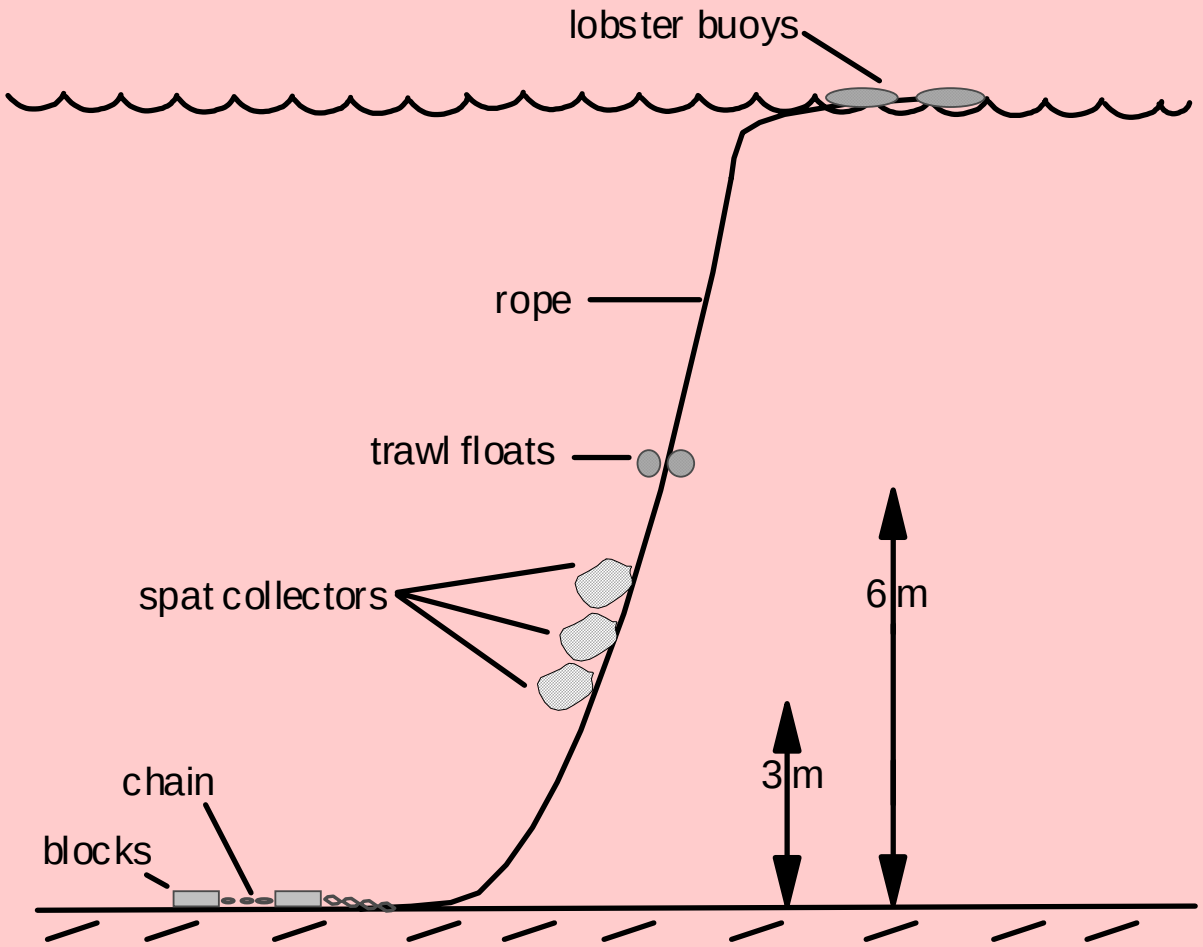
- Fishers
  - **NS SFA fishermen:** Eugene Arsenault, Mike Briggs, Scott Cameron, Ernest Ehler, Reginald Grant, Wayne LeBlanc, David MacCarthy,Gerard MacDonald, Gordon MacKay, Chris MacLead, Boyd MacPherson, Bob Melong, Wallace, Murray, Kevin Thomson
  - **Botsford Professional Fishermen's Association**
  - **Maritime Fishermen's Union / Pecten UPM/MFU inc.**
  - **Big Bras d'Or Fishermen's Group**
  - **Guysborough County Women`s Fishery Enhancement Association**
    - Calvin Rose, Lorne Jamieson, Pat Conway, Charles Warner and Kevin Horne.
- Aquaculturist
  - **Jamieson's Giant Scallops, Sea Perfect Cultivated Products, Foggy Farms,**
- Other biologists / technicians
  - Monique Niles, Jay Parsons, Catherine Têtu, Lorelei Grecian, Denis Goudreault, Bruno Frenette, Leon Lanteigne

# Aim

- To identify spat collection sites that collect an average of 1000 to 2000 scallop spat per bag.

  - -Viability
    - 500 scallop spat/bag according to Australian research
    - Over 1,000 scallop spat/bag according to Japanese strategies

# Mooring design



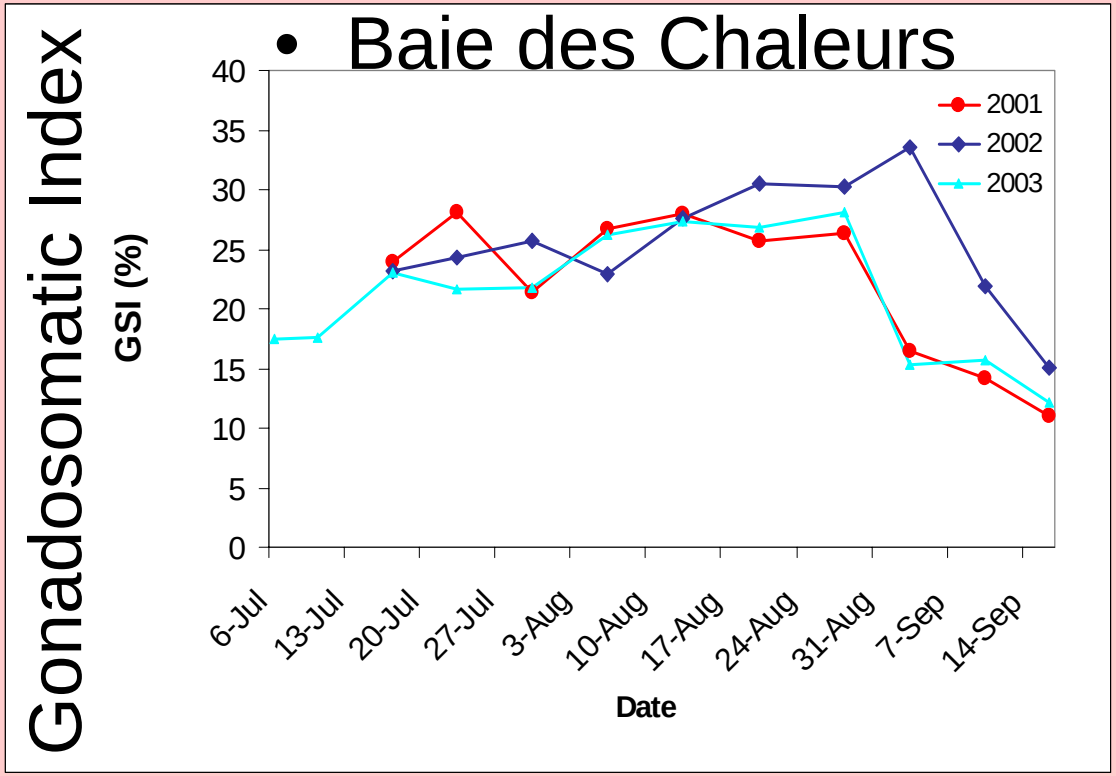
# Collectors

3 mm mesh bags with 3 pieces of Netron® or monofilament providing similar surface area.

# Method

- **Deployed mooring with collectors at end of September or beginning of October.**

