Crassostrea gigas

Pacific oyster

Introduction of an alien

- introduced into Dutch waters to revive the oyster stock in 1964

- introduced from Japan to Sylt in1986
- the warming of the Wadden Sea has created a favorable condition for these oysters to reproduce rapidly

Introduction of an alien

- 2003 huge oyster banks were established
- grow up to 32cm

Effects of Oysters

- building reefs and influence sedimentation
- like to attach to mussels and suppress their growth
- no natural enemy
- competitive advantage over mussels
- increases exponentially

Experimental Method

- transect from low-tide line to high-tide line (414m)
  - Königshafen
  - 6m intervals (pacing)
- density distribution along the transect
  - $1m^2$ measure stick
  - 0%,1%, 5%, 10%...100%

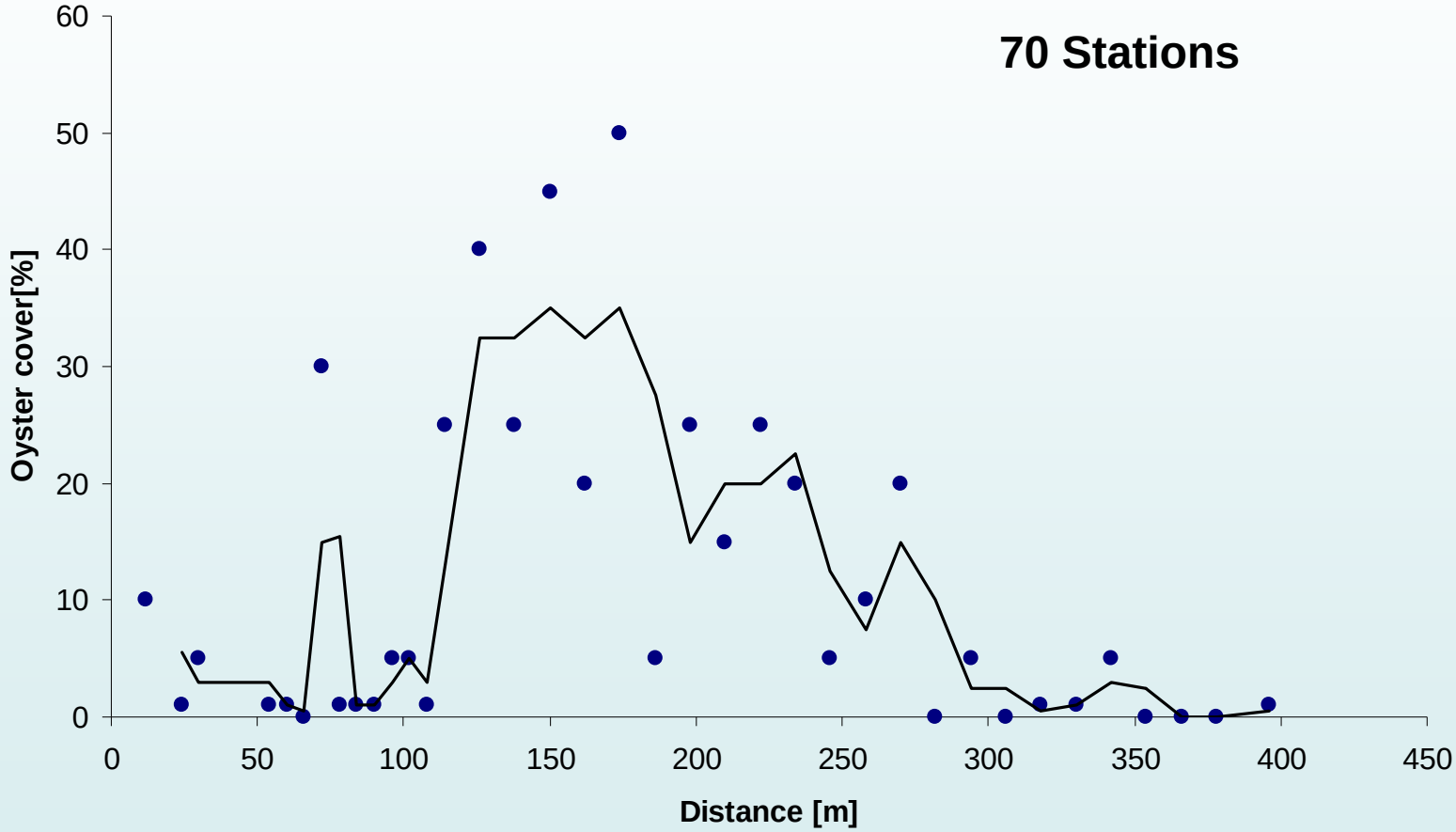
Experimental Method

- detailed clutch observation
  - size measurement
  - count of small and big oysters
  - first attachment

