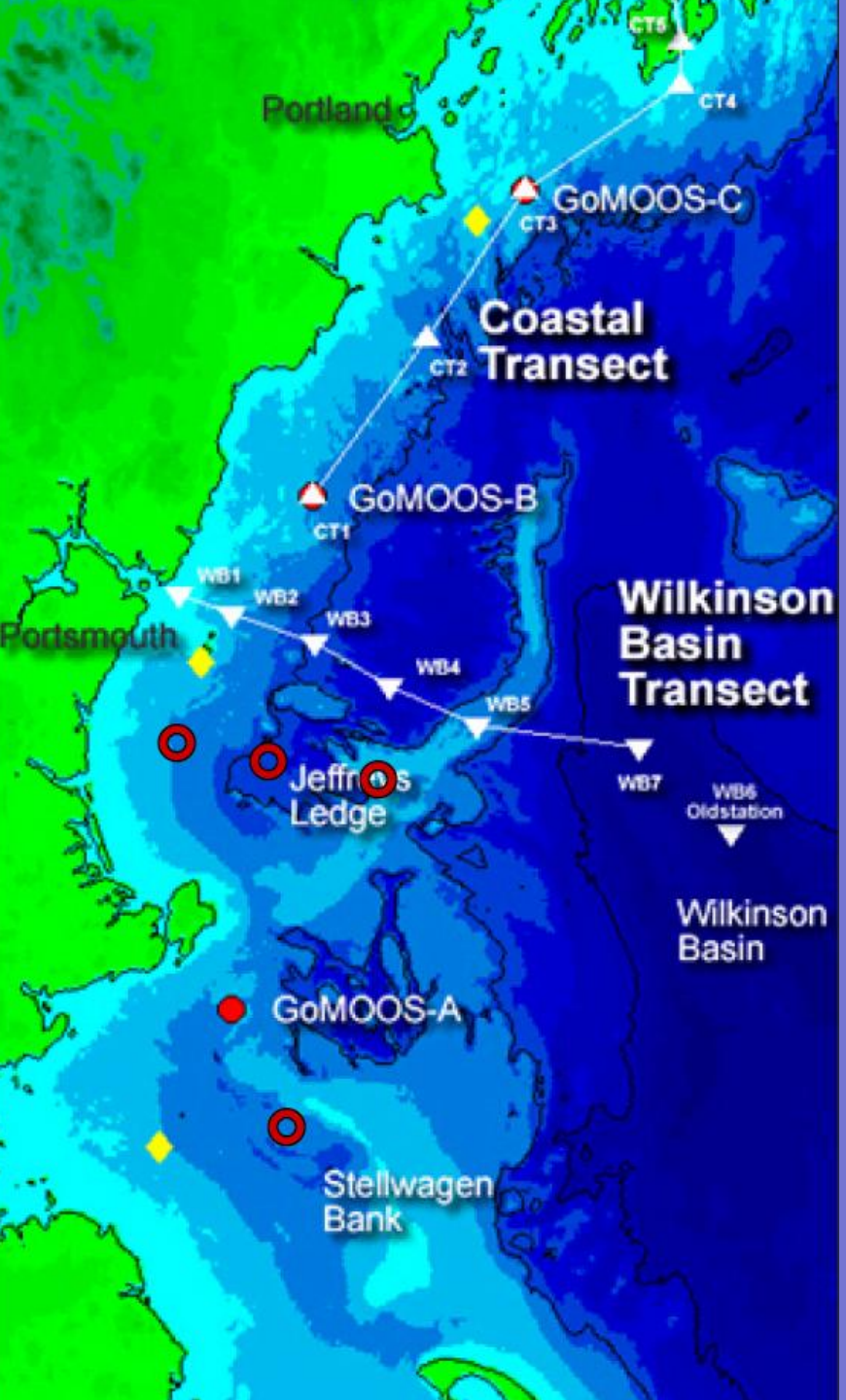


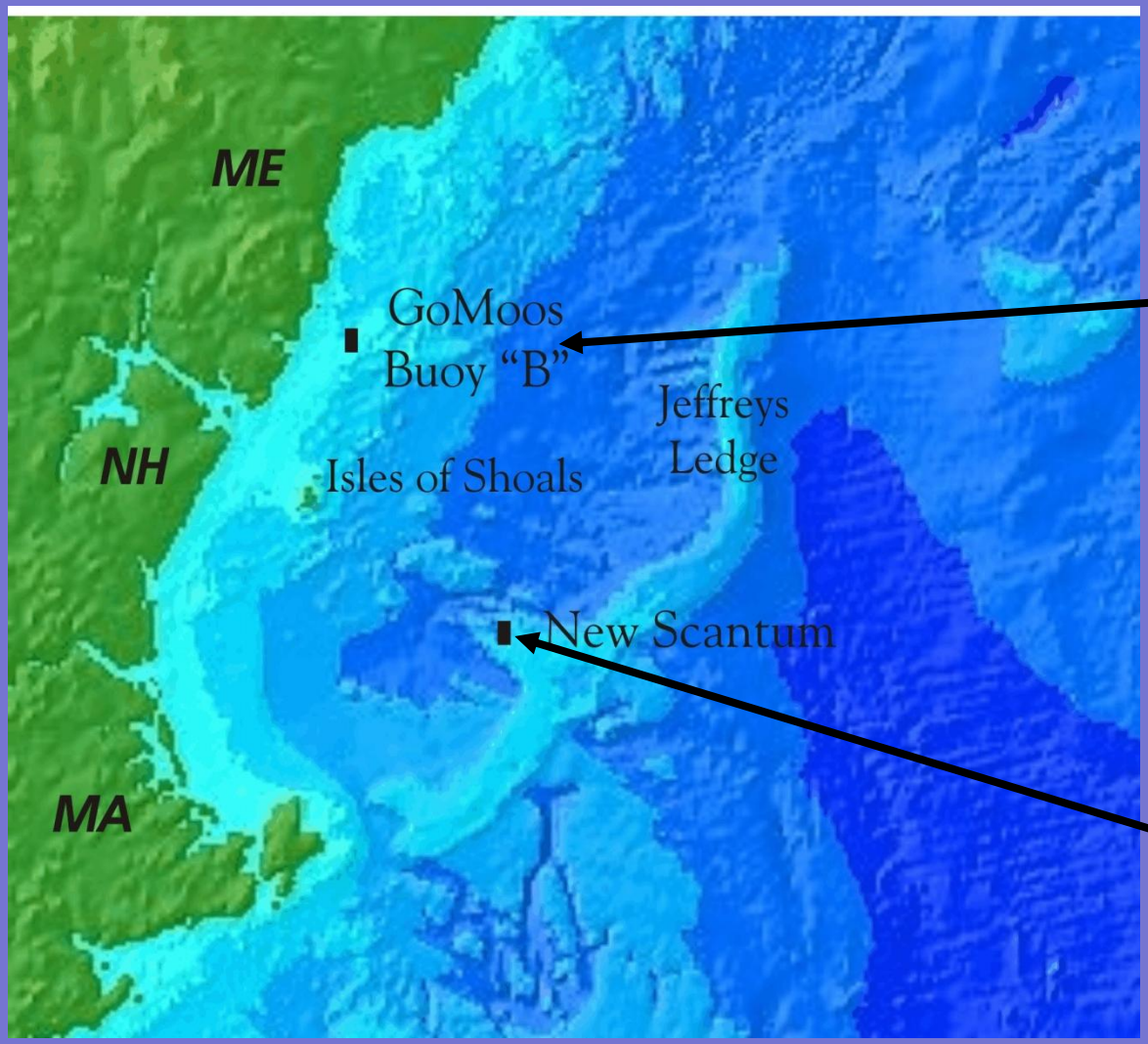
Western Gulf of Maine fixed station sampling: 2003-2007

UNH COOA (Center for Coastal Ocean Observation