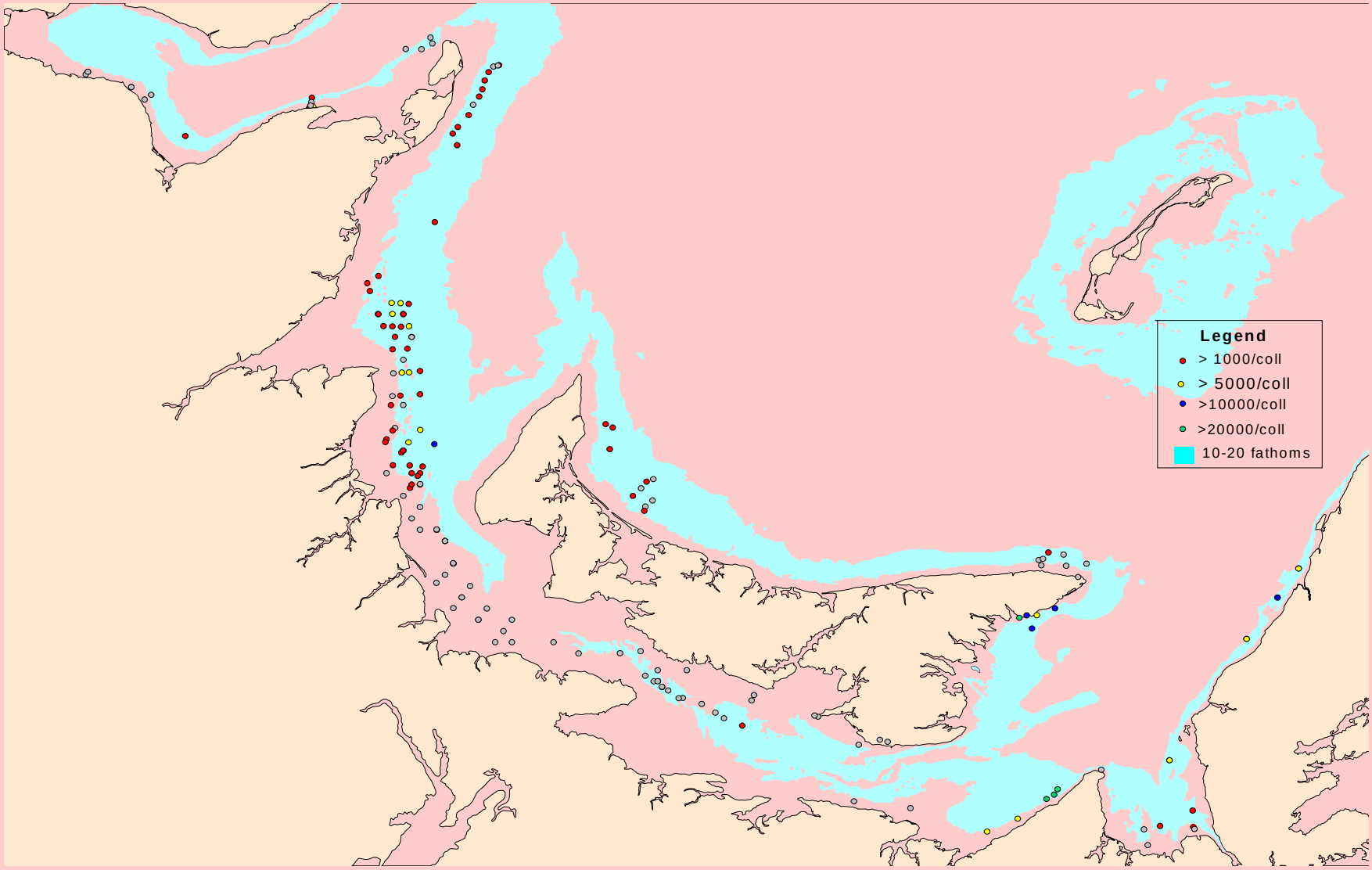
- **Basically, collectors were deployed four weeks after the adult scallops initiated spawning.**



# Method (cont.)

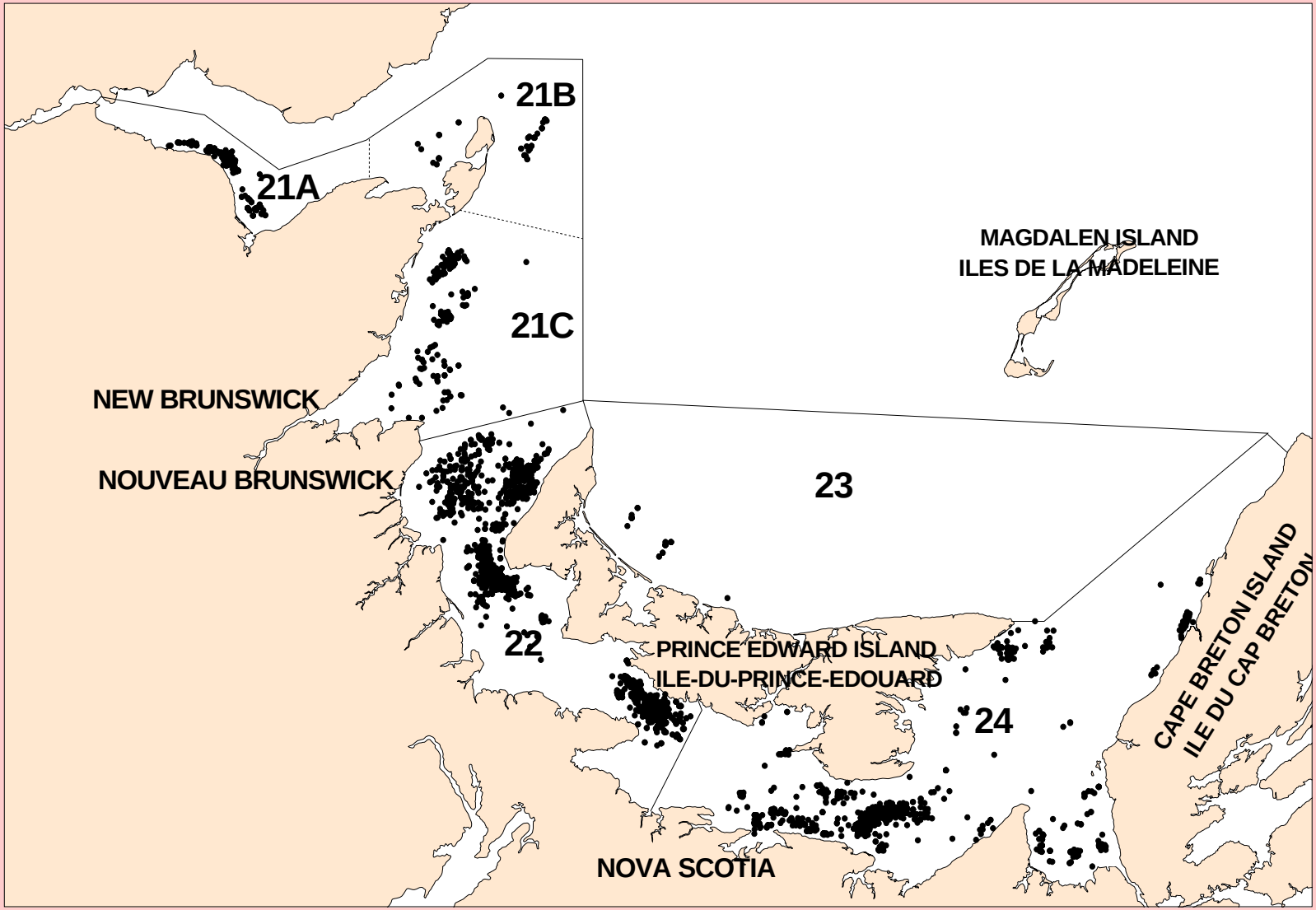
- **Requested that collectors be placed at sites with a depth of about 25-30 m (80 to 100 ft).**
- **Retrieved mooring and collectors one to four months later.**

# Collection sites in the Gulf Region



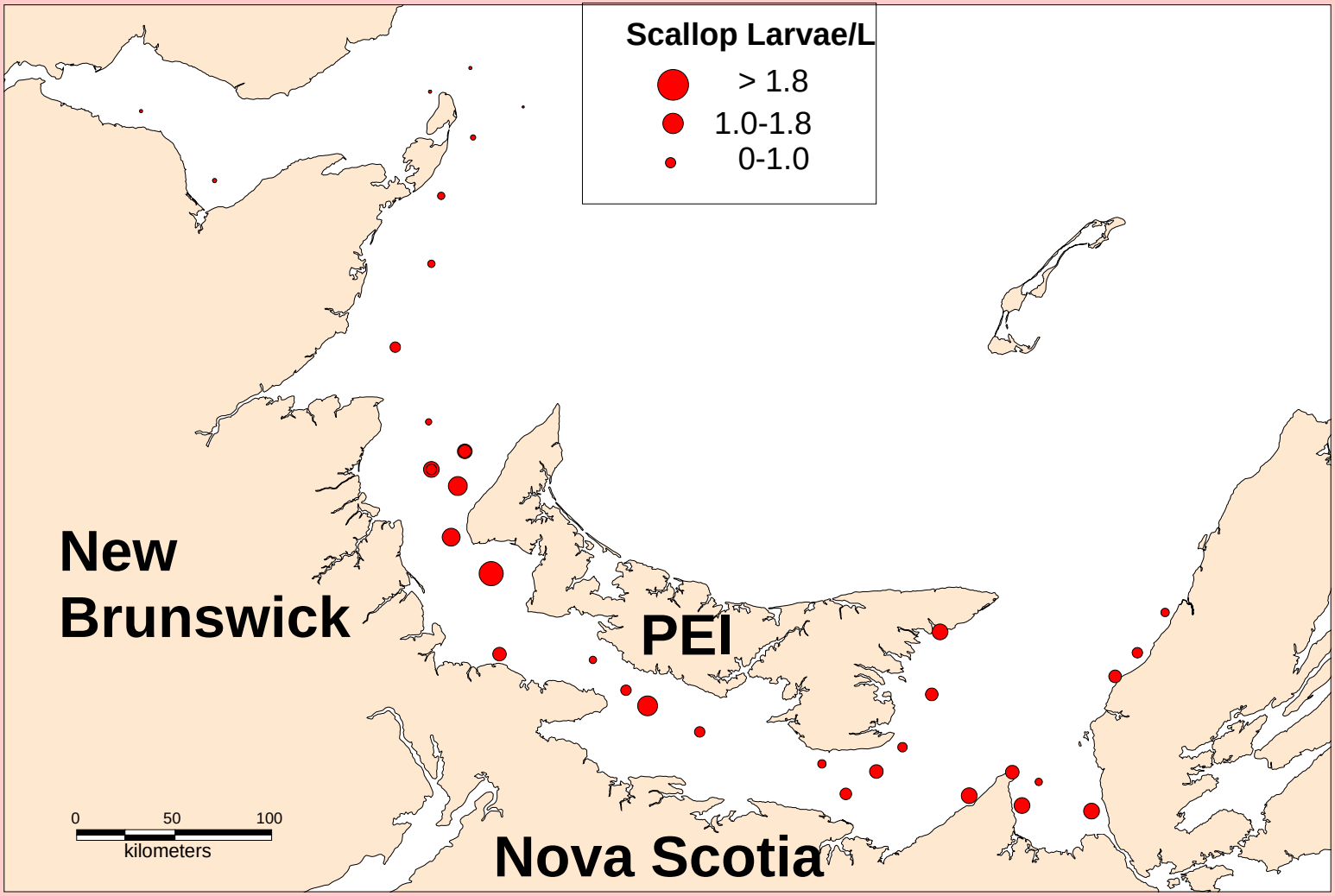
# Scallop Fishing Locations in Gulf Region