Attached to *May arenaria*

Attached to *Mytilus edulis*

Results

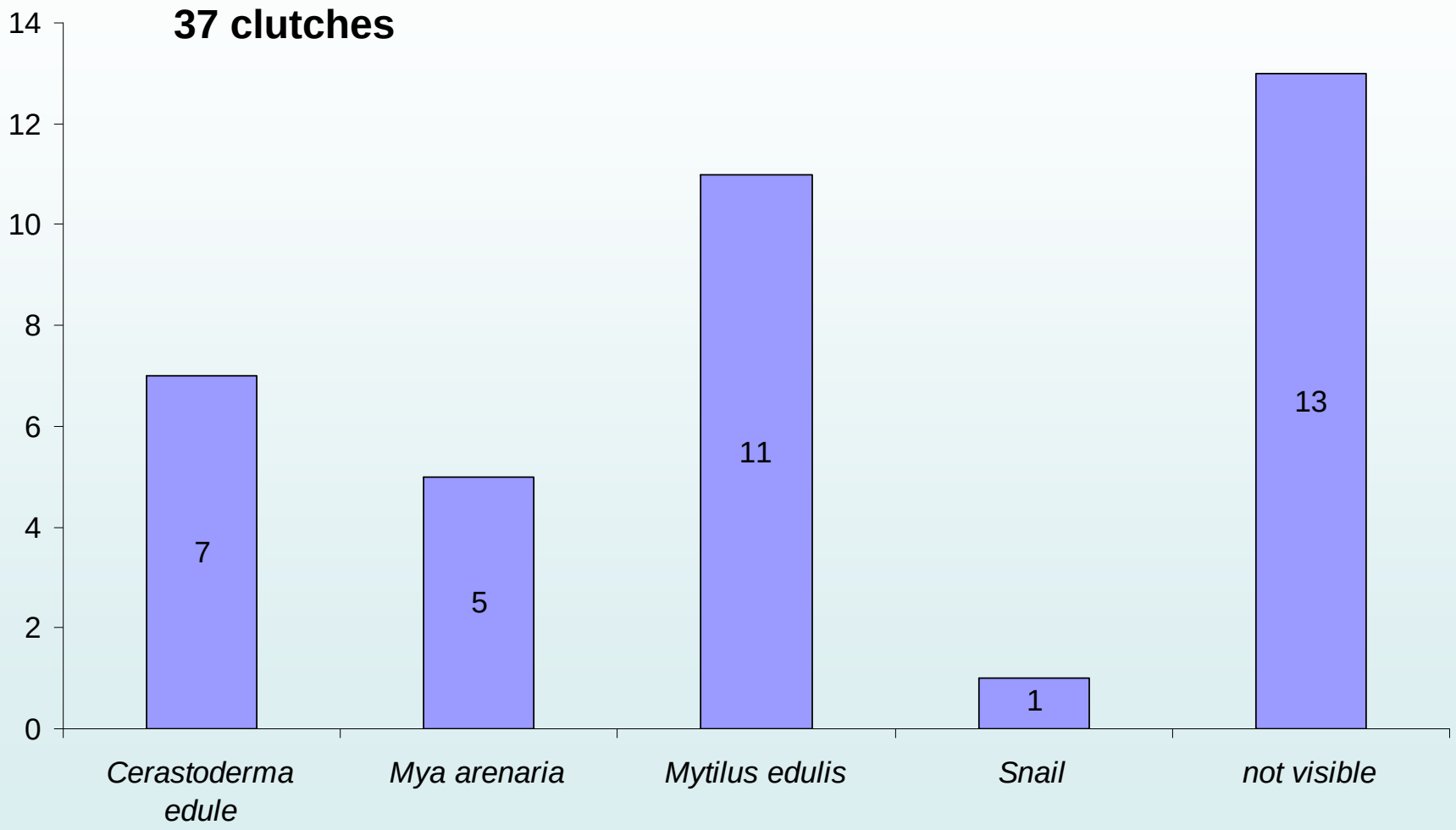

70 Stations
Oyster cover[%]
Distance [m]
0
10
20
30
40
50
60
0
50
100
150
200
250
300
350
400
450

Discussion

- highest density between 100 and 250 m distance from the low-tide line
- highest density recorded 50%
- oyster close to the beach

  →brought by storms and wave action

Results


37 clutches
14
12
10
8
6
4
2
0
7
5
11
1
13
Cerastoderma edule
Mya arenaria
Mytilus edulis
Snail
not visible

