

Sammanfattning

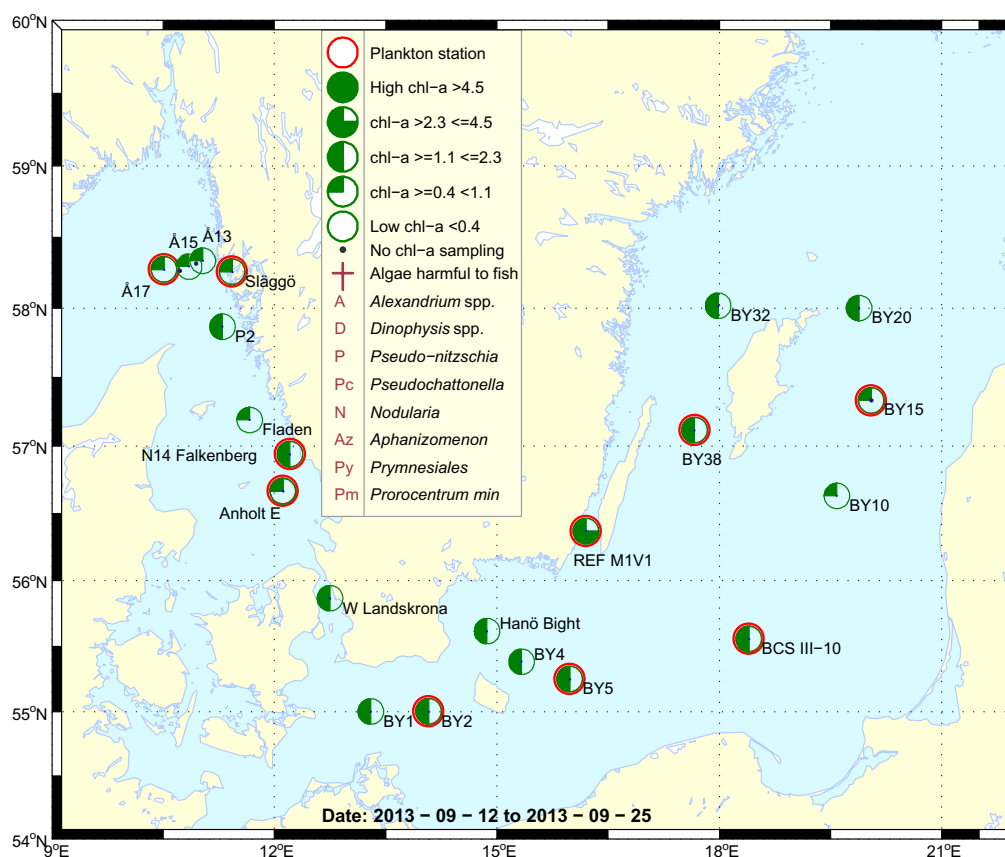
Rapporten innehåller resultat från två utsjöexpeditioner i september.

En mindre kiselalgsblomning var pågående vid Skagerrakskusten och i Kattegattområdet under den andra av de två expeditionerna. I yttre Skagerrak var planktonfloran fattig med få och små arter i låga cellantal.

De integrerade klorofyll *a*-värdena var normala för månaden.

I Östersjön var växtplanktonsituationen mycket lugn. Den filamentösa cyanobakterien *Aphanizomenon flos-aquae* var vanligt förekommande vid alla stationer förutom vid BY2. I övrigt dominerade små flagellförsedda arter.

De integrerade klorofyll *a*-värdena var något låga i östra Egentliga Östersjön, och i övrigt normala för månaden.



Abstract

This report presents the results from two September cruises.

A small diatom bloom was proceeding at the Skagerrak coast and in the Kattegat area during the second cruise. In open Skagerrak, the plankton flora was scarce with a few small species in low cell numbers.

The integrated chlorophyll *a* concentrations were within average for this month.

The phytoplankton situation was very calm in the Baltic. The filamentous cyanobacterium *Aphanizomenon flos-aquae* was common at all stations except at BY2. Small flagellated species dominated the samples.

The integrated chlorophyll *a* concentrations were low in the Eastern Baltic Proper, and within average for this month at all other stations.

More detailed information on species composition and abundance

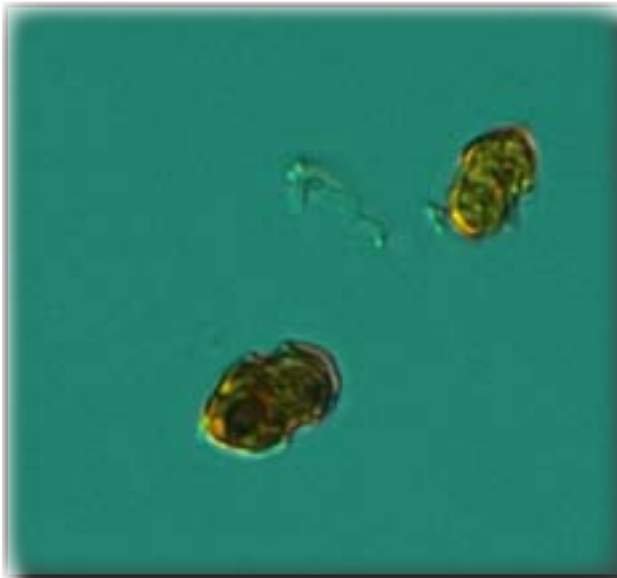
The Skagerrak

Å17 22nd of September

The phytoplankton diversity was very low. The potentially toxic dinoflagellate *Azadinium* sp. was present.

