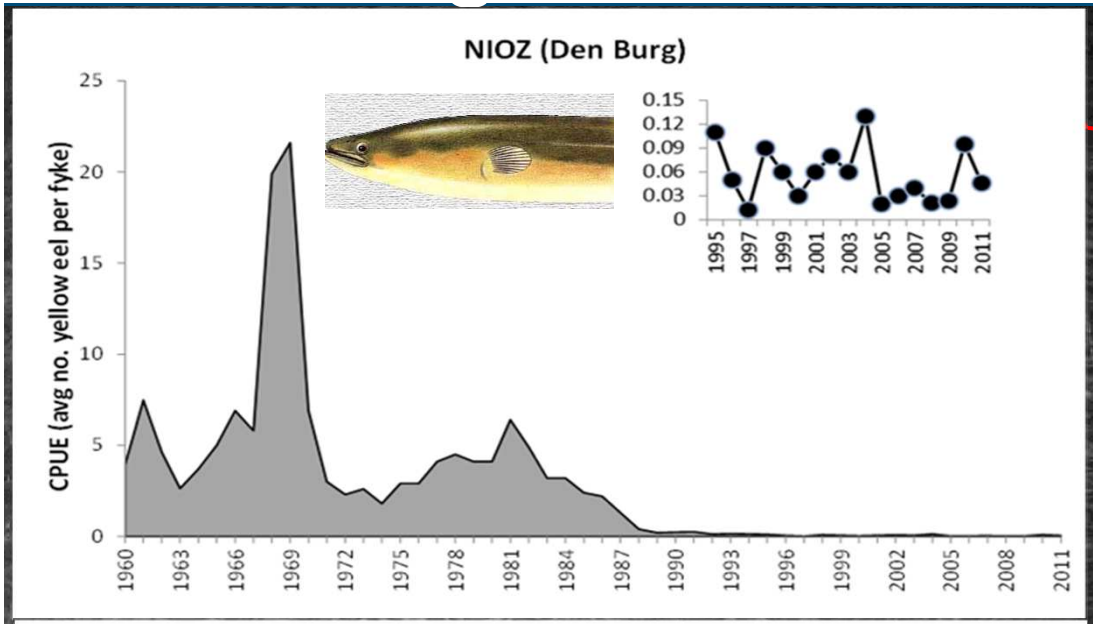
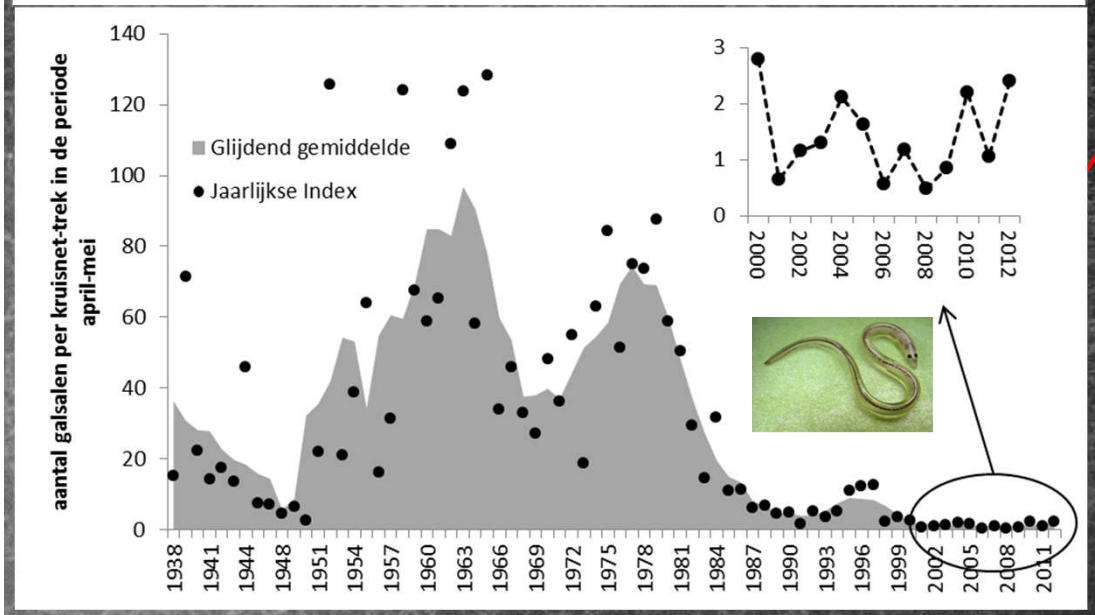
Toestand van de aal en aalvisserij in NL en Europa

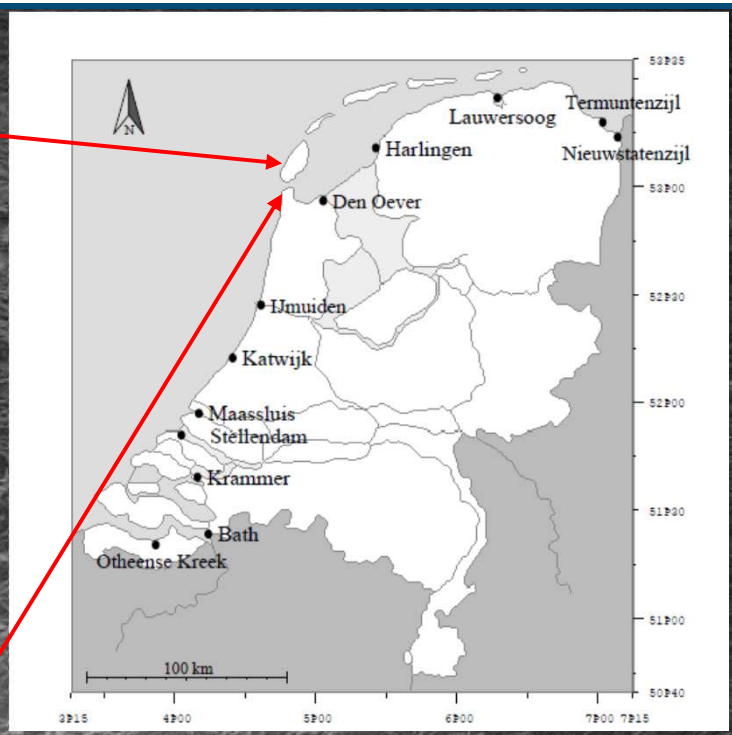
2009-2013

IMARES
WAGENINGEN UR

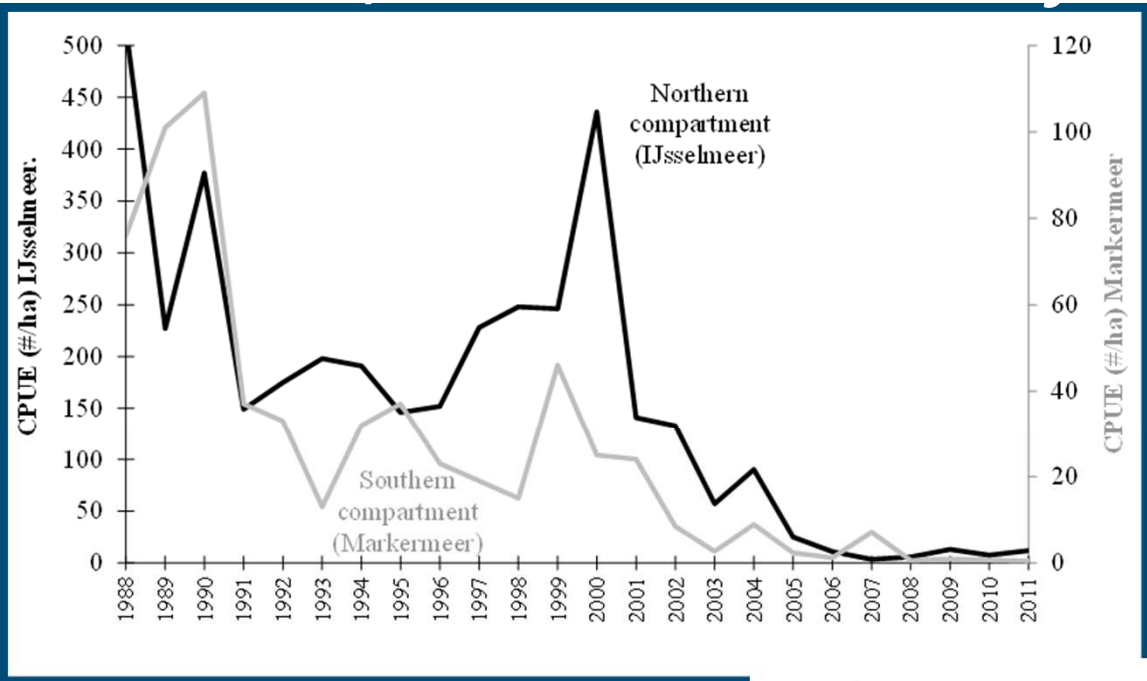
...Trends glasaal en rode aal...