## Logbook data



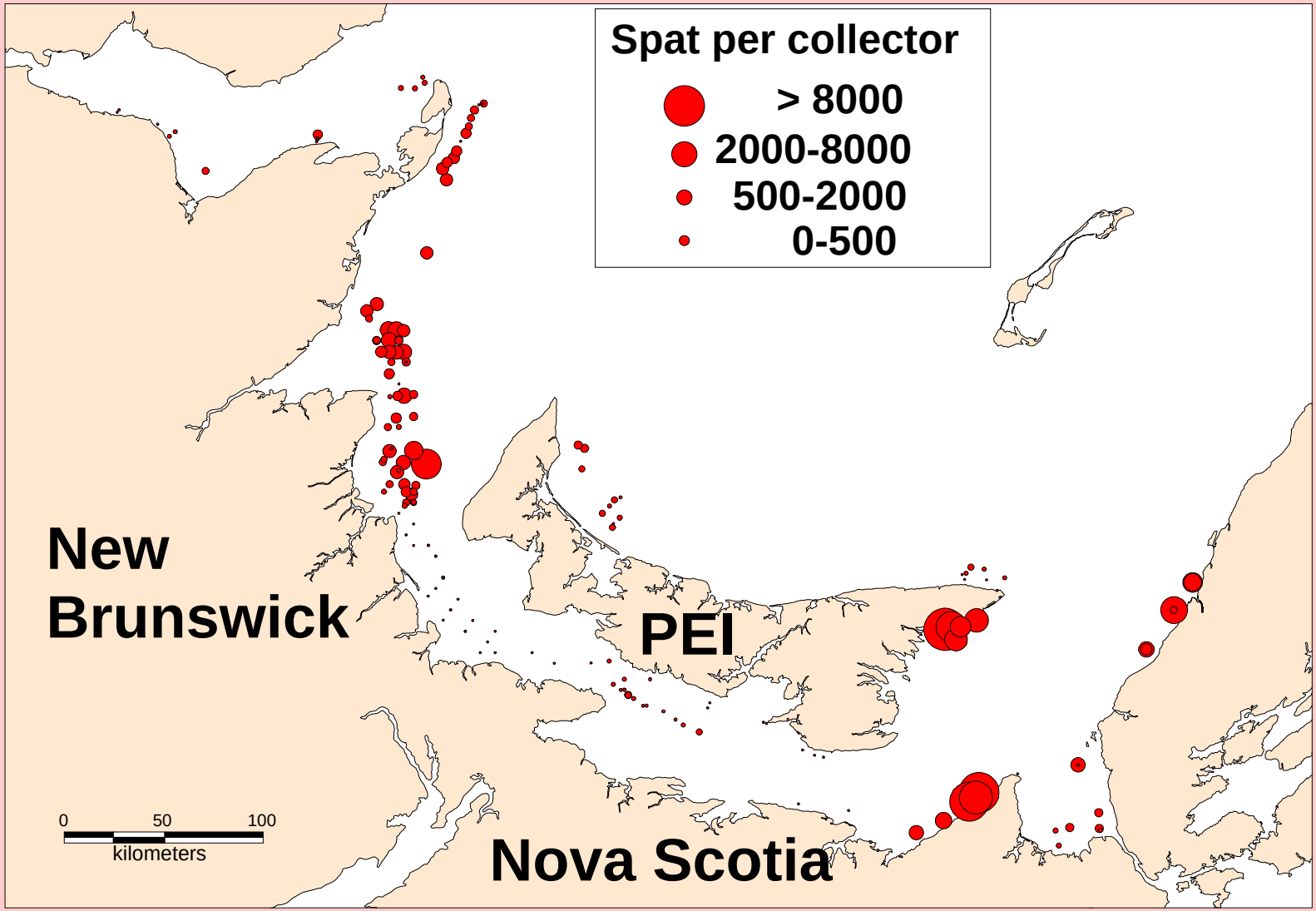
# Map of Scallop Larvae Distribution

## Preliminary Data



# Results

## Scallop Spat Collection in the Gulf Region



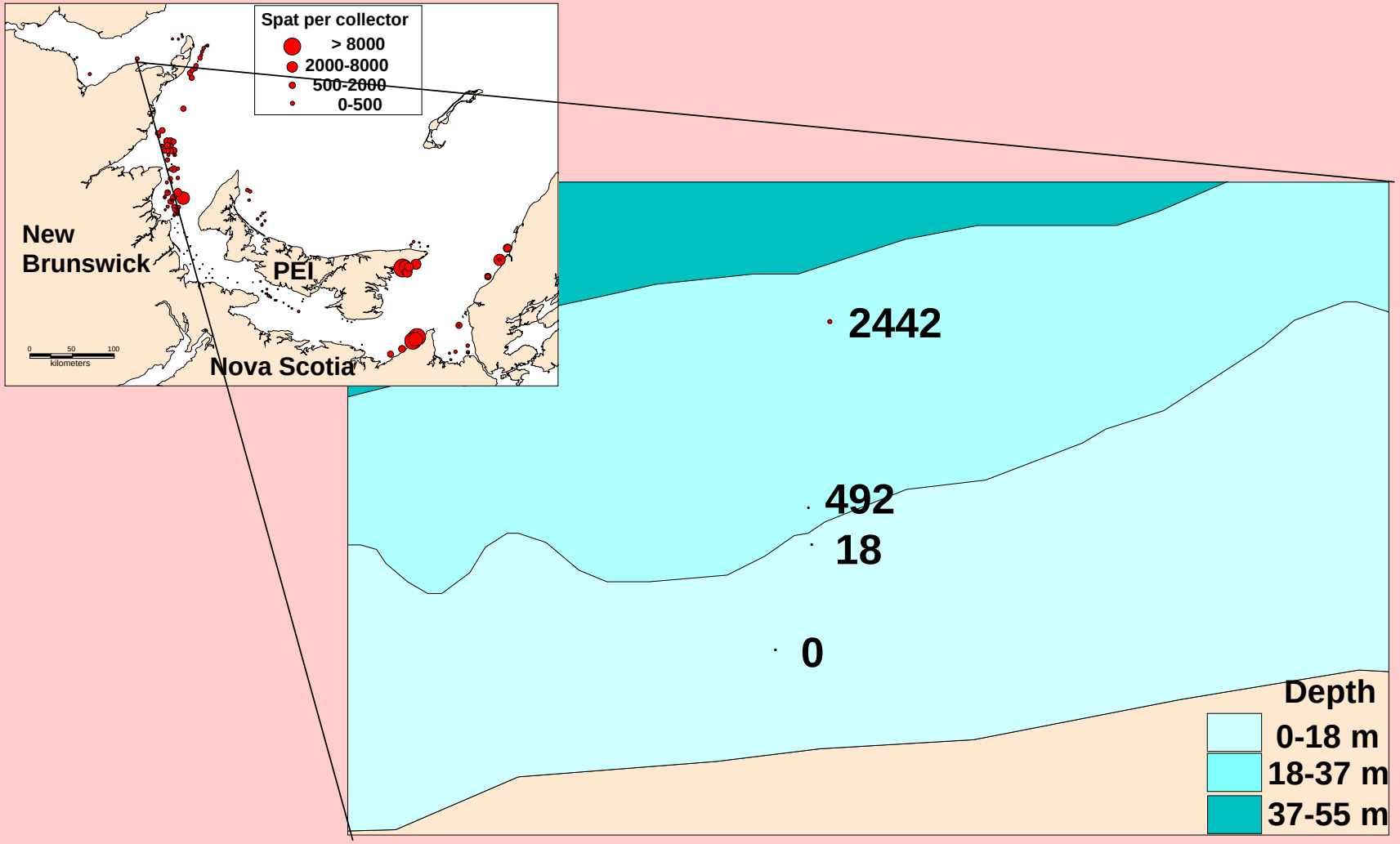
# Results (Cont.)

- Poor collection in central part of the Northumberland Strait was mainly attributed the silt and other fouling that accumulated inside the collectors.

- Silt occurs in the water column at sites between two land masses.