Släggö 22nd of September

A small diatom bloom was observed, dominated by *Asterionellopsis glacialis* and *Chaetoceros* species. The potentially toxic dinoflagellate *Azadinium* sp. was present.



The dinoflagellate *Azadinium* sp. was present in the Skagerrak samples.



The diatom *Asterionellopsis glacialis* was common at N14 and at Släggö.

The Kattegat

N14 Falkenberg 23rd of September

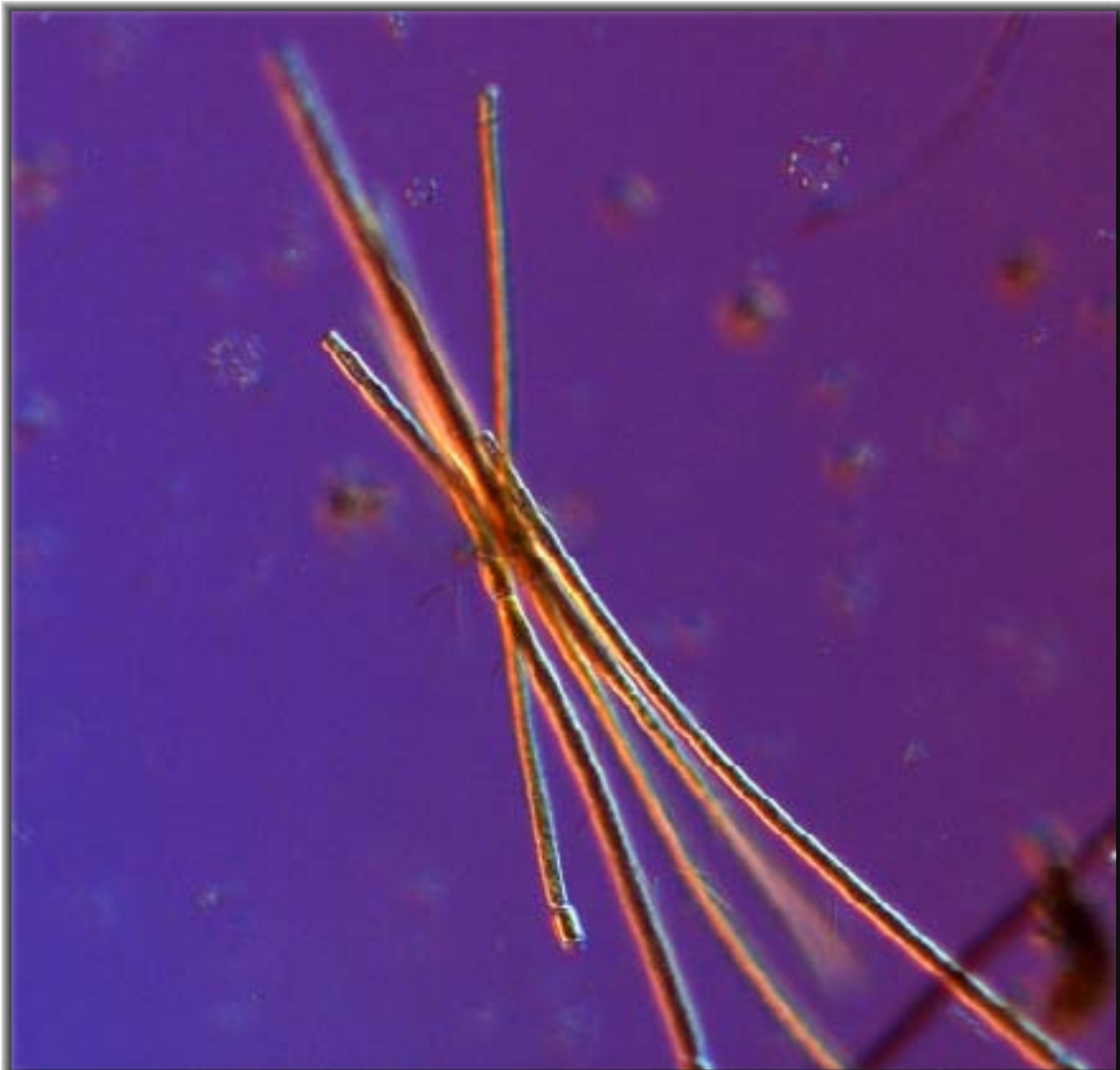
Pseudo-nitzschia spp. was the most common diatom in this rather diverse sample. The dinoflagellate *Ceratium lineatum* was common.