and Analysis) (triangles) and Northeast Consortium PULSE fixed stations, (red circles: 2003-05 and 2007)

Equipment and Methods

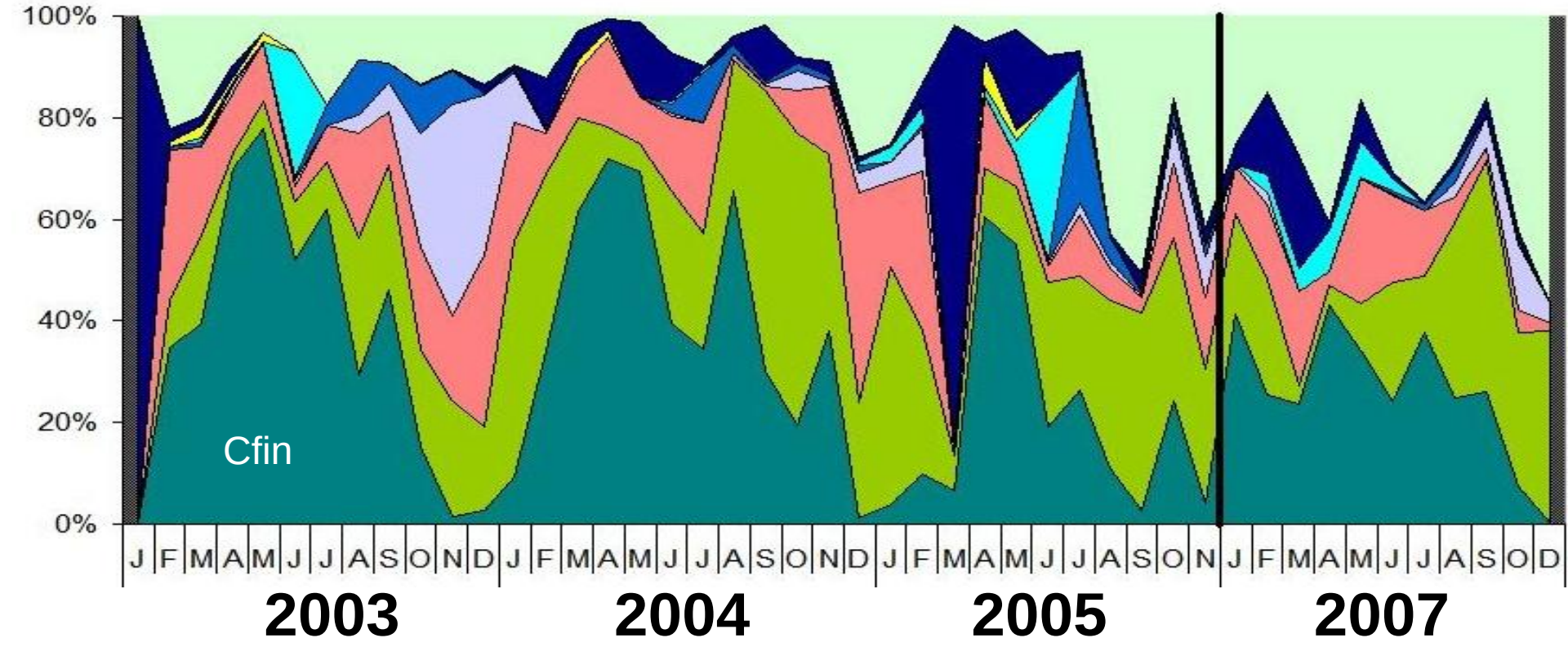
2-3 times per month:

- Two 200μm vertical ring net casts for zooplankton
- CTD cast for hydrography
- Bottle cast for chlorophyll (2003-05)
- Bongo cast for larval fish (2007-08)



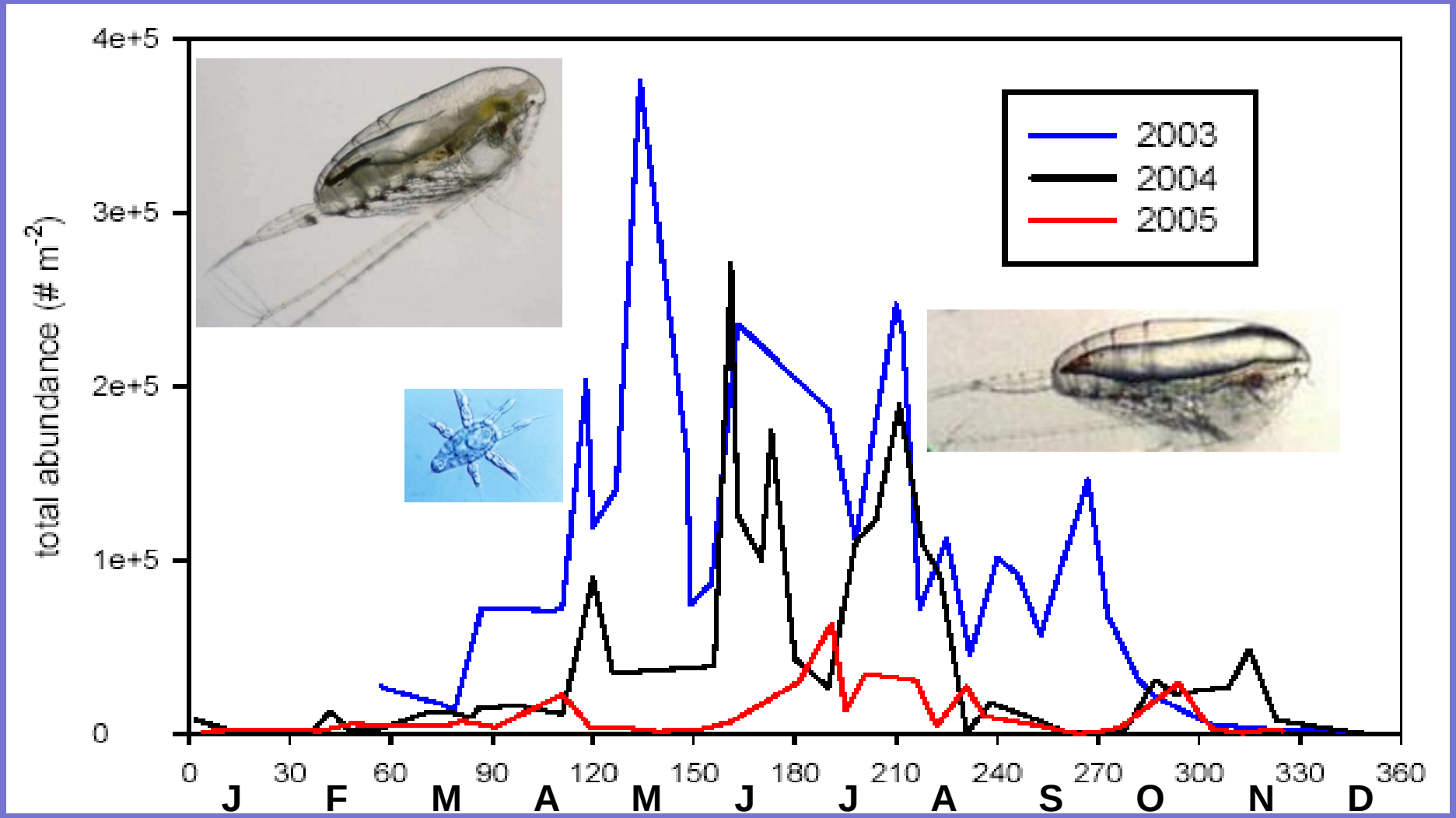
same magnification