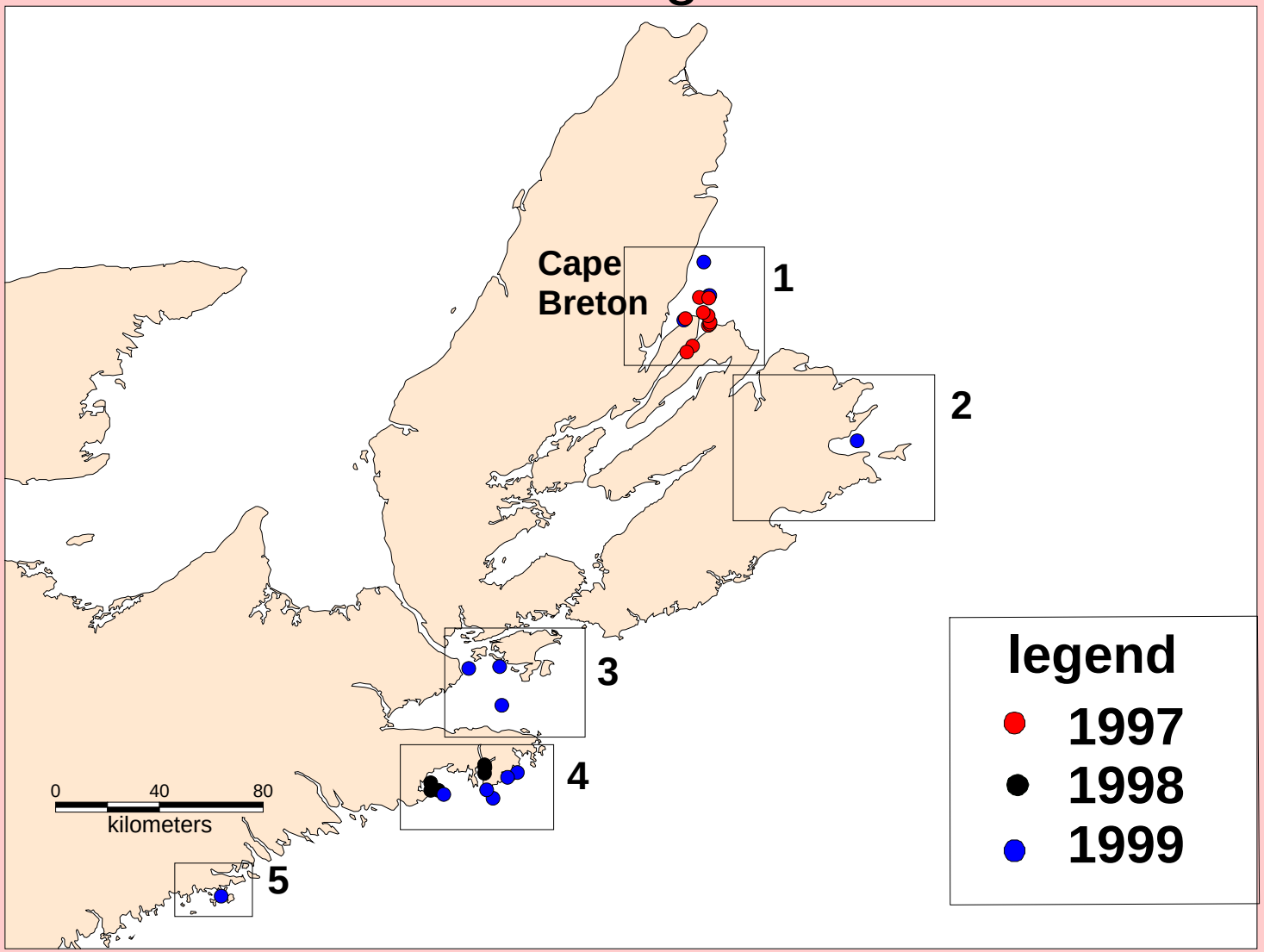
# Results

## Depth at collection site



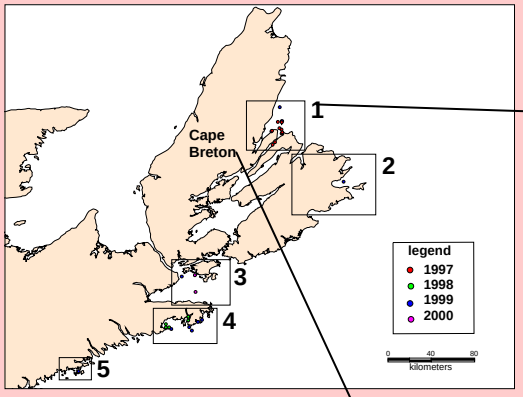
# Results (Cont)

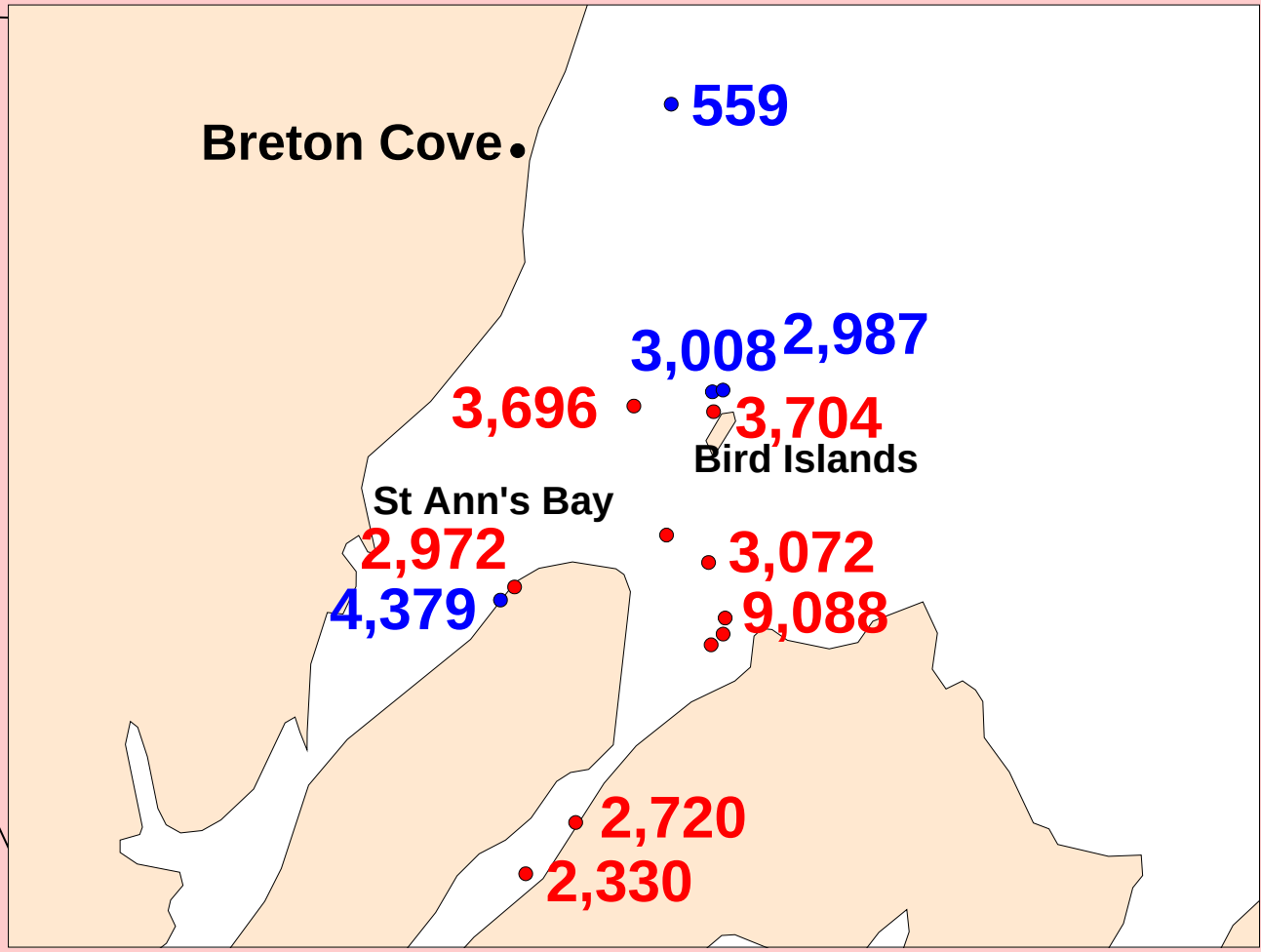
## Scallop Spat Collection Sites in the Maritimes Region