Anholt E 23rd and 25th of September

The phytoplankton samples were rather species rich although the cell counts were mostly low. *Prorocentrum micans* and *Ceratium lineatum* were the most common dinoflagellates. Small flagellated species were abundant.

The Baltic Sea

The phytoplankton situation was very calm in the samples from the Baltic stations. The filamentous cyanobacterium *Aphanizomenon flos-aquae* was common at all stations except at BY2. Small flagellated species dominated the samples.



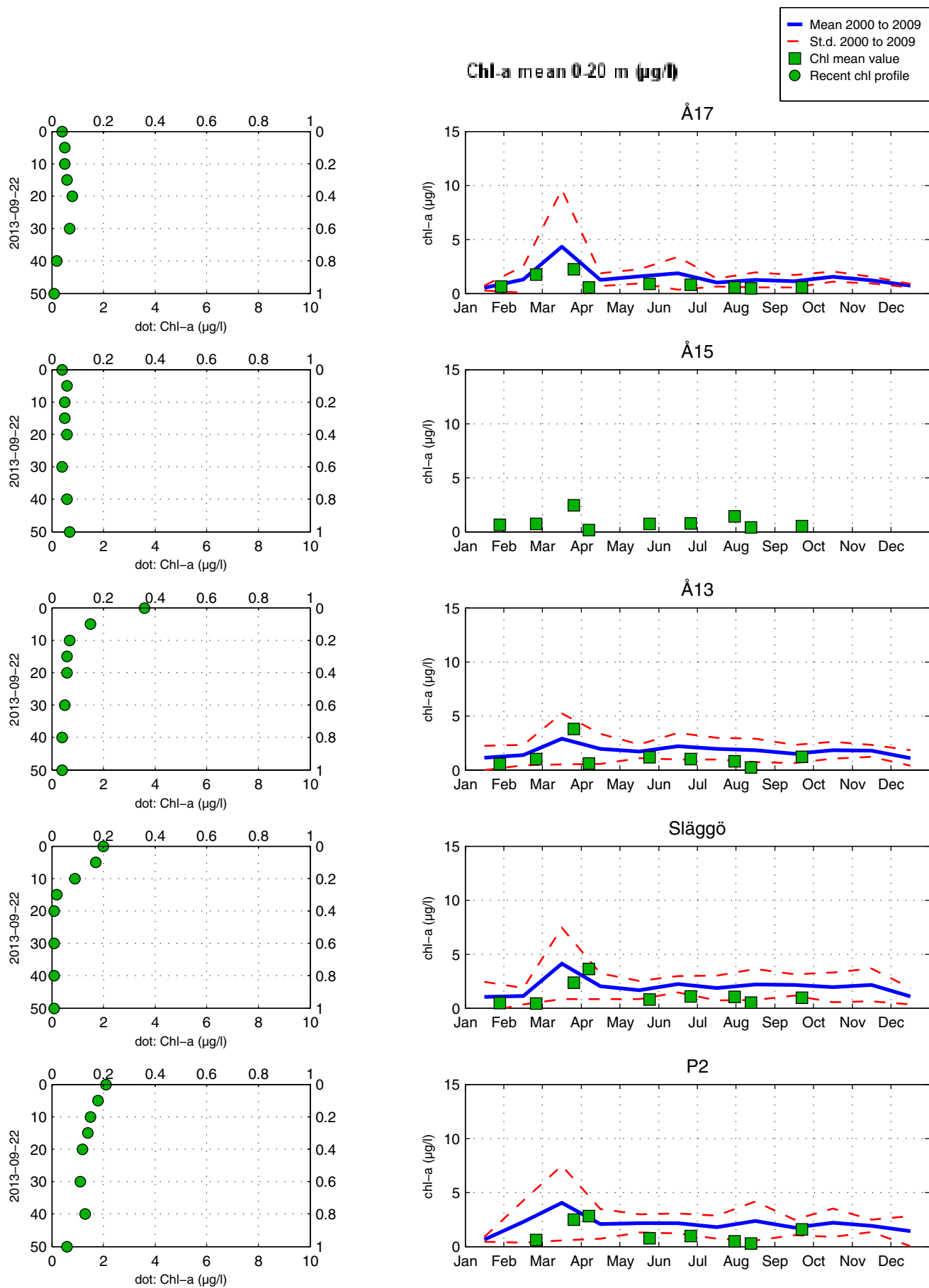
The filamentous cyanobacterium *Aphanizomenon flos-aquae* was still common in the September samples.