Zooplankton Species Composition
Jeffreys Ledge



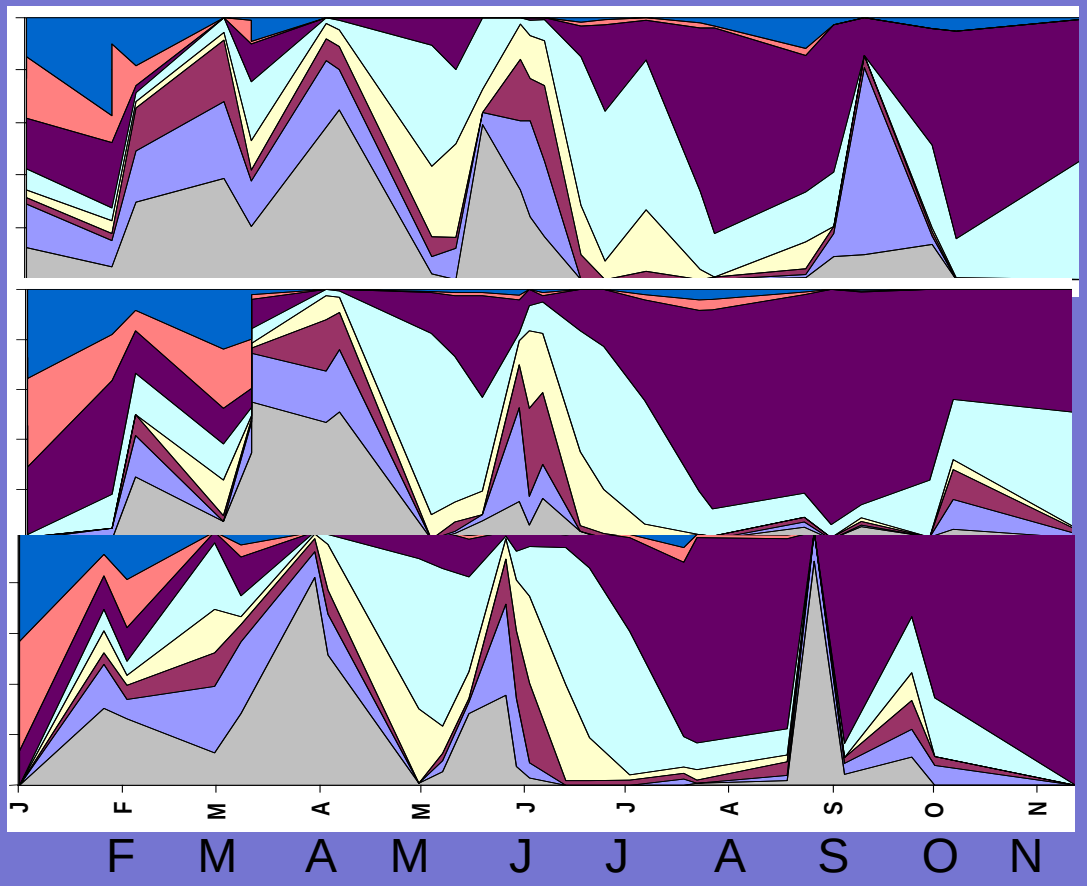
Calanus_finmarchicus
Oithona_similis
Pseudocalanus_spp.
Centropages_sp
Temora_longicornus
Oikopleura_sp.
Balanus
Meroplankton
Other Copep