# Results (Cont)

## Scallop Spat per bag



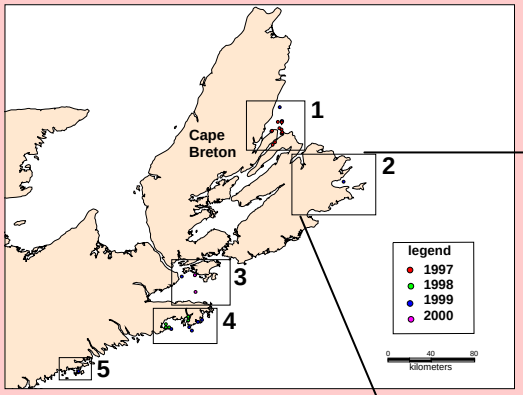



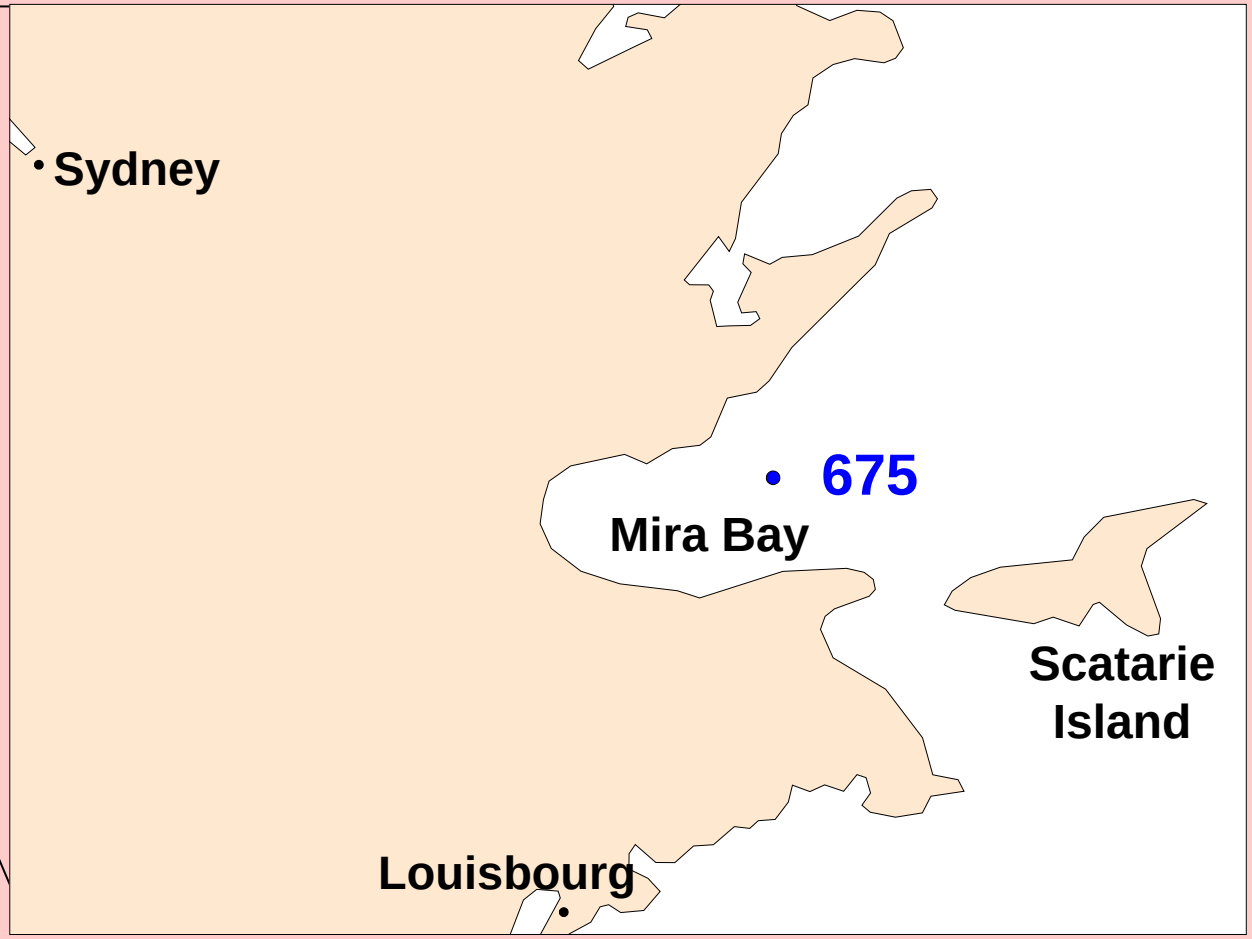

**legend**

- 1997
- 1998
- 1999

# Results (Cont)

## Scallop Spat per bag

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# Results (Cont)

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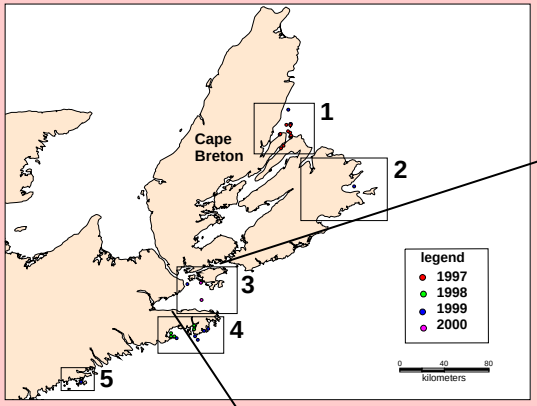


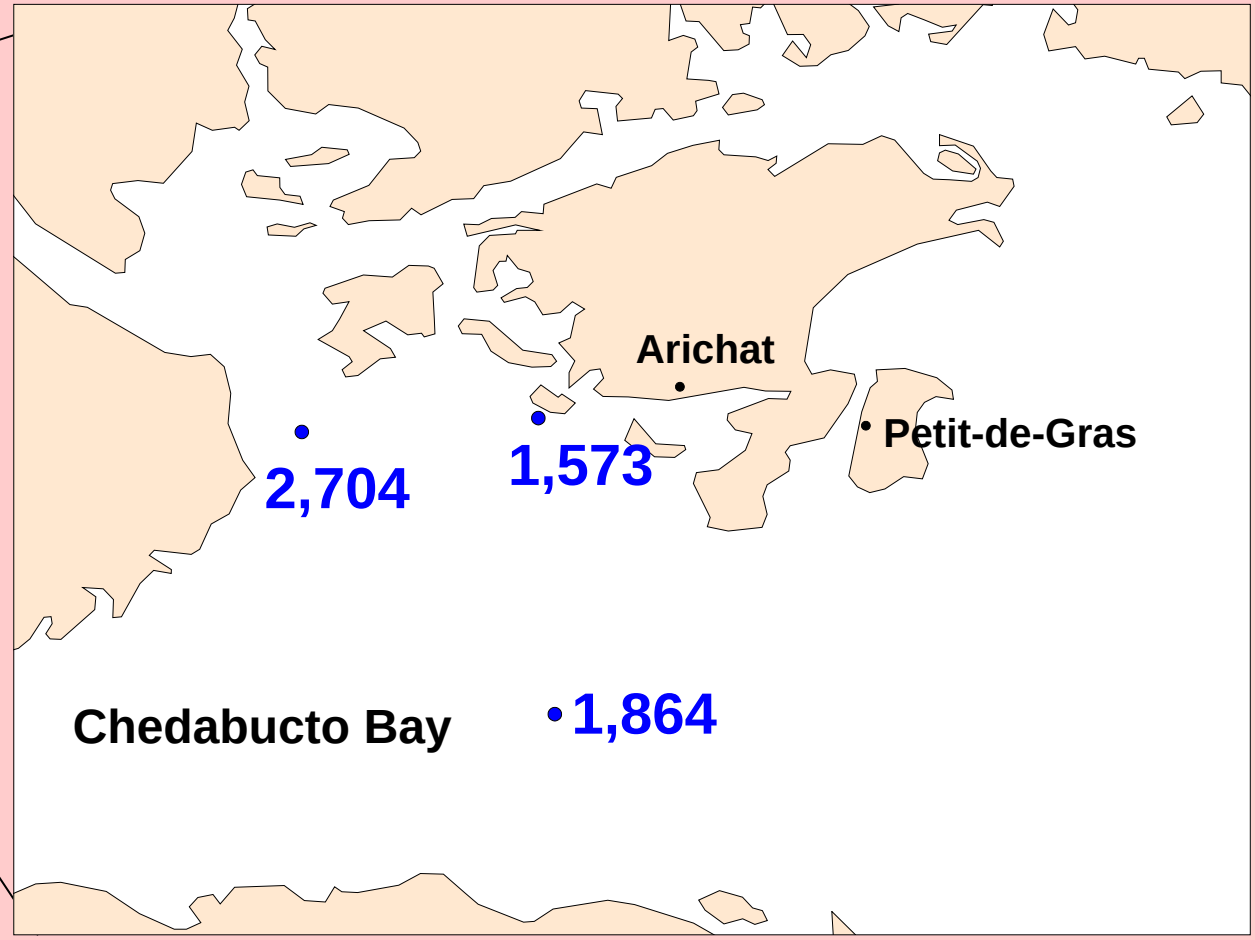


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# Results (Cont)

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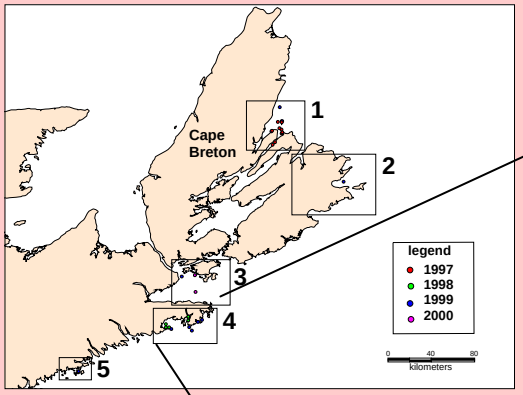