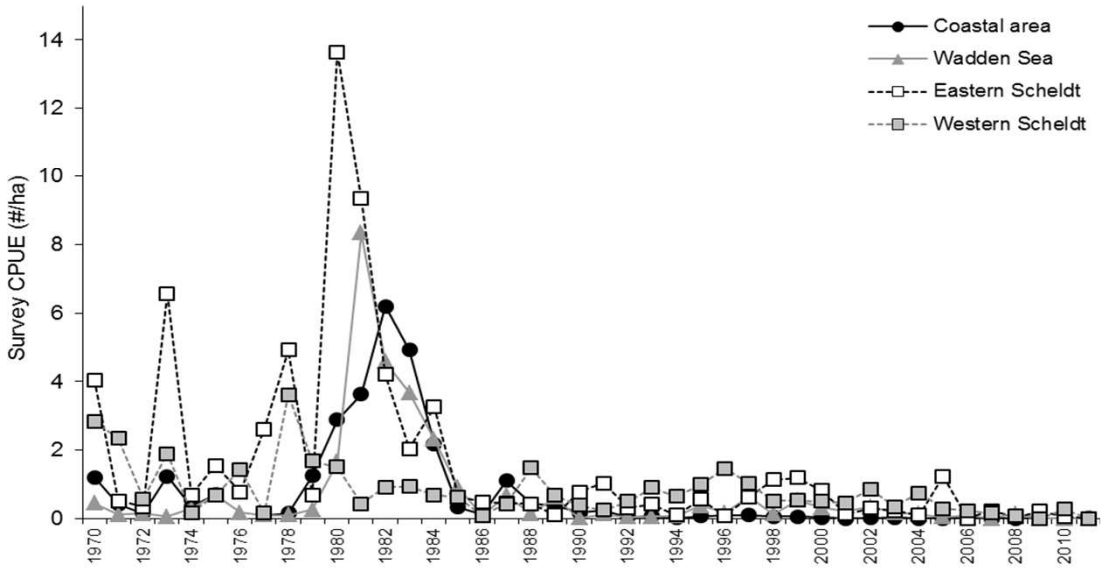






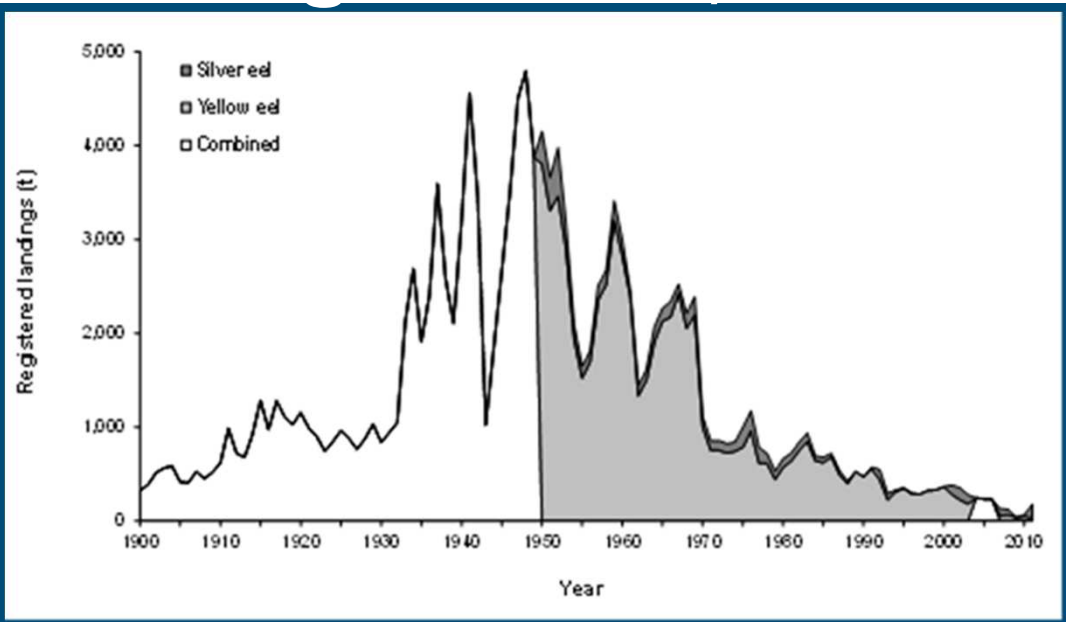
...aal IJM/MM en DFS Surveys

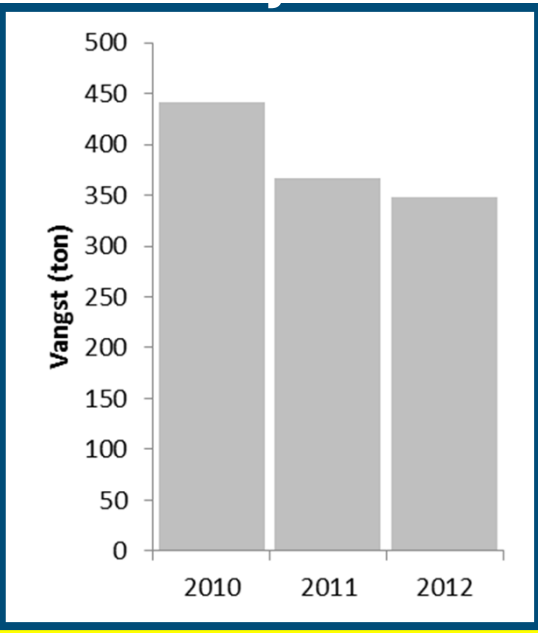


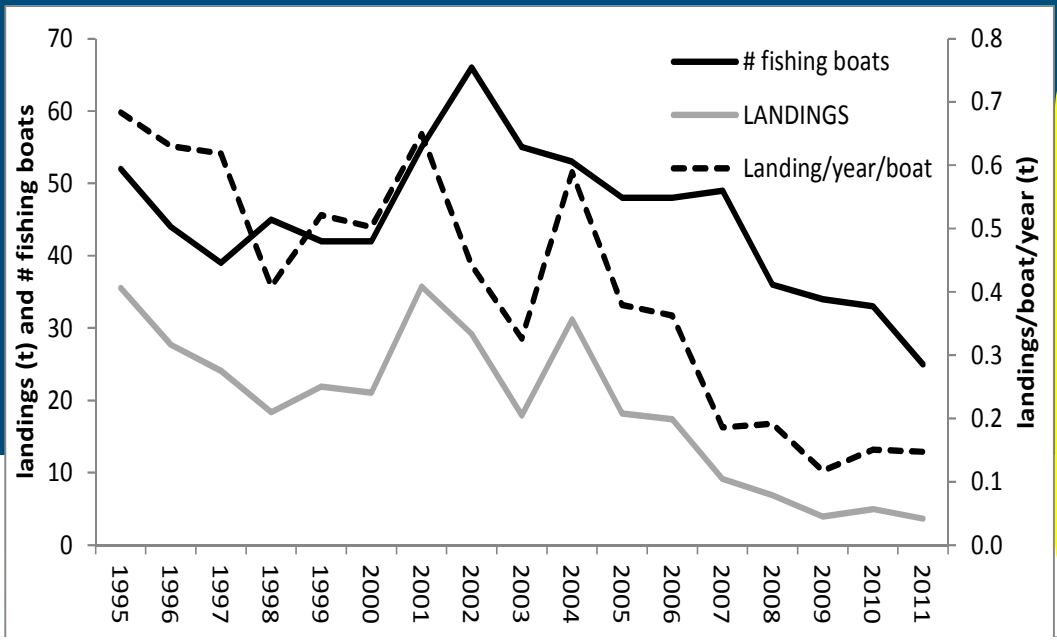


IMARES WAGENINGEN UR

....vangsten....IJM/MM...NL...kustvisserij







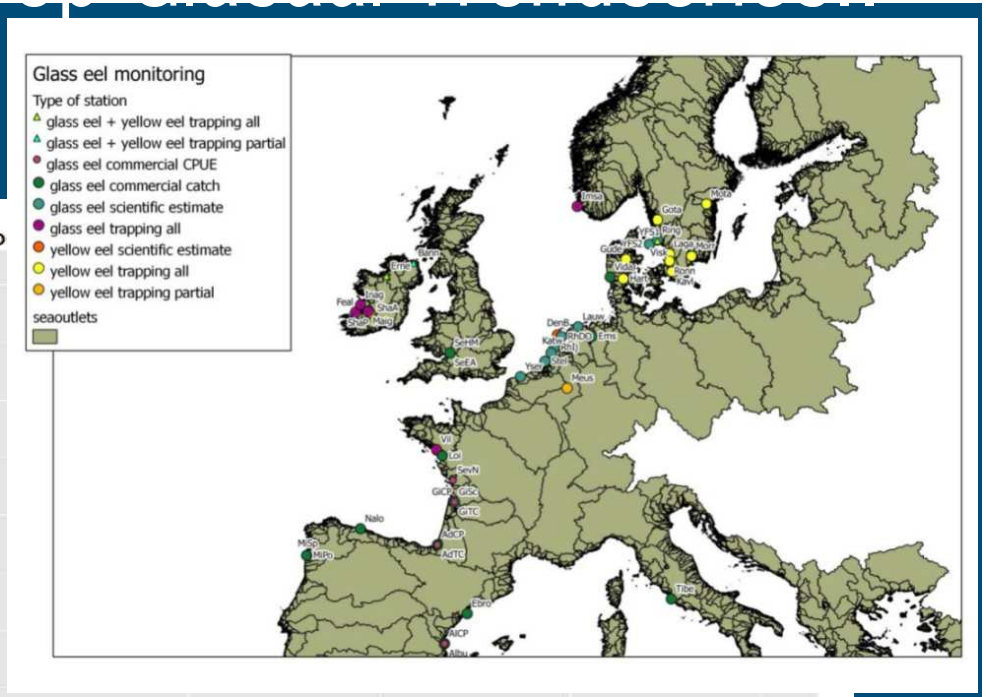
Row Labels	Sum of hoeveelheid_kg
Aaldobbers	575
Aaldogger	105
Aalfuiken	102598
Aalhoekwant	48476
Aalkisten	4519
Aalkubben	696
Elektrovisapparaat	3087
Hokfuiken/Grote fuiken	108807
Peur	639
Schietfuiken	80292
(blank)	0
Grand Total	**349794**