Phytoplankton analysis and text by:
Ann-Turi Skjevik

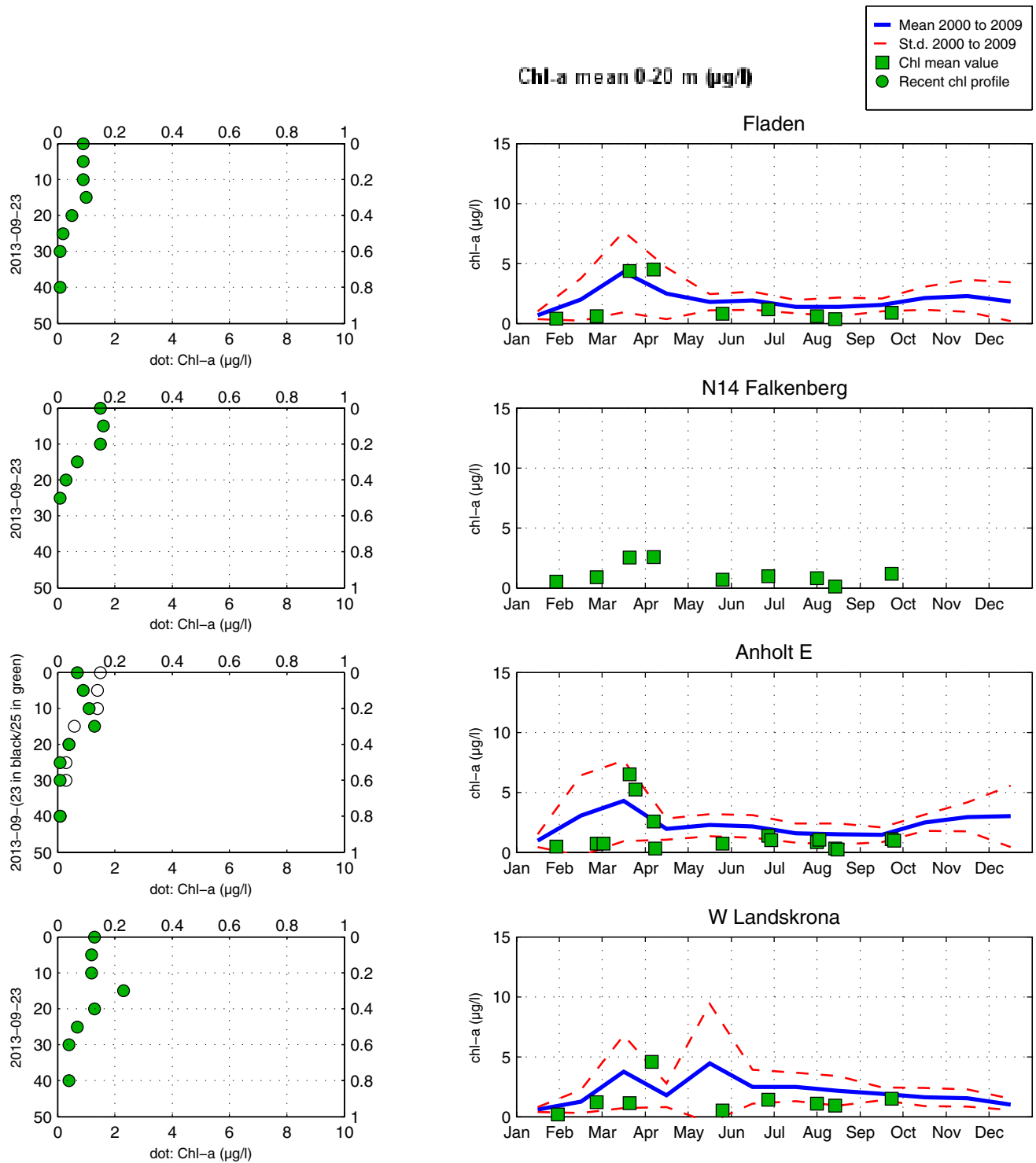
Selection of observed species	Å17	Släggö	N14	Anholt E	Anholt E
Red=potentially toxic species	22/9	22/9	23/9	23/9	25/9
Hose 0-10 m	cells/l	cells/l	cells/l	cells/l	cells/l
<i>Asterionellopsis glacialis</i>		common	present		
<i>Attheya septentrionalis</i>				present	
<i>Chaetoceros affinis</i>		present	present	present	present
<i>Chaetoceros brevis</i>			present		present
<i>Chaetoceros contortus</i>		present			
<i>Chaetoceros curvisetus</i>				present	present
<i>Chaetoceros danicus</i>		present			present
<i>Chaetoceros didymus</i>		present			
<i>Chaetoceros laciniosus</i>			present	present	
<i>Chaetoceros socialis</i>		present	present	present	
<i>Chaetoceros subtilis</i>				present	present
<i>Cylindrotheca closterium</i>		present			
<i>Dactylosolen fragilissimus</i>		present		present	
<i>Ditylum brightwellii</i>		present	present	present	
<i>Guinardia delicatula</i>			present		present
<i>Guinardia flaccida</i>		present			
<i>Leptocylindrus danicus</i>		present	present		
<i>Licmophora</i> spp.			present	present	
<i>Leptocylindrus minimus</i>		present	present		
<i>Nitzschia longissima</i>	present	present	present	present	
<i>Phaeodactylum tricornutum</i>				present	
<i>Proboscia alata</i>		present	present		present
<i>Pseudo-nitzschia</i> spp	present	present	common	present	present
<i>Skeletonema marinoi</i>	present	present	present	present	present
<i>Azadinium</i> spp	present	present			
<i>Amphidinium sphenoides</i>	present				
<i>Ceratium furca</i>		present			
<i>Ceratium fusus</i>		present		present	present
<i>Ceratium lineatum</i>		present	common	common	common
<i>Ceratium tripos</i>		present	present	present	present
<i>Dinophysis acuminata</i>			present	present	present
<i>Dinophysis norvegica</i>			present		present
<i>Gonyaulax</i> spp		present	present		
<i>Gyrodinium flagellare</i>	present	present	present	present	present
<i>Heterocapsa</i> spp	present	present		present	present
<i>Katodinium glaucum</i>			present		
<i>Lingulodinium polyedrum</i>		present			present
<i>Prorocentrum micans</i>		present	present	common	present
<i>Protoperidinium steinii</i>				present	
<i>Protoperidinium</i> spp			present	present	present
<i>Torodinium robustum</i>	present				
<i>Prymnesiales</i> spp	common	present	common	common	common
<i>Dictyocha speculum</i>		present			present
<i>Pseudopedinella pyriforme</i>	present				present
<i>Pyramimonas</i> spp	present	present		present	present
Cryptomonadales spp	common	common	common	common	common
Craspedophyceae		present	present	present	present
<i>Commation</i> sp.			present		
<i>Ebria tripartita</i>		present	present	present	present
<i>Leucocryptos marina</i>	present	present	present		
<i>Mesodinium rubrum</i>		present	present		present
<i>Tiarina fusus</i>				present	
<i>Ciliophora</i> spp	common	present	common	present	present