A decline in the abundance of *Calanus finmarchicus* in 2004-2005

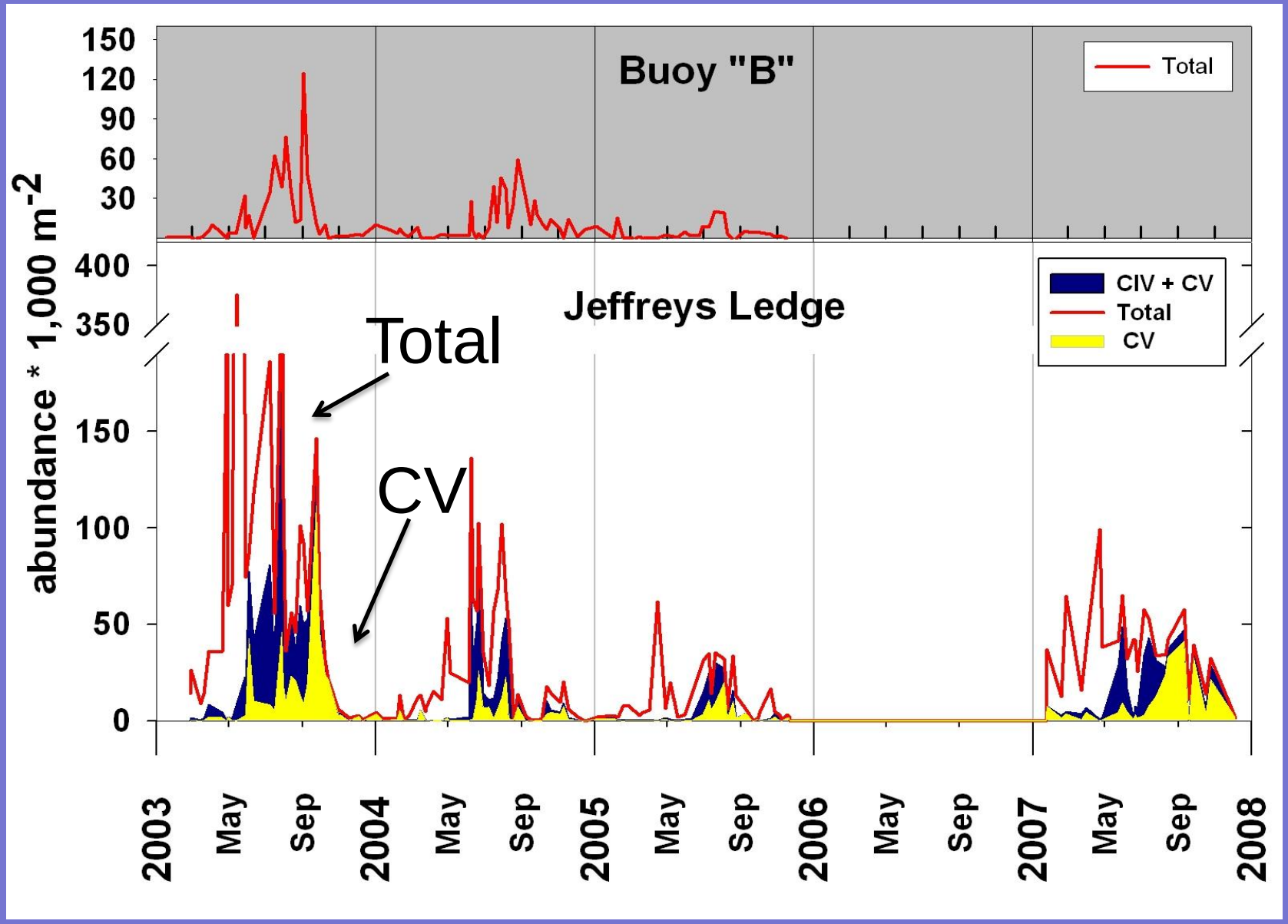