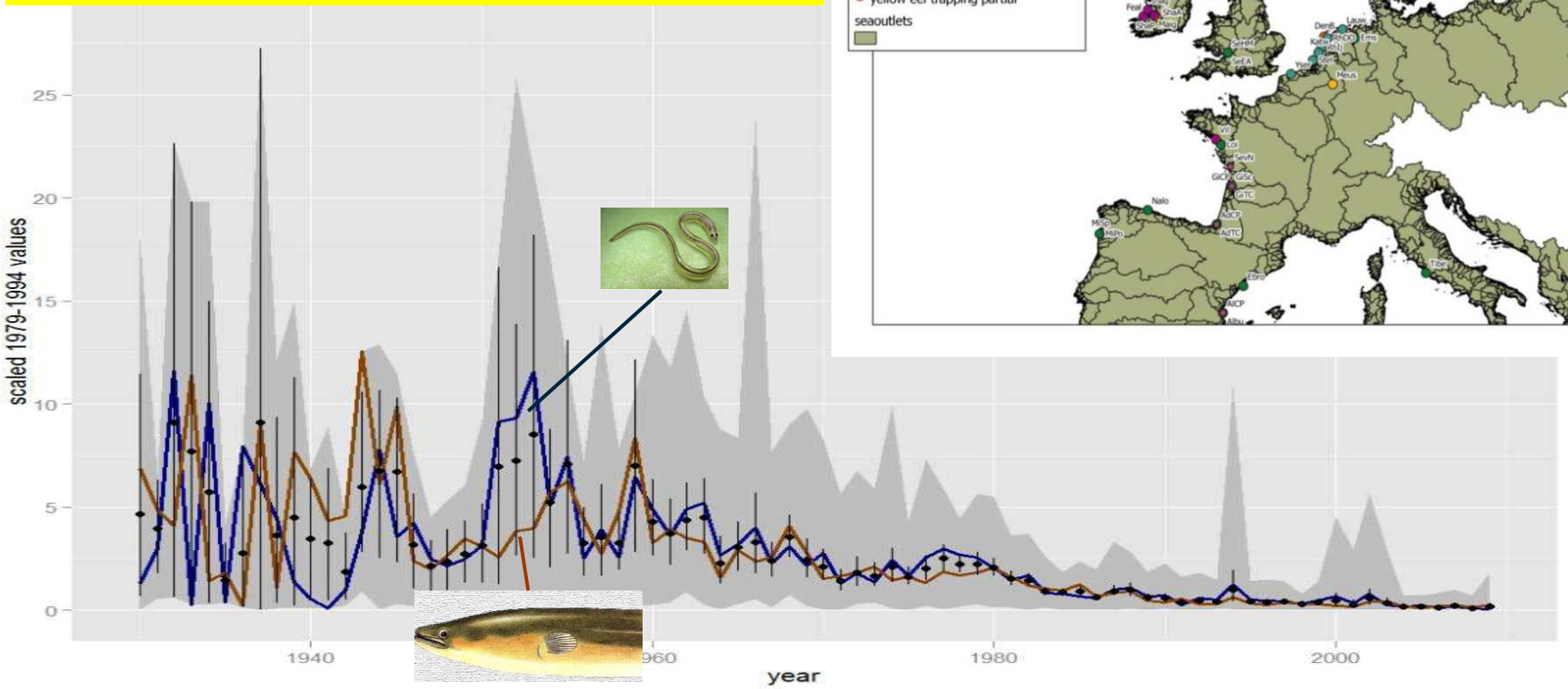
.. ICES advies gebaseerd op Glasaal Trendseries..

Glasaal: 1-7% ivm 1960-1979

Rode aal: 9% ivm 1960–1979

(WGEEL 2010)





ICES advice:
“reduce anthropogenic mortality to as close to zero as possible”

...EU Aalverordening...

voor het geval dat de achteruitgang van de aanwas aan aal het gevolg is van een afname van uittrekkende schieraal.....en....

...dat de afname aan uittrekkende schieraal het gevolg is van antropogene sterfte (visserij, barrières, vervuiling etc).....

...om dat risico af te dekken is de EU Aalverordening geïntroduceerd..

“Doel van de beheersplannen voor aal is het verminderen van de antropogene sterfte, zodat er een grote kans bestaat dat ten minste 40 % van de biomassa van schieraal kan ontsnappen naar zee, gerelateerd aan de beste raming betreffende de ontsnapping die plaats zou hebben gevonden indien de mens geen invloed had uitgeoefend op het bestand.”

..”bescherming EN duurzame gebruik van het bestand van Europese aal”...

....Nederlandse Aalbeheerplan (ABP)....

- EU Aalverordening (1100/2007)
  - beperking sterfte menselijk handelen
  - doelstelling 40% oorspronkelijke bestand
  - B_0=13.000 t, 40% B_0=5.200 t range 2000-8000 t)

- oorzaken afname divers & onbekend; maatregelen ABP divers:
  - commerciële visserij (gesloten seizoen, gebieden)
  - recreatieve visserij (catch&release visserij)
  - waterkrachtcentrale (aangepast turbine beheer)
  - gemalen (verbeteren vispassage knelpunten, KRW)

- 2009 implementatie ABP -> 30 juni 2012 eerste evaluatie

...Nederlandse Aalbeheerplan (ABP)....

Table 1.1 Overview of all the (un)foreseen measures described in the Dutch Eel Management Plan to be implement to reach the 40% escapement objective.

No	Foreseen Measure	Planned implementation
1	Reduction of eel mortality at pumping stations and other water works; of the 1800 most important migration barriers 900 will be solved by 2015 and the remaining 900 by 2027	2015-2027
2	Reduction of eel mortality at hydro-electric stations with at least 35%	2009
3	The establishment of fishery-free zones in areas that are important for eel migration	2010
4	Release of eel caught (a) at sea and (b) at inland waters by anglers	2009
5	Ban on recreational fishery in coastal areas using professional gear	2011
6	Closed season from 1 September to 1 December	2009
7	Stop the issue of licences for eel snigglers by the minister of EL&I I state owned waters	2009
8	Restocking of glass eel and pre-grown eel from aquaculture	2009
9	Research into the artificial propagation of eel.	ongoing
No	Unforeseen Measure	
10	Closure eel fishery in contaminated (PCBs, dioxins) areas	

* The use of fykes and long-lines by recreational fishers has been banned in nearly all marine and inland waters. The use of gillnets, however, by recreational fishers is still allowed in a few marine waters.
** The vast majority of the contaminated areas that were closed for commercial fisheries on 1/4/2011 are the main rivers. These rivers are the most important "high ways" for diadromous species like salmon and eel.
*** Due to technical difficulties the maximum achievable reduction in mortality by adjusted turbine management is 24%.

EEL MANAGEMENT PLANS

Member State	Date of Approval of Country Eel Management Plans by EU
Sweden	14/10/2009
Finland	29/03/2010
Estonia	30/11/2009
Latvia	30/11/2009
Lithuania	22/12/2009
Poland	06/01/2010
Germany	08/04/2010
Denmark	22/12/2009
Netherlands	20/10/2009
Belgium	05/01/2010
Ireland	23/07/2009
United Kingdom	13/04/2010
France	15/02/2010
Spain	01/10/2010
Portugal	National EMP 05/04/2012
	Minho transboundary 23/05/2012
Italy	11/07/2011
Greece	29/11/2010
Luxembourg	14/10/2009
Czech Republic	30/11/2009

..schatting biomassa uittrekkende schieraal..