Selection of observed species	BY2	BY5	REF M1V1	BY15	BCS III-10	BY38
Red=potentially toxic species	24/9	24/9	14/9	13/9	13/9	14/9
	cells/l	cells/l	cells/l	cells/l	cells/l	cells/l
<i>Chaetoceros danicus</i>	present				present	
<i>Chaetoceros impressus</i>	present		present		present	common
<i>Cyclotella choctawhatcheana</i>	present			present		
<i>Dinophysis acuminata</i>	present	present	present			
<i>Dinophysis norvegica</i>			present			
<i>Gymnodinium verruculosum</i>					present	
<i>Heterocapsa rotundata</i>		present				present
<i>Heterocapsa triquetra</i>			common	present		
<i>Heterocapsa</i> spp		present				present
<i>Prorocentrum minimum</i>	present		present	present		
<i>Eutreptiella</i> spp						present
<i>Pterosperma</i> spp					present	
<i>Pyramimonas</i> spp	present	present	common	present	present	common
<i>Anabaena</i> spp			present			
<i>Aphanizomenon flos-aquae</i>		common	common	common	present	common
<i>Nodularia spumigena</i>			present			
Cryptomonadales	common	present	common	common	common	common
Craspedophyceae	present	present	present			
<i>Ebria tripartita</i>	present			present	present	
<i>Leucocryptos marina</i>		present				
<i>Prymnesiales</i>	present	present	common	common	common	common
<i>Helicostomella subulata</i>			present	present	common	common
<i>Mesodinium rubrum</i>	present	present			present	present
Ciliophora	common	common	common	present	common	present