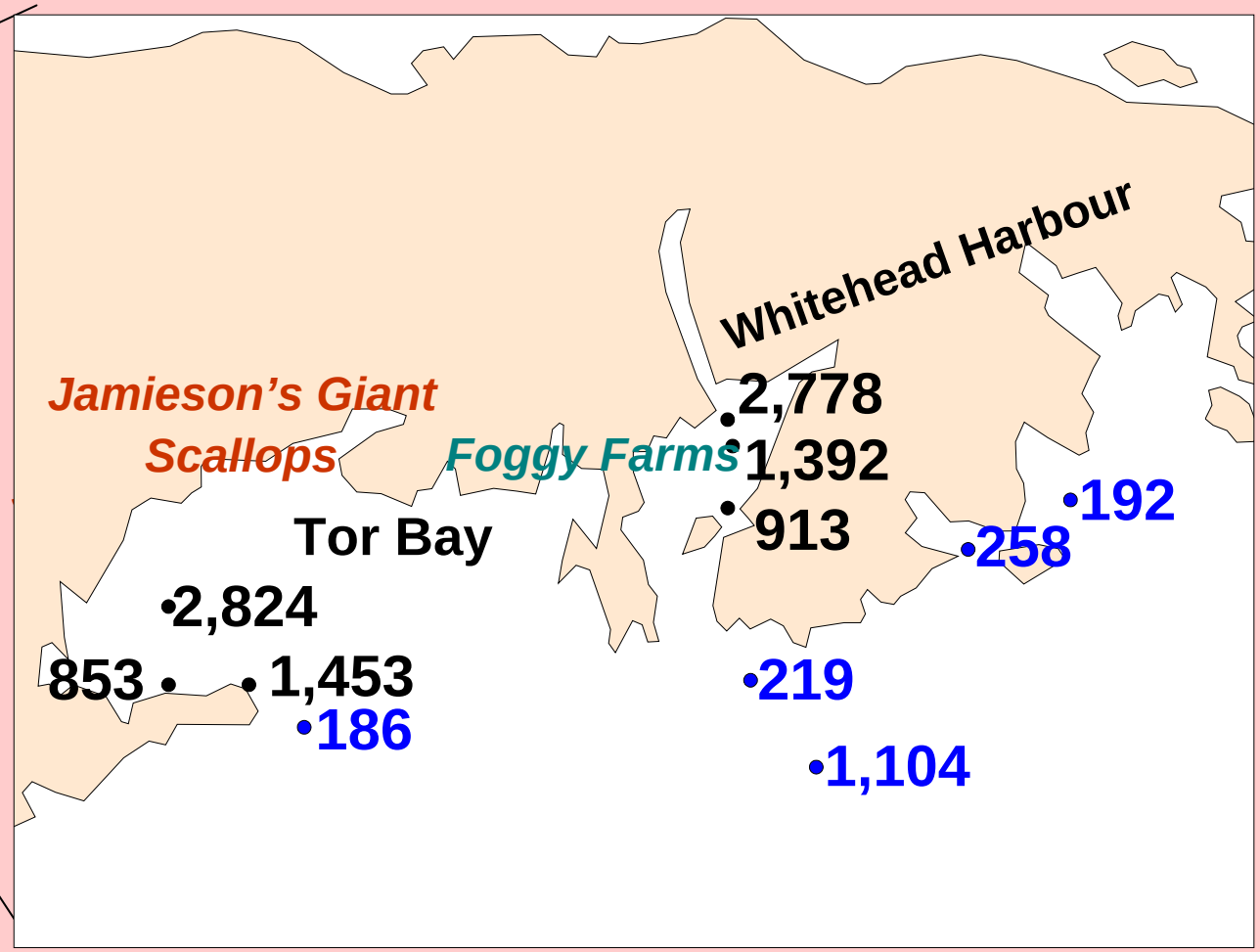


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# Results (Cont)

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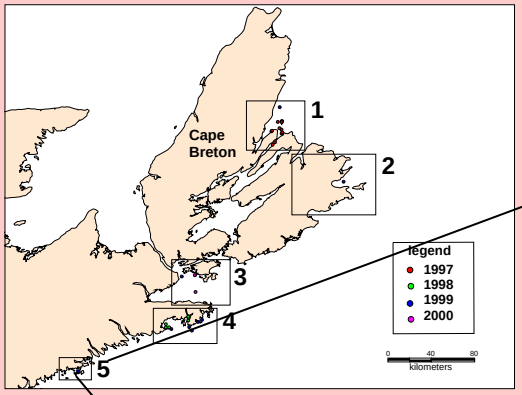
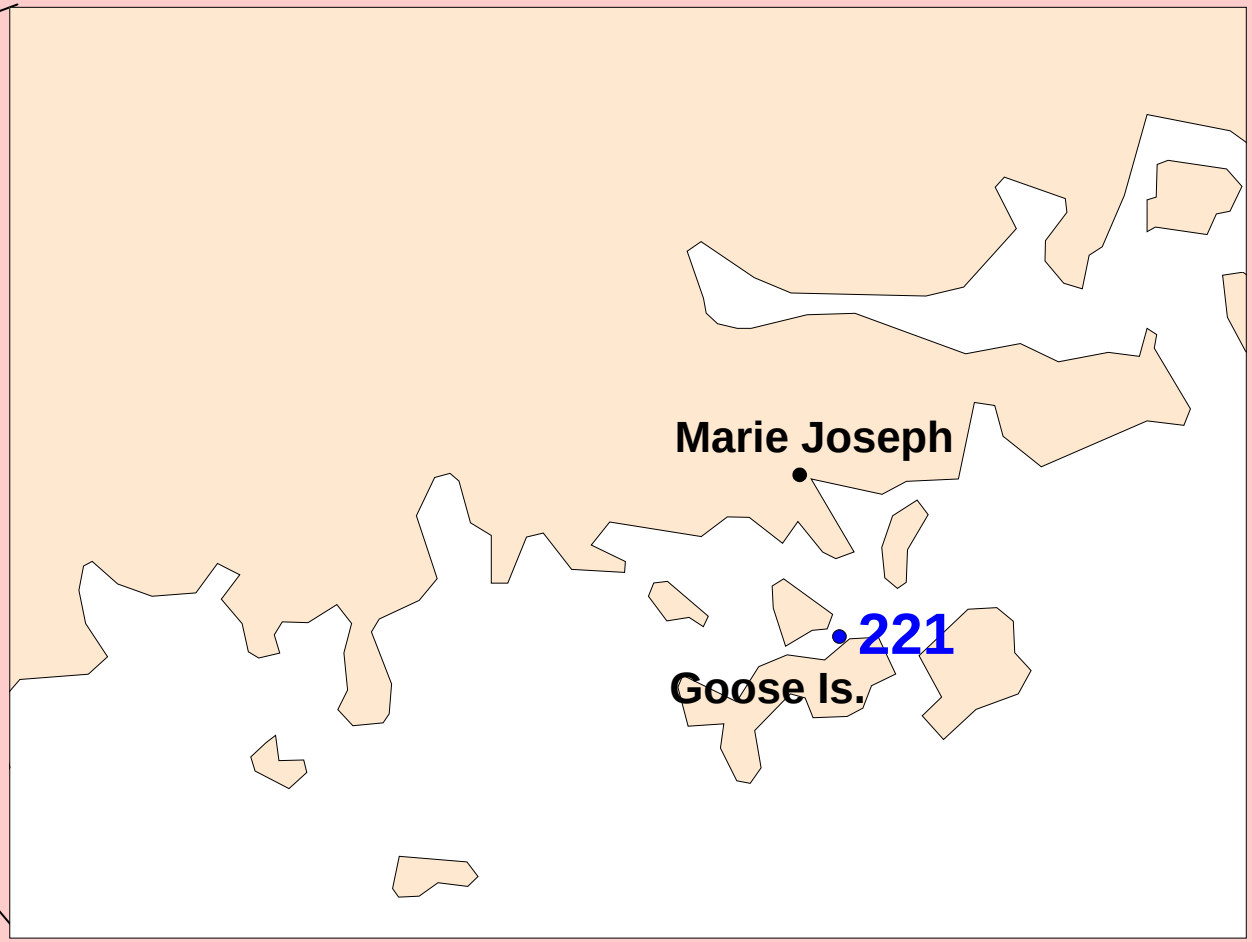