DIRECT
- merk-terugvangst experimenten

- schieralen ‘tellen’ bij uittrekpunt niet mogelijk in Nederland

- incidenteel (Wettelijke Onderzoek Taken: WOT)

INDIRECT
- schatting bestand rode aal : voorspelling uittrek schieraal

- rode aal model; voornaamste methode internationaal (WOT/BO)

Rode aal model

1) Schatting bestand aan rode aal

Type I (gebieden met visserij)
Aan de hand van schatting visserijsterfte en de totale vangst (IJM/MM, VRM, GRM)

Type II (gebieden zonder visserij)
Aan de hand van >2000 electrovis surveys (KRW)

2) Schatting productie schieraal

Lengte gegevens, groei, sex-ratio (marktbemonsterings)

3) Schatting sterfte tijdens uittrek

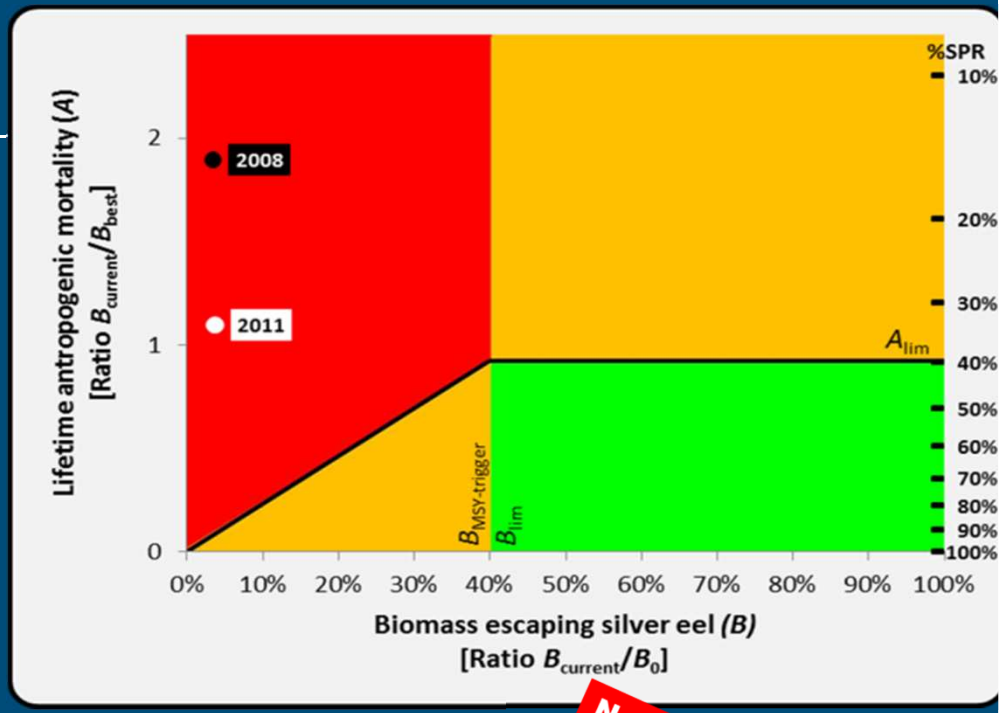
(transponder onderzoek, MR experimenten, wetenschappelijke literatuur)

4) Schatting uittrekkende schieraal (en andere stock indicators)

..NL 2008-2011....

1) status 2008 & 2011 “ongewenst”
(hoge sterfte, lage biomassa)

2) antropogene mortaliteit sterk afgenomen
commerciële/recreatieve visserij
(>50% reductie vangsten);
impact WKC en gemalen gering en geen
verandering sinds 2008



3) NL afgerekend op vermindering antropogene mortaliteit
maatregelen vermindering antropogene sterfte makkelijk en snel te nemen,
direct meetbare verbetering
afname mortaliteit = goede indicatie daadkracht en voortvarendheid beheerder.

Note: onderschatting antropogene mortaliteit barrières, parasieten, PCB c&R mortaliteit recreatieve visserij etc.

4) geen toename biomassa, niet verwacht op korte termijn
voor herstel aalstand in NL eenzelfde beschermingsniveau vereist binnen (en buiten) EU.
toename glasaal pas na 5 tot 15 jaar toename uittrekkende schieraal leiden (horizontale as),

EVALUATIE AALBEHEERPLANNEN
LIDSTATEN
ICES MEI 2013

IMARES
WAGENINGEN UR

Evaluatie ABP juli 2012

1. Outline the monitoring, effectiveness and outcome of the eel management plans implemented on your territory or in co-operation with neighbouring countries.
2. Provide the best available estimates of: (a) The proportion of the silver eel biomass that is currently escaping towards the sea to spawn, relative to the target level of escapement set out in Article 2(4), i.e. 40% of the pristine biomass.
(b) The level of fishing effort that catches eel each year and the level of catches, and the reduction in effort and catches effected since the entry into force of the Regulation.
(c) The level of mortality factors outside the fishery, and the reduction effected in accordance with Article 2(10);
(d) The amount of eel less than 12 cm in length caught and the proportions of this utilised for all purposes such as restocking, direct consumption, aquaculture within the EU and outside the EU, export outside the EU.
3. Have all the foreseen measures been fully implemented as described within the adopted plan(s) pertaining to your national territory?
4. Provide a list of the measures foreseen and implemented and a list of the measures foreseen but not implemented. Provide the date as of which each measure was implemented.
5. Provide an explanation for each measure included in the adopted plan(s), which has not been implemented, or implemented after the foreseen date. If an alternative measure was implemented, please describe it and compare its effectiveness in relation to the measure it has replaced or will replace.
6. Please list the difficulties encountered in the implementation of the plan.
7. Do you have any indication/evidence/data to suggest that an amendment of the Regulation [and consequently the eel plans] is necessary to achieve the objective set out in Article 2(4) of the Regulation and to ensure the recovery of the species?
8. Attach as an annex the annual report required in line with Article 7(5).

....aanvulling EU rapportage juli 2012

B_0	The amount of silver eel biomass that would have existed if no anthropogenic influences had impacted the stock.
$B_{current}$	The amount of silver eel biomass that currently escapes to the sea to spawn.
B_{best}	The amount of silver eel biomass that would have existed if no anthropogenic influences had impacted the current stock.
ΣF	The fishing mortality rate, summed over the age-groups in the stock, and the reduction effected.
ΣH	The mortality rate outside the fishery, summed over the age-groups in the stock, and the reduction effected.
R	The amount of glass eel used for restocking within the country. R is in the regulation, in Art 9.1.d, ("the amount of eel less than 12 cm in length caught and the proportions of this utilised for different purposes"). R is not relevant for the Netherlands as no eel smaller than 12 cm is landed, minimum size in the Netherlands is 28 cm.

....ICES Data Call FEB 2013....

Stock Indicators

Country	EMU	Indicator	Dimension	2008	2009	2010	2011
		B_0	tonnes				
		$B_{current}$	tonnes				
		B_{best}	tonnes				
		ΣF	rate				
		ΣH	rate				
		ΣA	rate				
		Total amount stocked glass eel (from any source)	tonnes				
		Wetted Area of Assessed Habitat - river	ha				
		Wetted Area of Assessed Habitat -lakes	ha				
		Wetted Area of Assessed Habitat - estuaria/fjord/lagoon	ha				
		Wetted Area of Assessed Habitat - coastal waters	ha				
		Are the following habitats included in the stock indicators mentioned above?					
		Were rivers assessed?					
		Were lakes assessed?					
		Total Freshwater					
		Were estuaries assessed?					
		Were lagoons assessed?					
		Were marine coastal waters assessed?					

ICES Delegates
ACOM members from ICES EU countries

Our Ref: C.2.1o/ACB/hgj

13 February 2013

Subject: Eel data

Dear Delegate and ACOM members from ICES EU countries,

The EIFAAC/ICES/GFCM Working group on eels (WGEEL) requires the stock indicators for each eel management unit (EMU) before and after the implementation of the eel management plans in order to progress with the

ICES
CIEM

International Council for the Exploration of the Sea
Conseil International pour l'Exploration de la Mer

General Secretary
Anne Christine Brusendorff

H. C. Andersens Boulevard 44–46
DK-1553 Copenhagen V
Denmark

IMARES WAGENINGEN UR

Table 5-1: Overview of information requested in the EU template provided in the 2012 EMP Progress Reports and in the 2013 ICES Data Call. (see Table 5.2 for footnote comments). Y = data provided; N = data not provided; P = partial or incorrect data provided; and S = unofficial data provided by WGEEL participant.