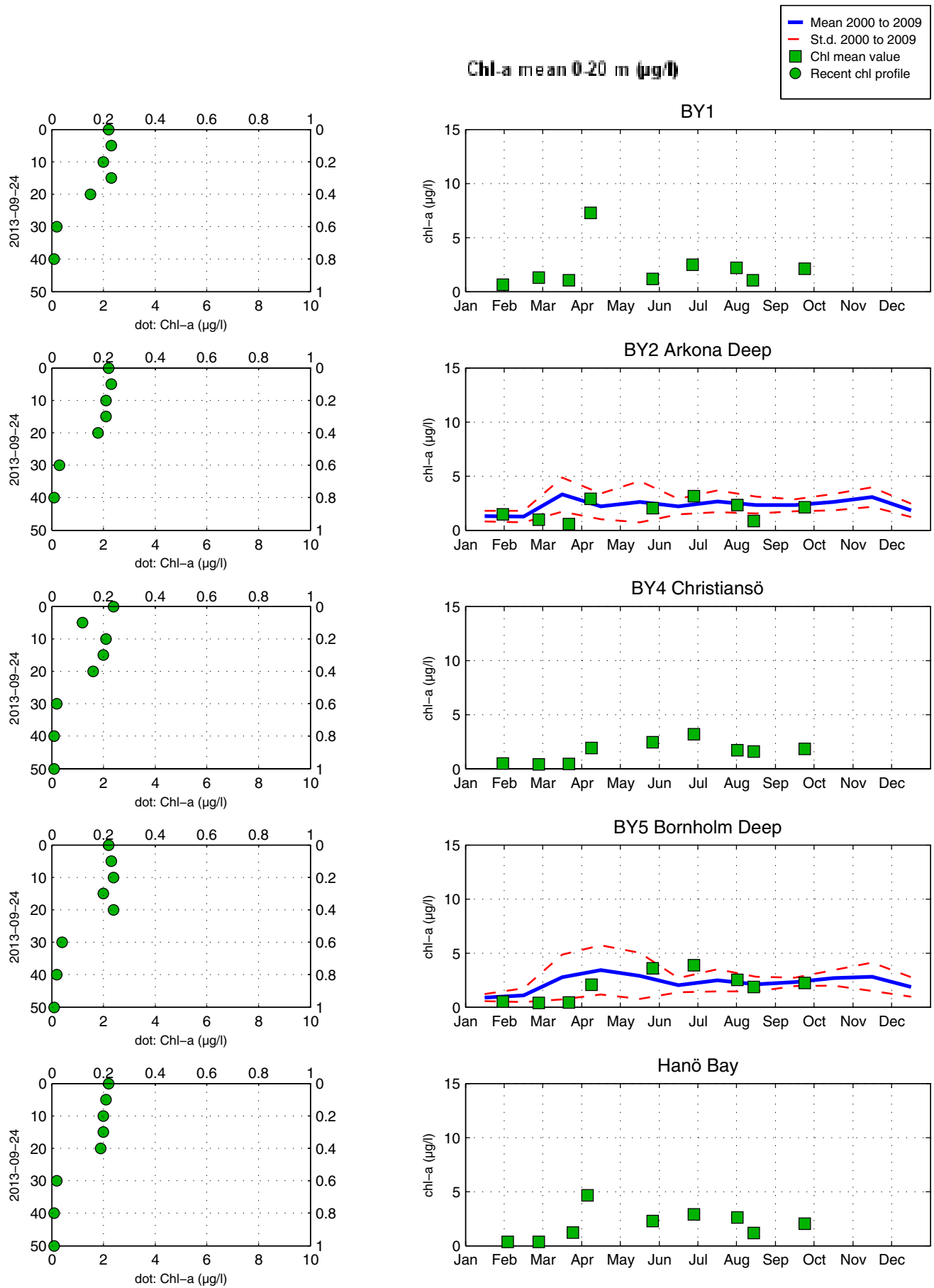
The Skagerrak



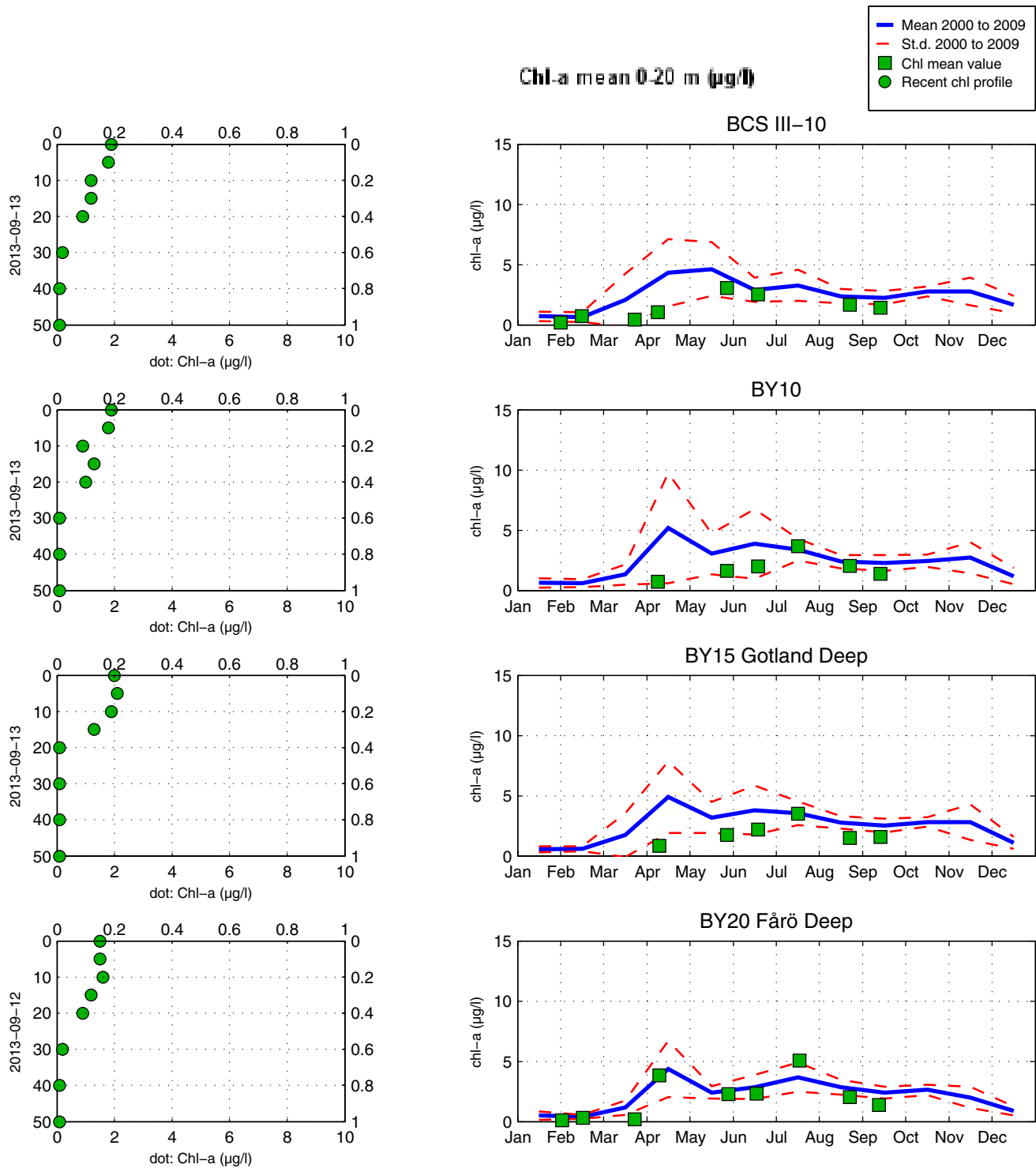
The Kattegat and the Sound



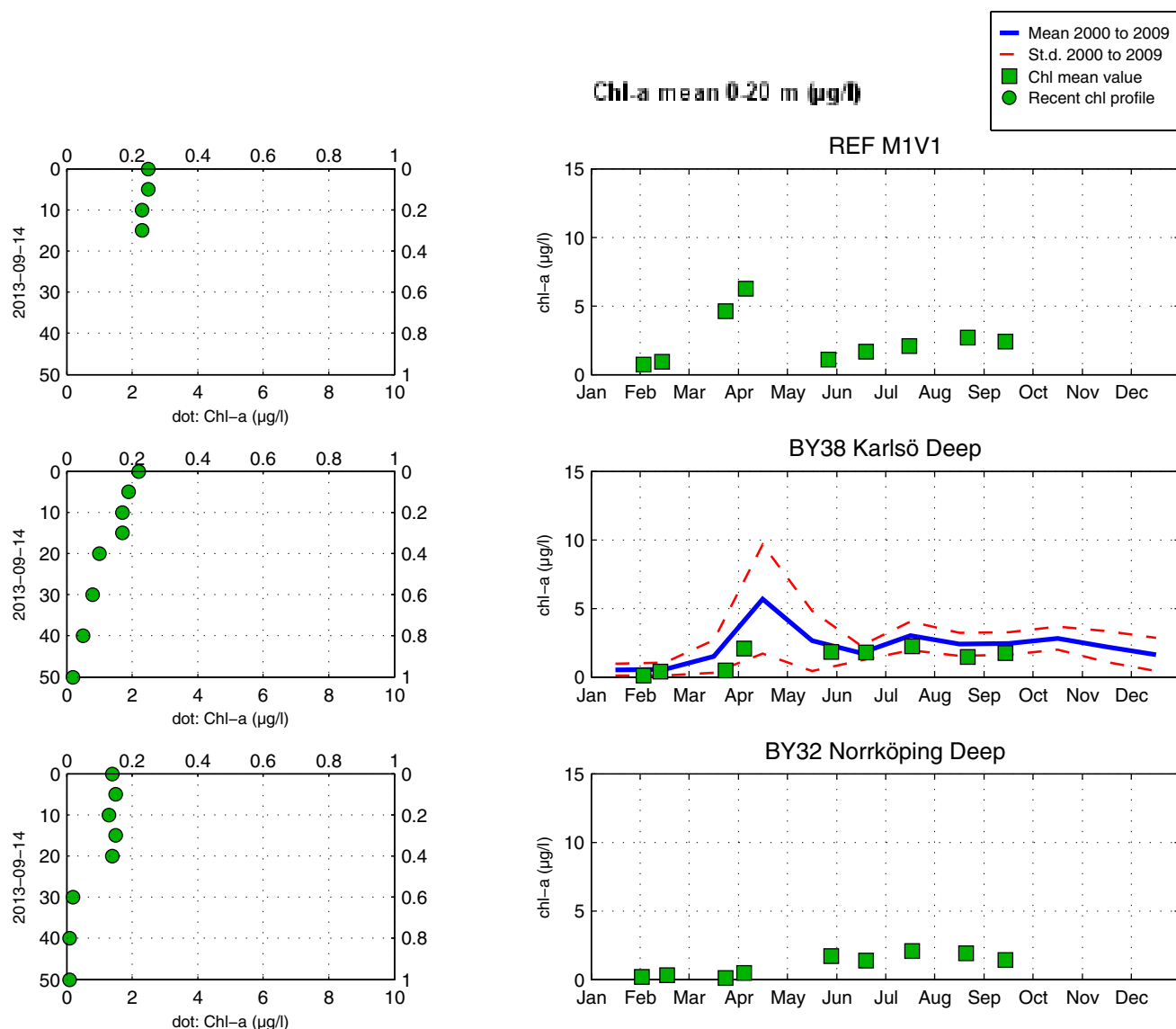
The Southern Baltic



The Eastern Baltic



The Western Baltic



Om klorofylldiagrammen

Klorofyll *a* är ett mått på mängden växtplankton. Prover tas från ett antal djup. Data presenteras både från de fasta djupen och som medelvärden 0-20 m. Utöver resultaten från laboratorieanalyserna av vattenprover mäts klorofyll *a* som fluorescens från ett automatiskt instrument som sänks ned från fartyget. På så sätt kan djupt liggande, ibland, tunna lager av växtplankton observeras.

About the chlorophyll graphs

Chlorophyll *a* is sampled from several depths. Data is presented both from the discrete depths and as an average 0-20 m. In addition to the laboratory analysis from the water samples chlorophyll fluorescence is measured in continuous depth profiles from the ship. This is a way to observe thin layers of phytoplankton occurring below the surface.

Om AlgAware

SMHI genomför månatliga expeditioner i Östersjön och Västerhavet. Resultat baserade på semikvantitativ mikroskopanalys av planktonprover samt klorofyllmätningar presenteras kortfattat i denna rapport. Information från SMHI:s satellitövervakning av algblomningar finns på www.smhi.se.

About AlgAware