Discussion

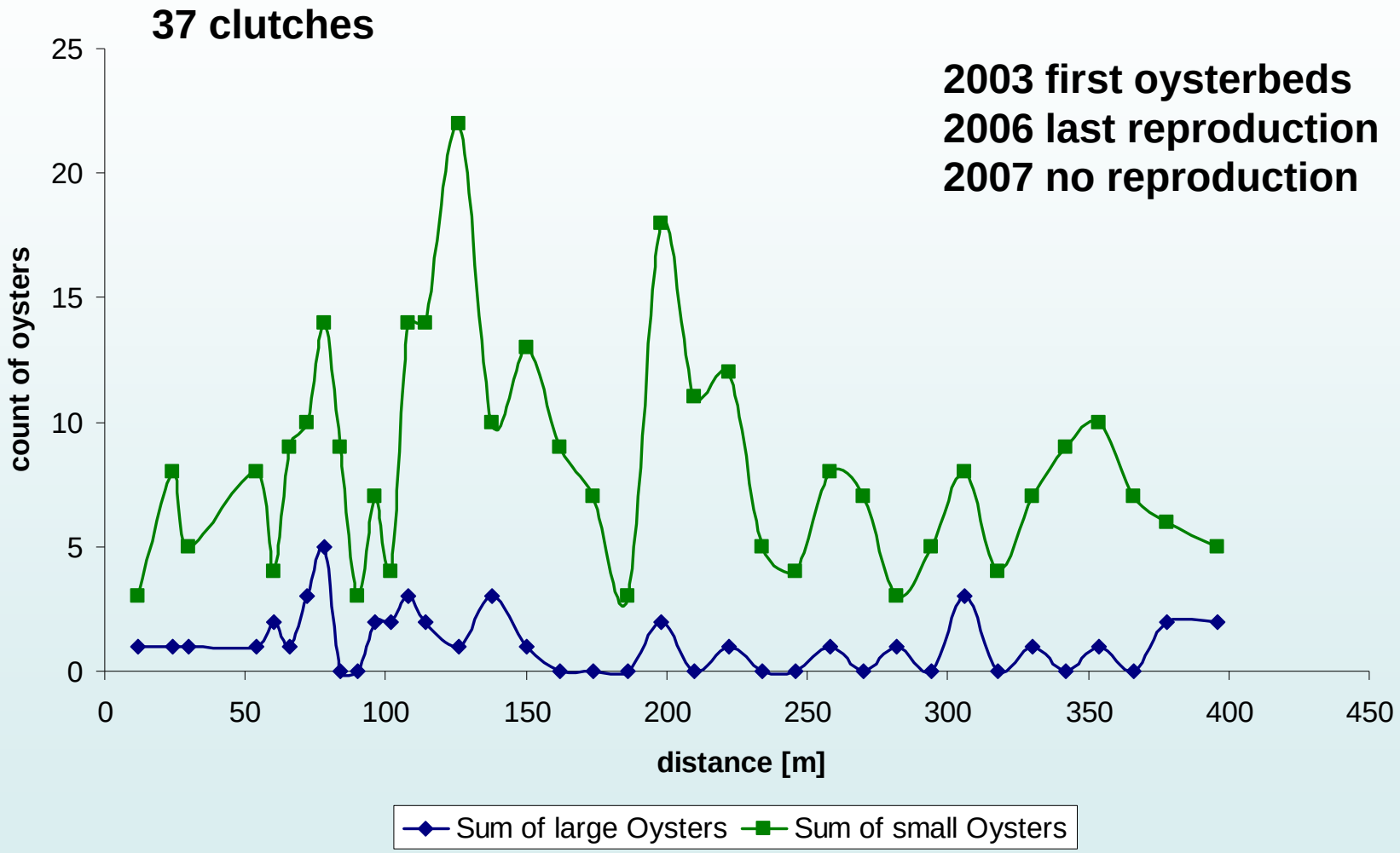
- Variable attachments

- *Mytilus edulis* is most endangered

→other publications confirm this result

- Interactions with other non native species (*Mya arenaria*)

Results


37 clutches
2003 first oysterbeds
2006 last reproduction
2007 no reproduction
count of oysters
0
5
10
15
20
25
0
50
100
150
200
250
300
350
400
450
distance [m]
Sum of large Oysters
Sum of small Oysters

Conclusions

- It can be said from our investigations that the oysters are a threat to other bivalves
- It could be a threat to tourism due to their rapid reproduction (oyster banks)
- The pacific oysters changed the food web in the ecosystem
- The is no proven way or method to get rid of the oysters in the region

Conclusions

- on a more positive note oyster meals are famous for tourism on Sylt.

- they have also increased the biodiversity on the Island

Thank You very much for your Attention

The Oyster Team