	2012 EMP Progress Report								ICES Data Call		
Member State	2012 Report Present	Bo	Bbest annual or average	B current annual or average	*F*	*H*	*ΣA*	Amount Stocked	Submitted	Stock Indicators 2008	Stock Indicators 09-11
Sweden	Y	Y	Y	Y	Y	Y	Y	Y	S	Y	Y
Finland	N	N	N	N	N	N	N	N	Y	N	N
Estonia	Y	N	N	N	P	N	N	Y	N	N	N
Latvia	Y	N	N	N	N	N	N	Y	Y	Y	Y
Lithuania	Y	N	N	N	N	N	N	Y	Y	Y	Y
Poland	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Germany	Y	Y	Y	Y	P	P	P	Y	Y	P	P
Denmark	Y	Y	Y	Y	P	P	P	Y	Y	Y	Y
Netherlands	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Belgium	Y	Y	Y	Y	P	P	P	Y	S	Y	Y
Luxembourg	Y	N	N	N	N	N	N	N	N (non-ICES)	N	N
Ireland	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
United Kingdom	Y	Y	P	P	Y	Y	Y	Y	S	P	P
France	Y	N	P	P	P	P	P	Y	Y	Y	Y
Spain	Y	Y	P	Y	Y	N	N	Y	Y	P	P
Portugal	Y	N	N	N	N	N	N	N	N	N	N
Italy	Y	Y	Y	Y	P	P	P	Y	Y (non-ICES)	Y	Y
Greece	Y	N	N	N	N	N	N	N	N (non-ICES)	N	N
Czech Republic	Y	N	N	N	N	N	N	Y	N (non-ICES)	N	N

WKEPEMP - Workshop on Evaluating Progress with Eel Management Plans

2012/2/ACOM56 The **Workshop on Evaluating Progress with Eel Management Plans** (WKEPEMP), chaired by Russell Poole*, Ireland, will meet 13–15 May 2013 in ICES HQ, to review the Eel Management Plan progress reports submitted to the Commission in 2012 in order to determine and report to the EU Commission on:

a) Report on the status of the local stock (3Bs) and mortality rates (F & H) for each EMU and how they relate to the overall stock
b) Report on the implementation of the management actions committed to in the EMPs for each EMU.
c) Which management measures implemented in EMPs can be reasonably judged to be already increasing silver eel escapement towards achieving the 40% target, or maintaining escapement above target?
d) Which management measures implemented in EMPs can be reasonably expected to increase silver eel escapement towards achieving the 40% target, or maintaining escapement above target, within 2-3 eel generations (based on local average generation time)?
e) Which management measures implemented in EMPs can be reasonably expected to neither increase nor maintain silver eel escapement relative to the target, nor are likely to do so within 2-3 generations based on local average generation time?
f) Which management measures implemented in EMPs could be made more effective in increasing or maintaining silver eel escapement, and by what means could this be achieved?
g) Are there other management measures not implemented in EMPs that could be effective?

WKEPEMP will report by 29 May for the attention of the Advisory Committee.

Country: Netherlands
EMU: NL_Neth

Visserijsterfte (com+rec)

Gemalen, WKC

EMP	Bo (ton)	Bbest (ton)	Bcurrent (ton)	F (rate)	H (rate)
Pre (2007-2008)	10400	2934	432	1.86	0.04
Post (2009-2001)	10400	1434	486	1.06	0.04

~100 EMU & 1200 maatregelen!

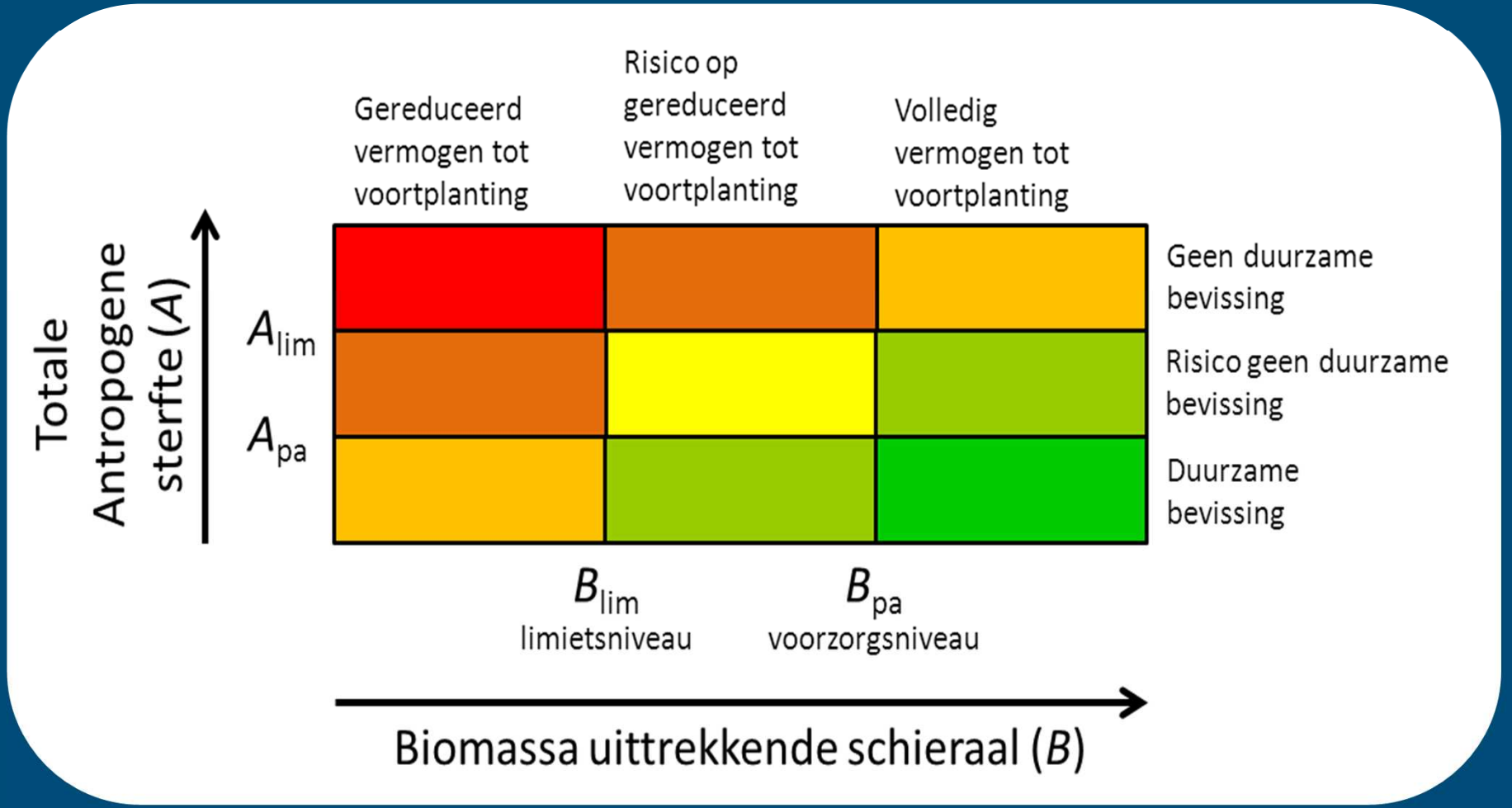
Geen strenge review assessment modellen!

Action	Implemented		/Inter/High/U	Impact Direct/Delayed
Release of eel caugh anglers			ediate	Direct
Ban on recreational fis gear			w	Direct
Closed season from 1			h	Direct
Stop the issue of licenc				Direct
Introducing fishery-free migration			liate	Direct
Closure eel fishery in cor				Direct
Reducing barriers at pum the 1800 most important by 2015 and the remainin	Partially	H	Intermediate	Delayed
Reducing barriers at hydro-electric stations by at least 35%	Partially	H	Intermediate	Direct
Restocking of glass eel and pre-grown eel from aquaculture	Fully	None	Unsure	Delayed
Research into the artificial propagation of eel.	Fully	None	Unsure	Delayed