The SMHI carries out monthly cruises in the Baltic and the Kattegat/Skagerrak. Results from semi quantitative microscopic analysis of phytoplankton samples as well as chlorophyll measurements are presented in brief in this report. Information from SMHI:s satellite monitoring of algal blooms is found on www.smhi.se.

Art / Species	Gift / Toxin	Eventuella symptom	Clinical symptoms
<i>Alexandrium</i> spp.	Paralytic shellfish poisoning (PSP)	Milda symptom: Inom 30 min.: Stickningar eller en känsla av bedövning runt läpparna, som sprids gradvis till ansiktet och nacken; stickningar i fingertoppar och tår; Huvudvärk; yrsel, illamående, kräkningar, diarré Extrema symptom: Muskelförlamning; andningssvårigheter; känsla av att kvävas; Man kan vara död inom 2-24 timmar efter att ha fått i sig giftet, på grund av att andningsmuskulaturen förlamas.	Mild case: Within 30 min: tingling sensation or numbness around lips, gradually spreading to face and neck; prickly sensation in fingertips and toes; headache, dizziness, nausea, vomiting, diarrhoea. Extreme case Muscular paralysis; pronounced respiratory difficulty; choking sensation; death through respiratory paralysis may occur within 2-24 hours after ingestion.
<i>Dinophysis</i> spp.	Diarrhetic shellfish poisoning (DSP)	Milda symptom: Efter cirka 30 minuter till några timmar: yrsel, illamående, kräkningar, diarré, magont Extrema symptom: Upprepad exponering kan orsaka cancer	Mild case: Within 30 min-a few hours: dizziness, nausea, vomiting, diarrhoea, abdominal pain. Extreme case: Repeated exposure may cause cancer.