**legend**

- 1997
- 1998
- 1999

# Guidelines when selecting spat collection sites

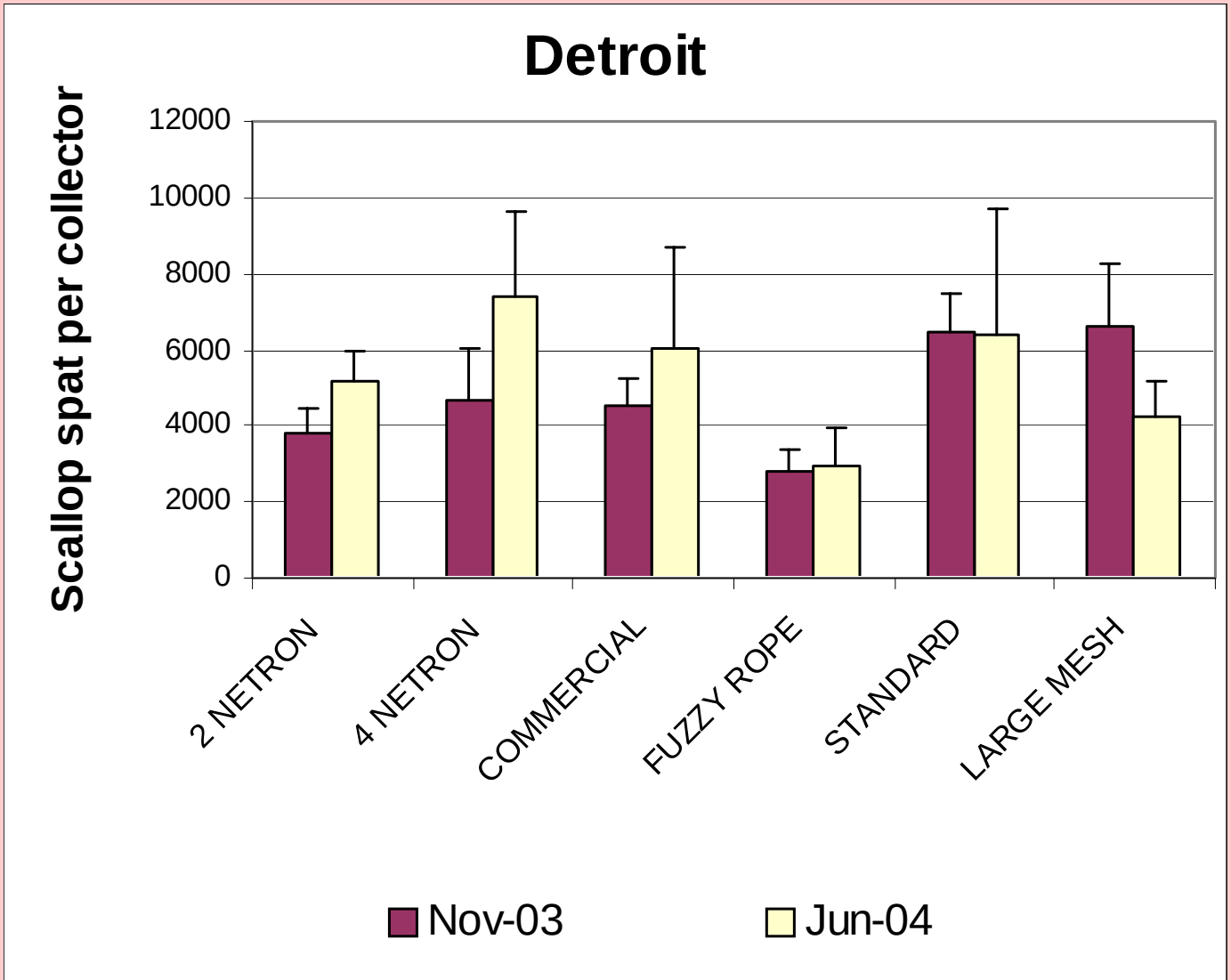
- Do not deploy collectors in heavily silted water (between two land masses).
- Deploy collectors offshore at a depth of 21 to 35 meters (70 to 115 feet) <u>except</u> if scallop culture site is nearby than collectors can be placed at depth as shallow as 18 meters (60 feet).