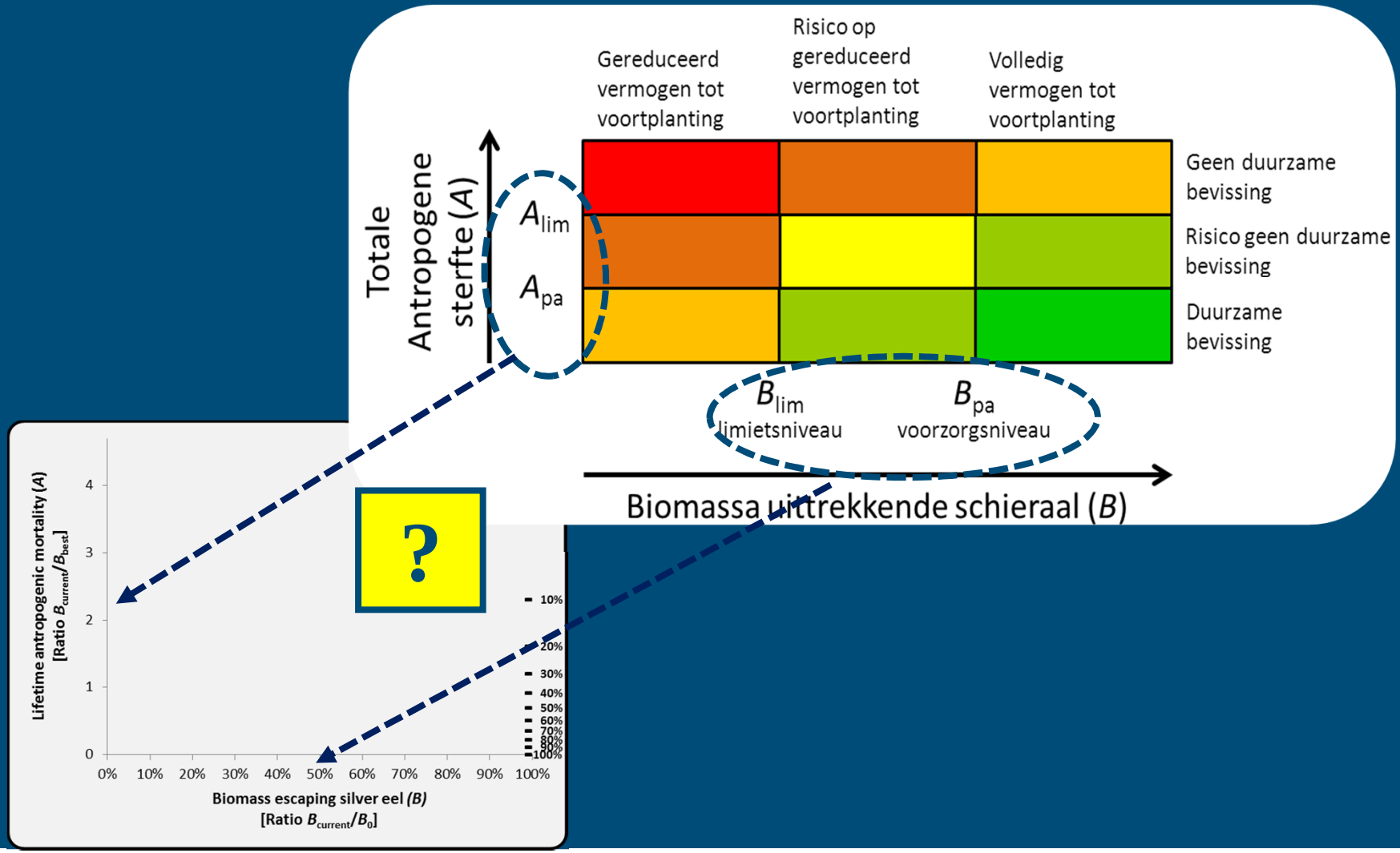
Ontwikkelen van evaluatie methode en biologische referentiepunten voor hele Europese aalpopulatie
WGEEL SEP 2013

IMARES
WAGENINGEN UR

...Aangepaste Voorzorgsdiagram...



...streefwaarden en limieten...



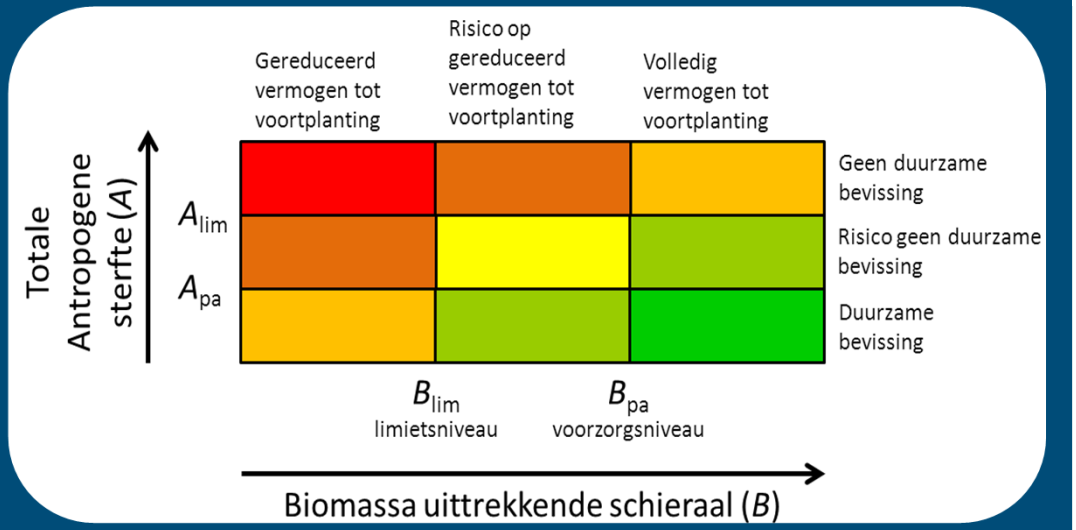
…streefwaarden en limieten ACOM…

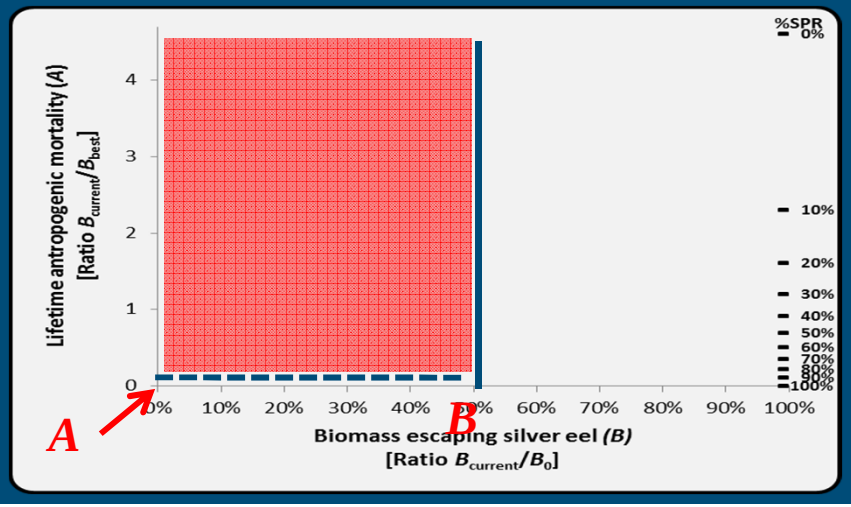
ICES ACOM:
B = 50% (standaard 30%)
A = close to zero

ICES (2009) reiterates its previous advice that **"all anthropogenic impacts on production and escapement of eels should be reduced to as close to zero as possible until stock recovery is achieved"**.

ICES (2010) .....*until there is clear evidence that the stock is increasing*.

definitie "stock recovery" = *Bpa*?





...streefwaarden en limieten EU Aalverordening..

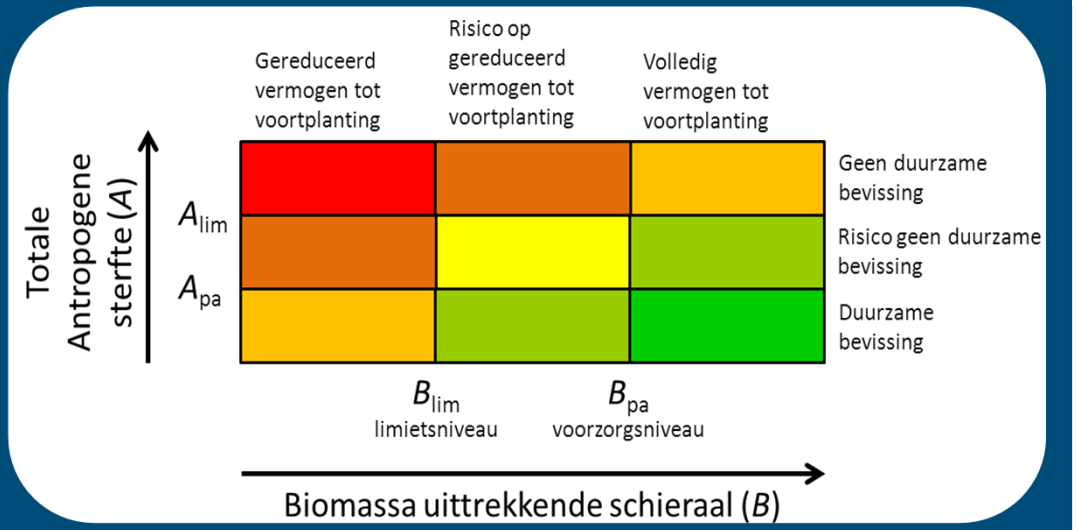
EU Aalverordening
B = 40%
(30% standaard - ICES 50%)

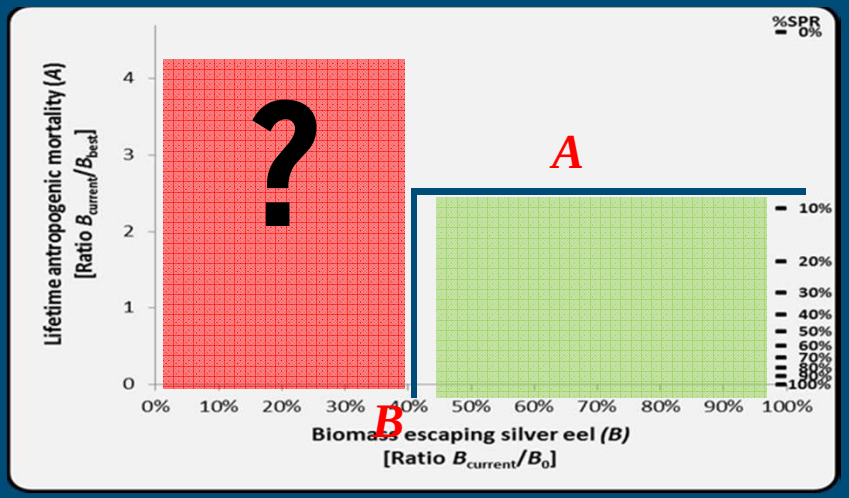
A = 40% als stock is **hersteld**!