Calanus finmarchicus stage distribution

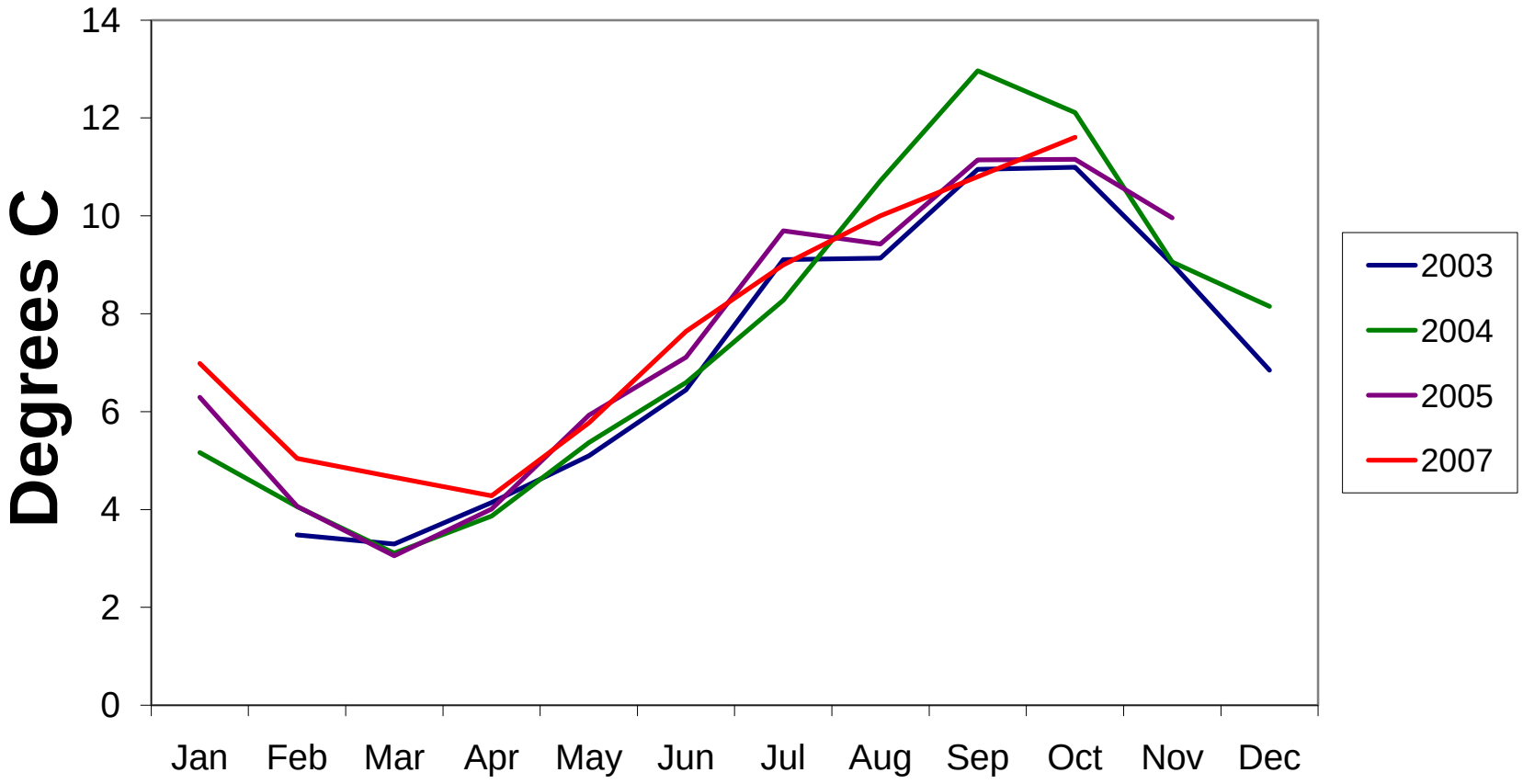
2007



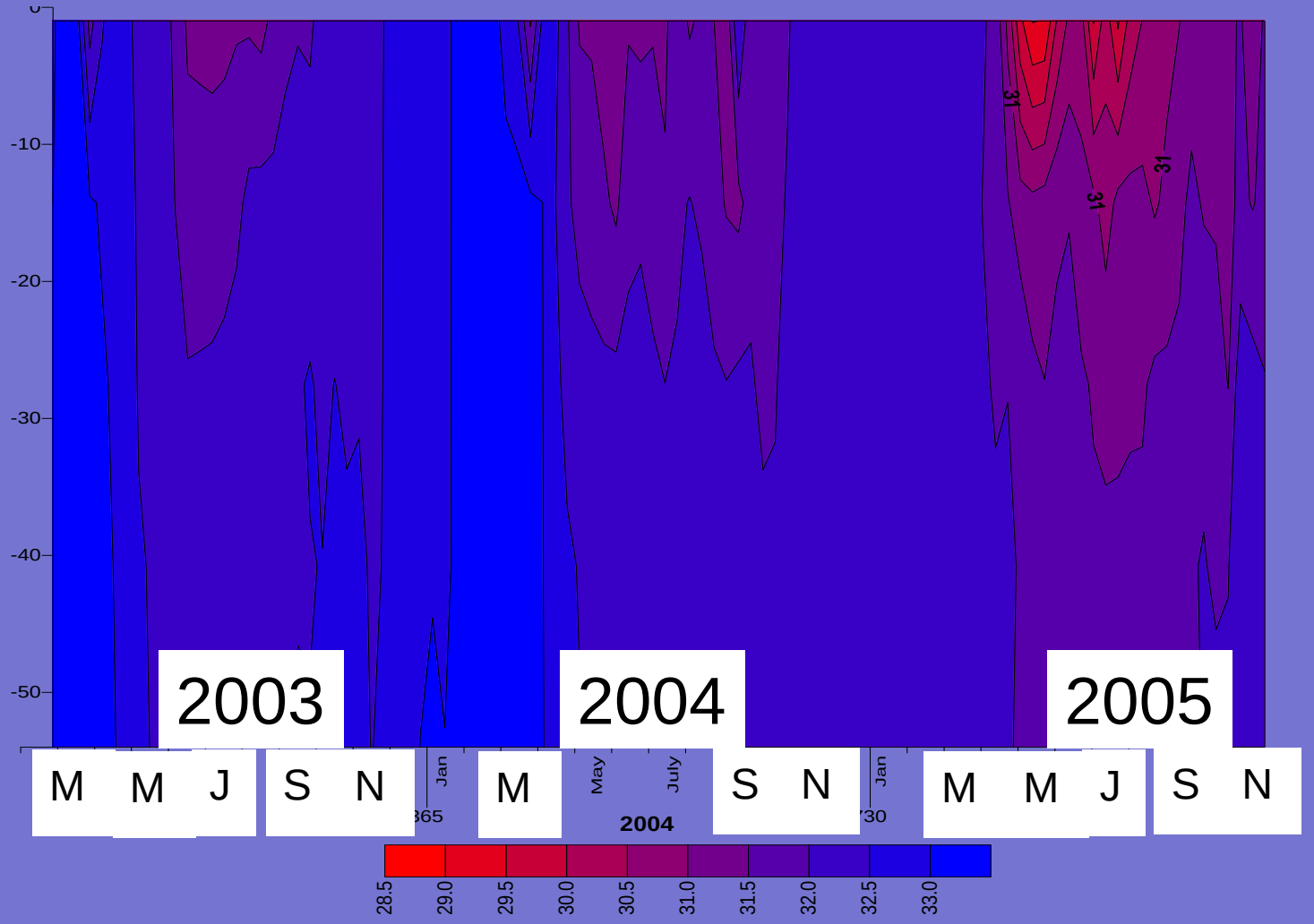