# Type of collectors

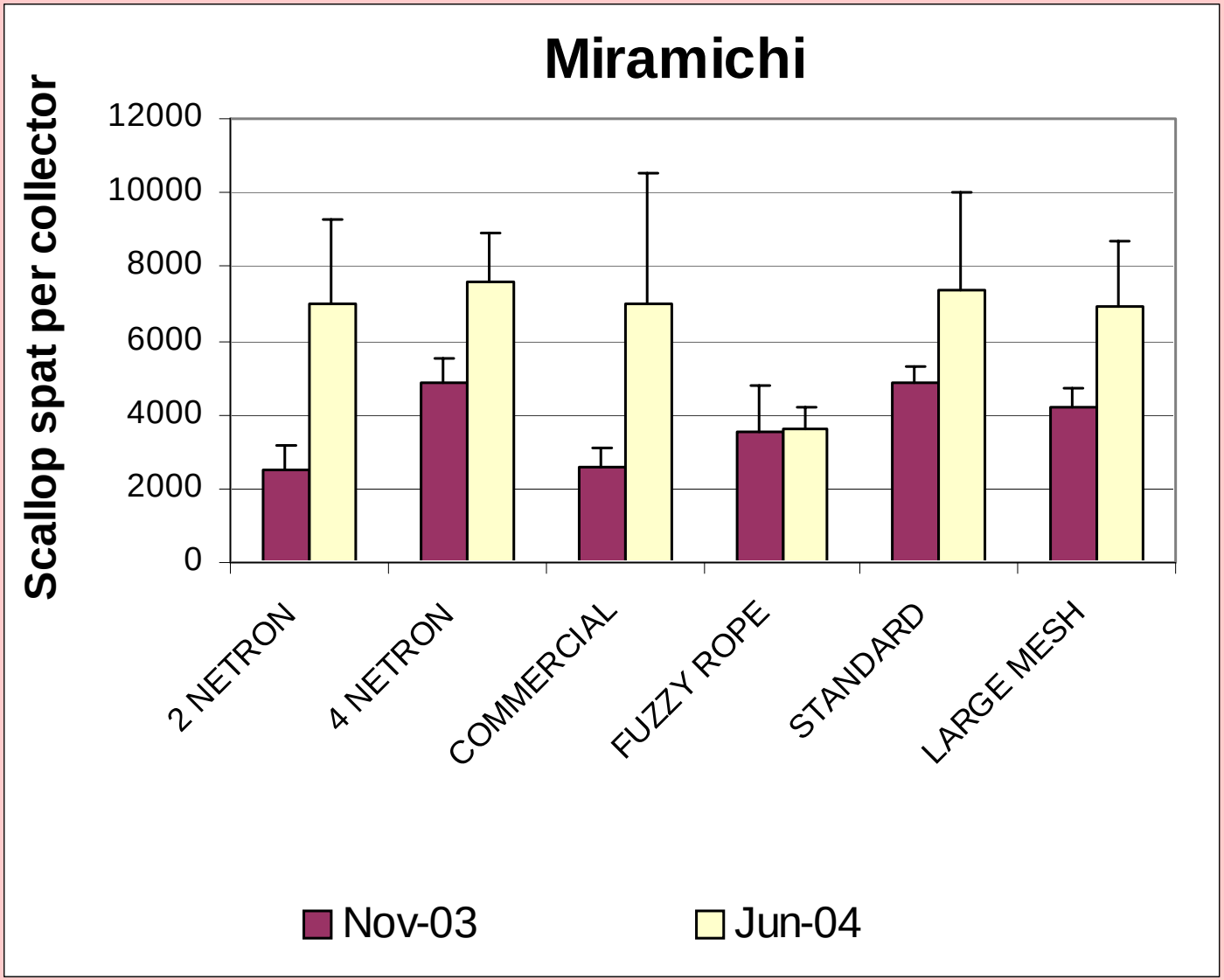
Standard Collector

Fuzzy Rope Collector

# Results in the Strait

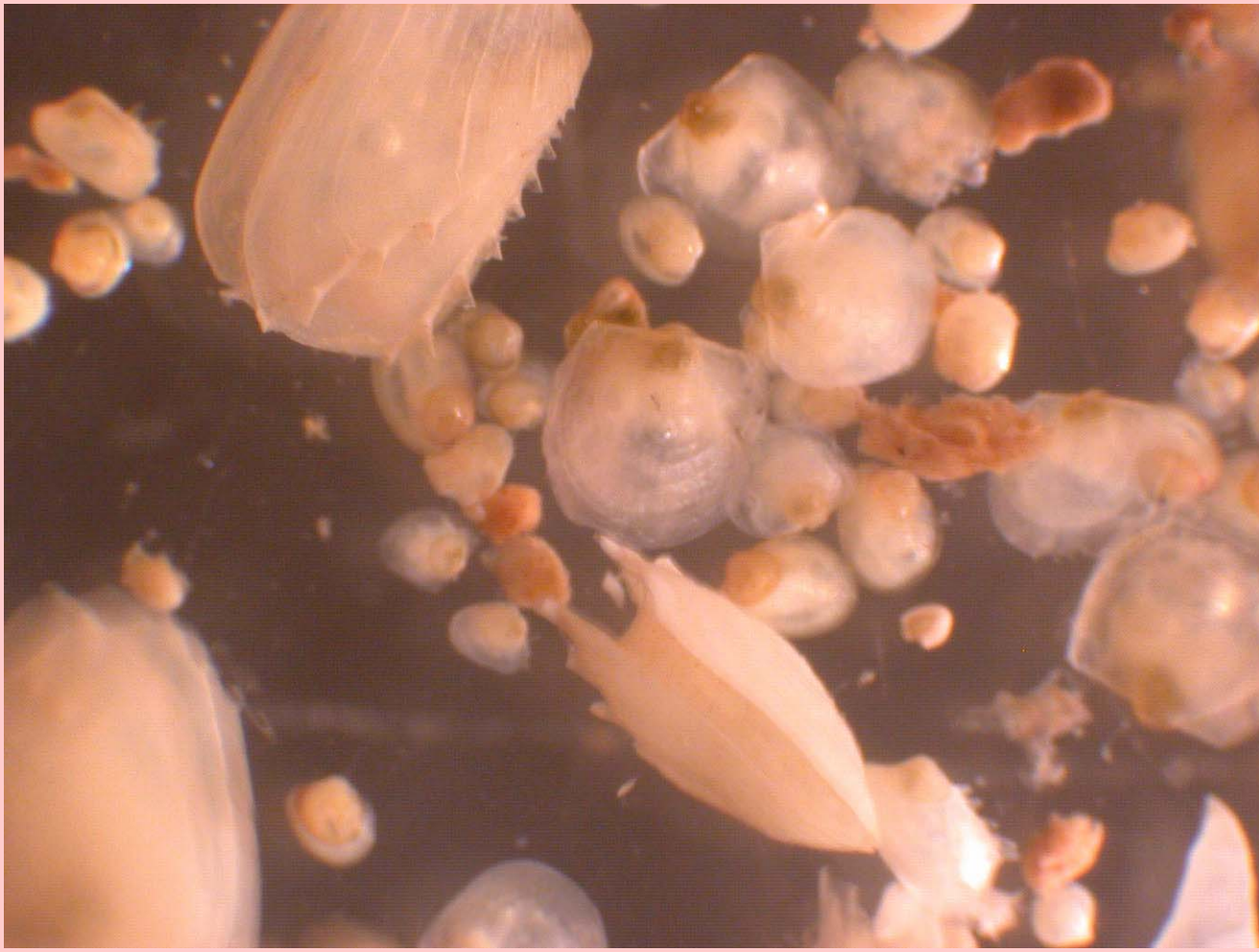


# Results in the Miramichi

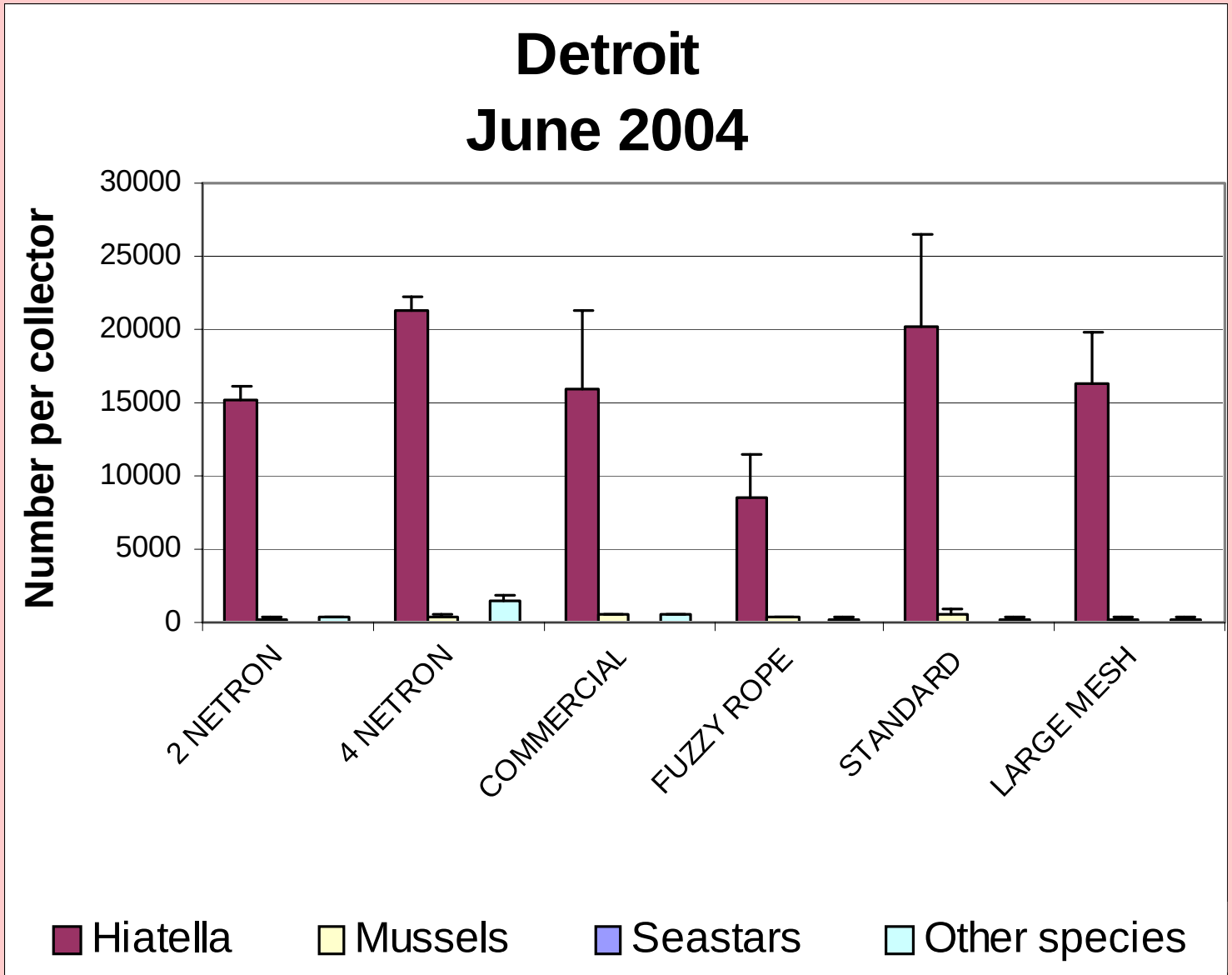


# Major Problem

**Other species can also be found in collectors**



# Other species in the Strait



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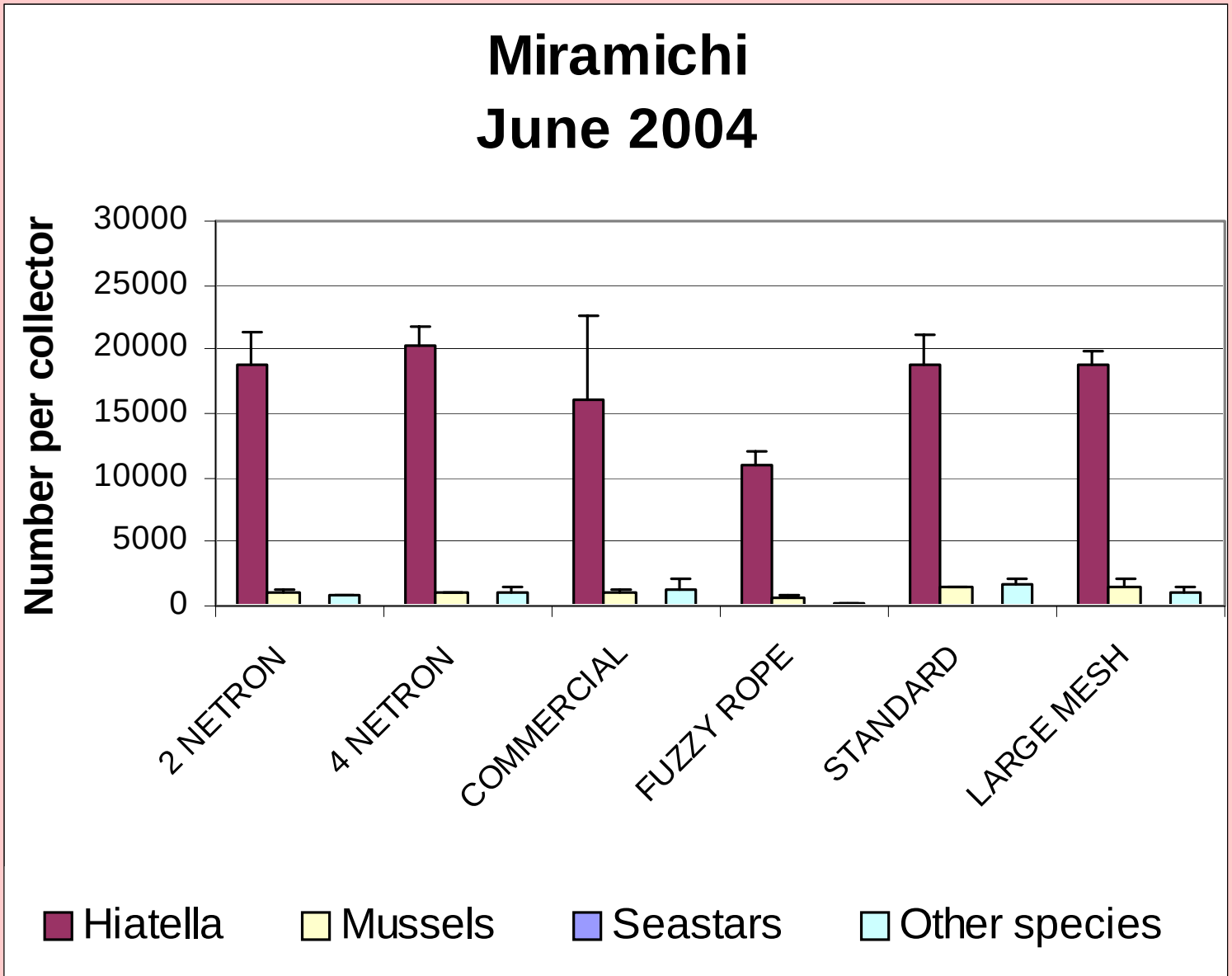

# Future Studies

**aimed at**

**Determining criteria required to collect mainly scallops.**

**How to optimize the scallop survival and growth rate while they are in the collectors**