Geen A tussen huidige situatie
en herstelde stock (40% B_o)

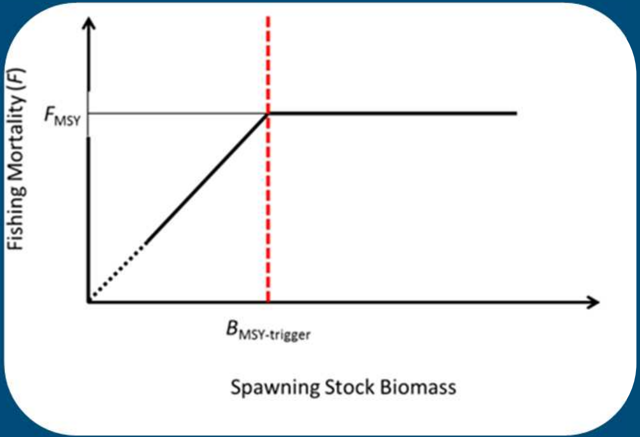
Geen vaste periode waarin
40% B_o moet zijn gerealiseerd.

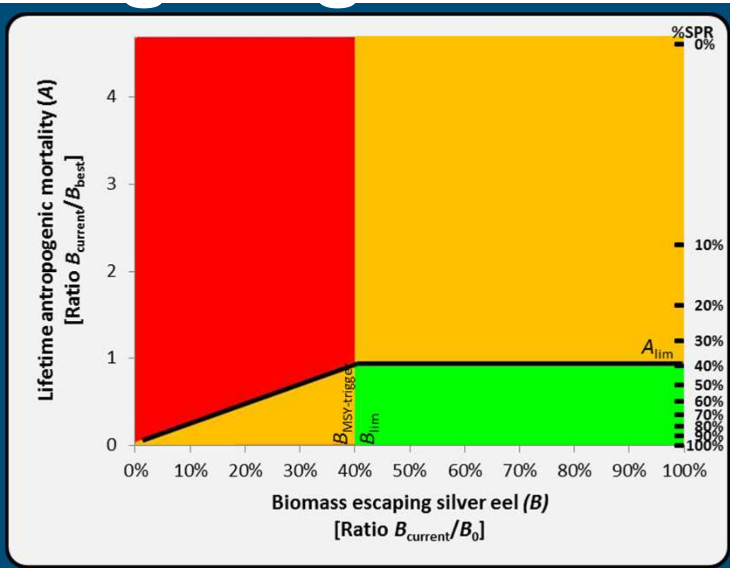
...ook NL geen interim streefwaarden
voor A en B tussen nu en herstelde
Stock (B_{lim}) !!

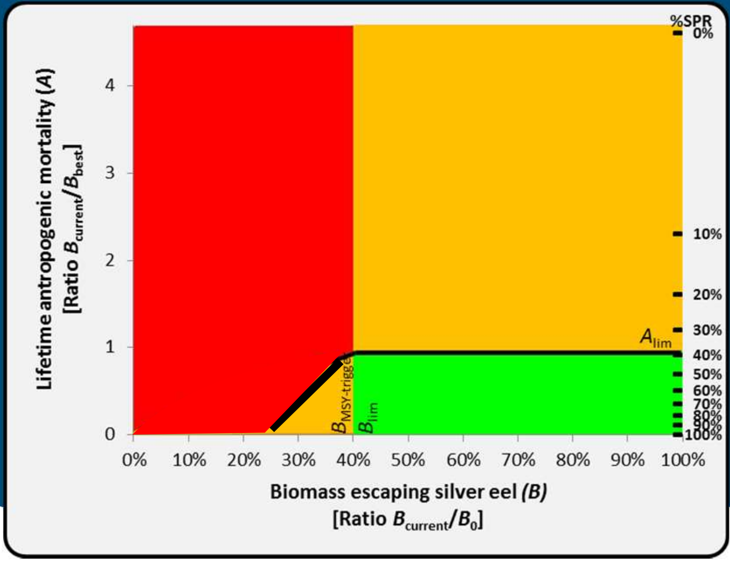


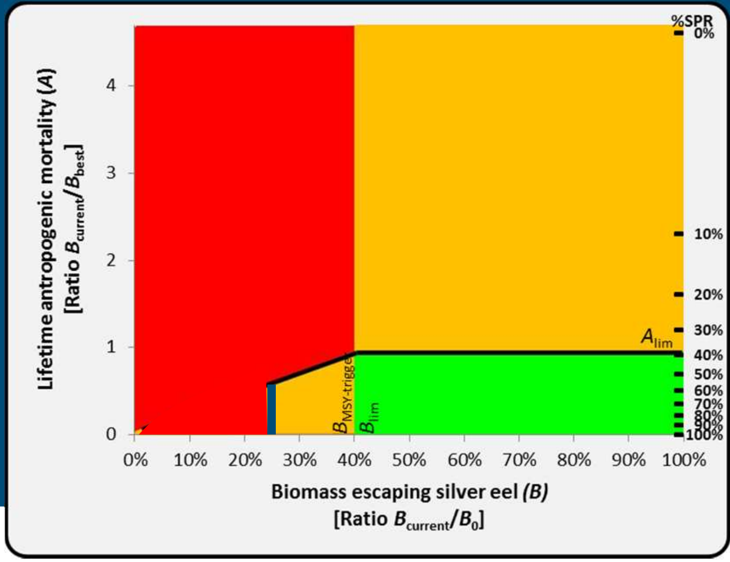


....aangepast ICES voorzorgsdiagram...