Abundance of *Calanus finmarchicus*



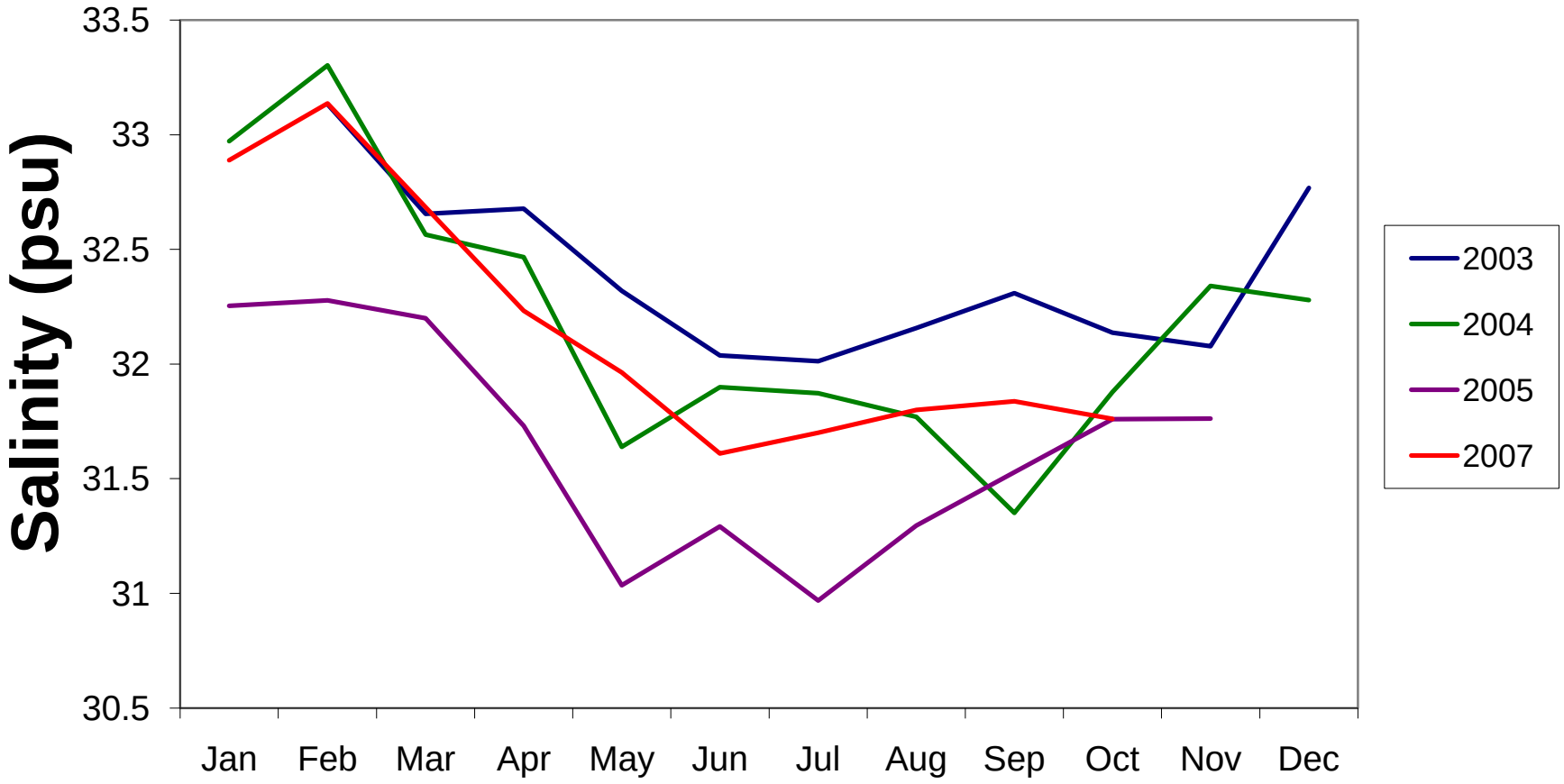
2003 - 2005, 2007 Jeffreys Ledge Monthly Averaged Temperature