<i>Pseudo-nitzschia</i> spp.	Amnesic shellfish poisoning (ASP)	Milda symptom: Efter 3-5 timmar: yrsel, illamående, kräkningar, diarré, magkramp Extrema symptom: Yrsel, hallucinationer, förvirring, förlust av korttidsminnet, kramper	Mild case: Within 3-5 hours: dizziness, nausea, vomiting, diarrhoea, abdominal cramps. Extreme case: dizziness, hallucinations, confusion, loss of memory, cramps.
<i>Chaetoceros concavicornis</i> / <i>C. convolutus</i>	Mechanical damage through hooks on setae	Låg celltäthet: Ingen påverkan. Hög celltäthet: Fiskens gälar skadas, fisken dör.	Low cell numbers: No effect on fish. High cell numbers: Fish death due to gill damage.
<i>Pseudochattonella</i> spp.	Fish toxin	Låg celltäthet: Ingen påverkan. Hög celltäthet: Fiskens gälar skadas, fisken dör.	Low cell numbers: No effect on fish. High cell numbers: Fish death due to gill damage.

Översikt över några potentiellt skadliga alger och det aktuella giftets effekt. Overview of potentially harmful algae and effects of toxins. Manual on harmful marine microalgae (2003 - UNESCO Publishing).

Kartan på framsidan visar viktat medelvärde för klorofyll *a*, µg/l (0-20 m) vid de olika stationerna. Förekomst av skadliga alger vid stationer där arter analyseras markeras med symbol.

The map on the front page shows weighted mean of chlorophyll *a*, µg/l (0-20 m) at sampling stations. Presence of harmful algae at stations where species analysis is performed is shown with a symbol.