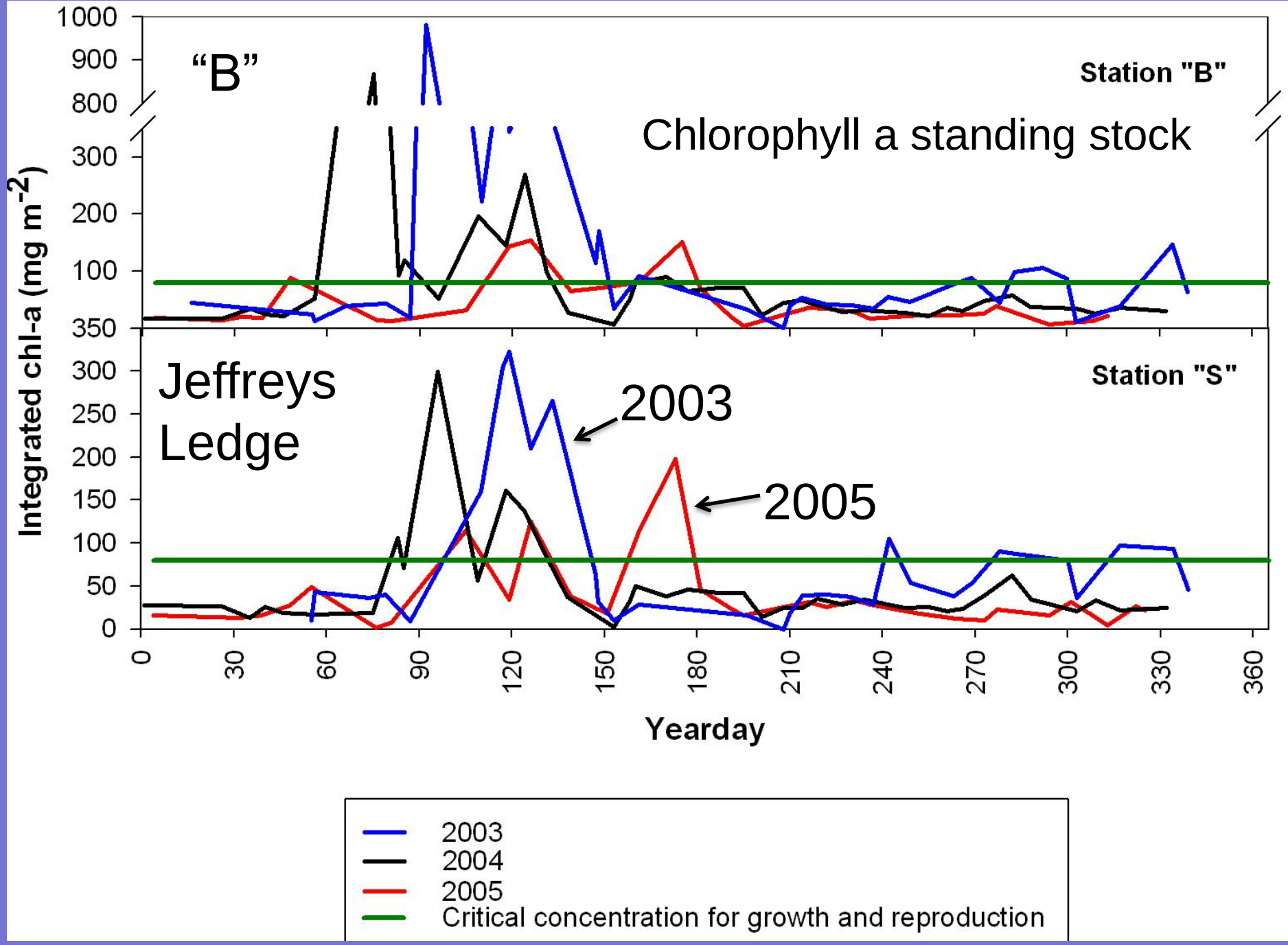


Salinity on Jeffreys Ledge: 2003-2005



2003 - 2005, 2007 Jeffreys Ledge
Monthly Averaged Salinity




"B"
Station "B"
Chlorophyll a standing stock
Jeffreys Ledge
Station "S"
2003
2005
Integrated chl-a (mg m-2)
Yearday
1000
900
800
300
200
100
350
300
250
200
150
100
50
0
0
30
60
90
120
150
180
210
240
270
300
330
360
2003
2004
2005
Critical concentration for growth and reproduction

1. Order of magnitude decline in *C. finmarchicus* abundance in coastal w. Gulf of Maine between 2003-2005
2. The window of abundance of overwintering CV stage in the coastal wGoM may play important role in determining availability of fat to herring and higher trophic levels
3. Hypothesis: western Gulf of Maine coastal *C. finmarchicus* dynamics are controlled by freshwater discharge influencing spring primary production. While uncoupled from dynamics in the deep Gulf of Maine it must be a source of *Calanus* in fall/winter