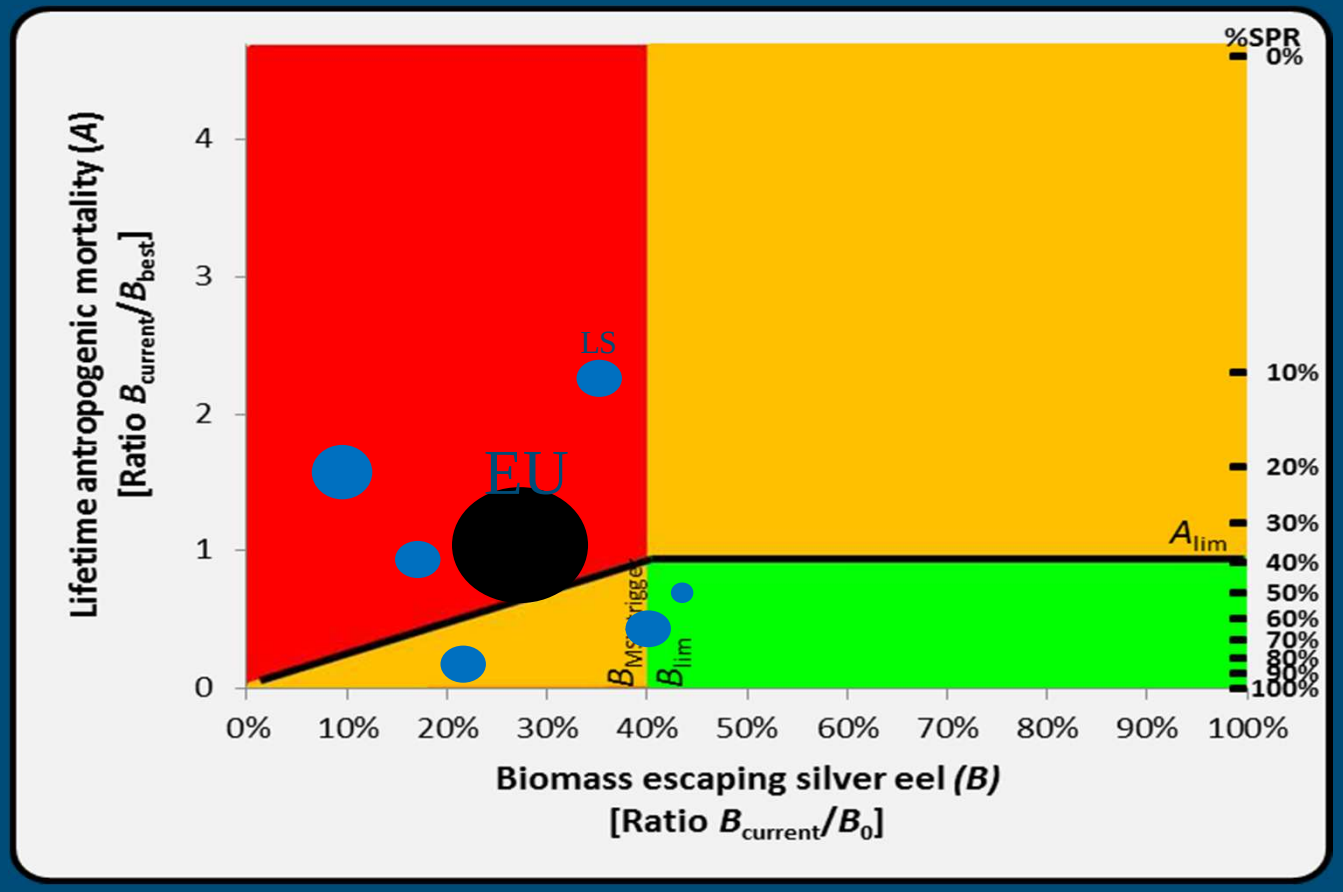


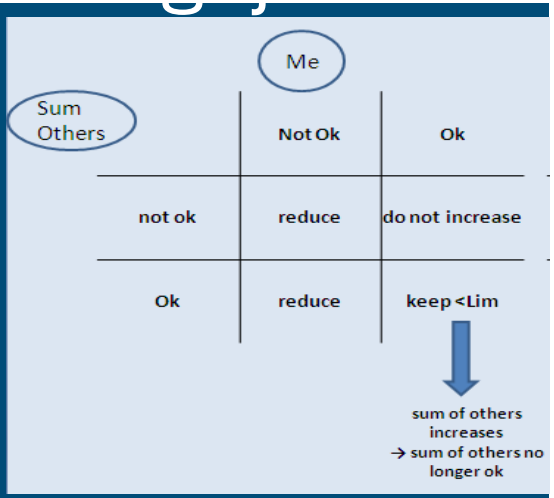






....decentraal aalbeheer..welk deel is belangrijk?.





If the sum of all areas is not within sustainable limits, any increase in mortality takes the risk of deterioration, even in areas that are well within sustainable limits.

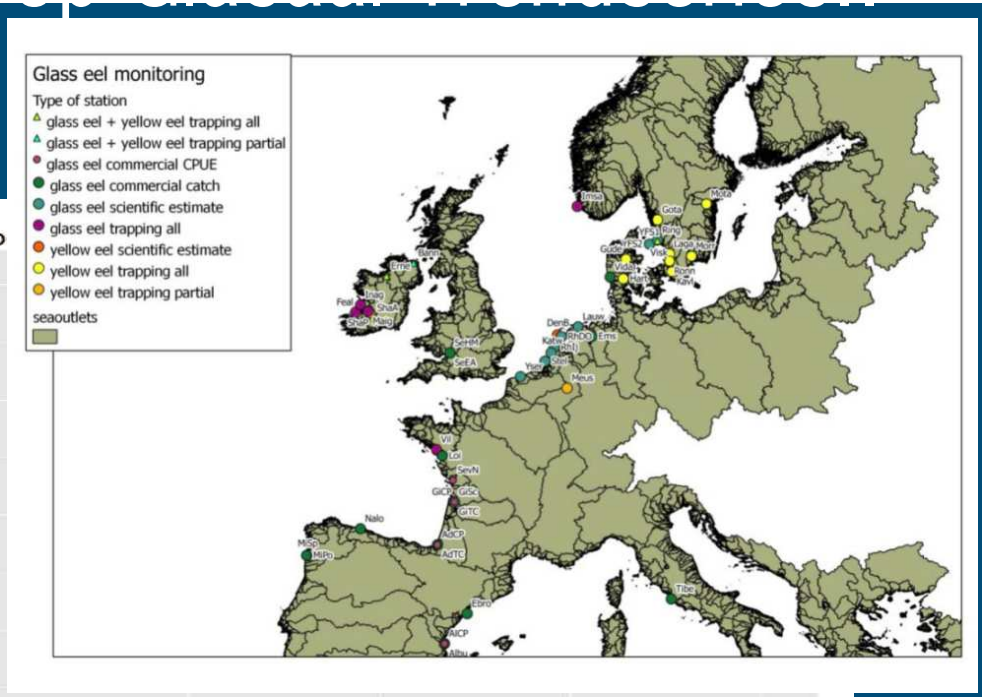
For any area that is not within sustainable limits, a reduction in mortality is advisable, irrespective of the status of the sum of all areas.

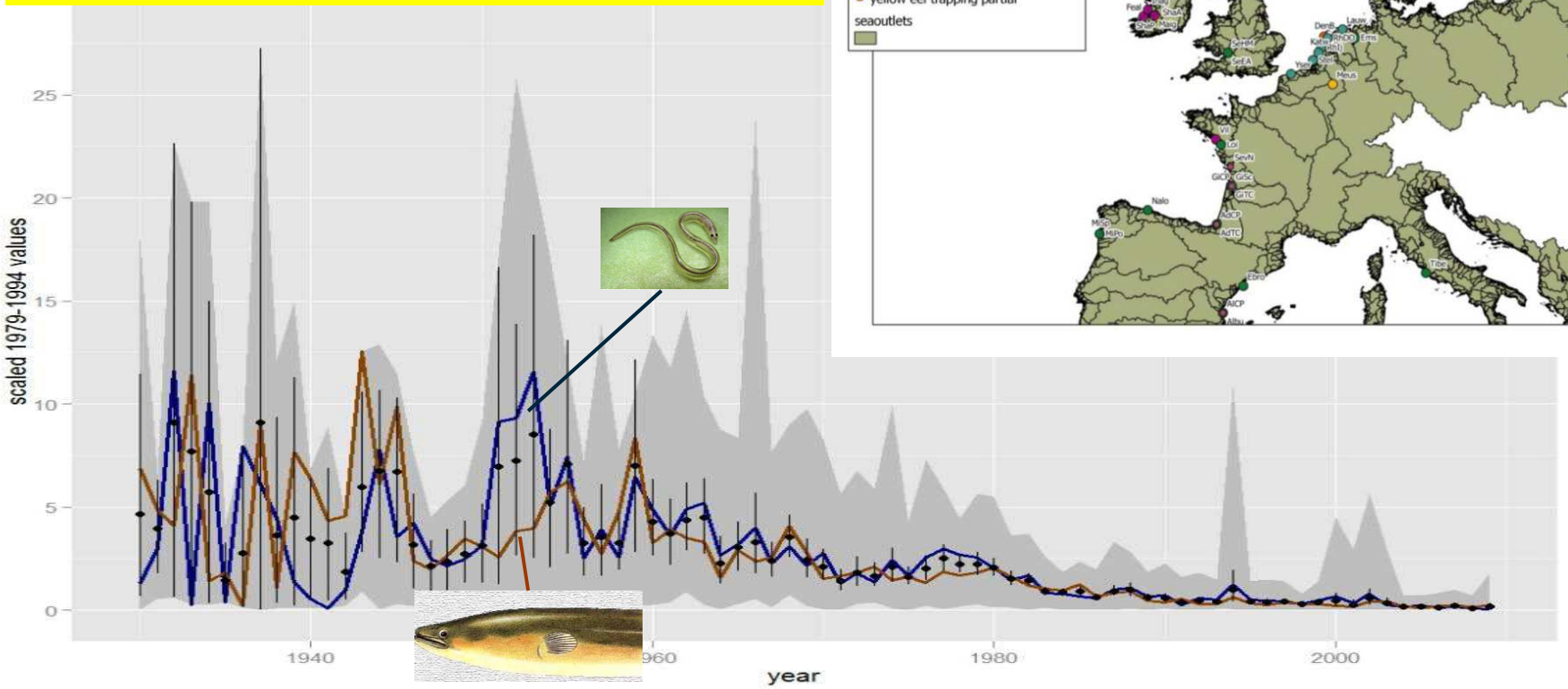
.. ICES advies gebaseerd op Glasaal Trendseries..

Glasaal: 1-7% ivm 1960-1979

Rode aal: 9% ivm 1960–1979

(WGEEL 2010)

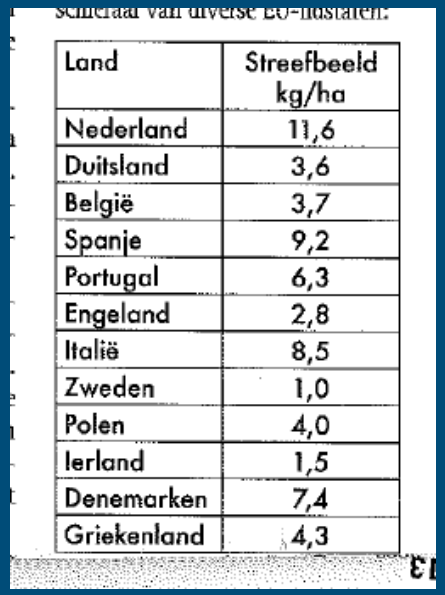




ICES advice:
“reduce anthropogenic mortality to as close to zero as possible”


IMARES
WAGENINGEN UR

Abacadabra…toveren kan iedereen!



Land	Streefbeeld kg/ha
Nederland	11,6
Duitsland	3,6
België	3,7
Spanje	9,2
Portugal	6,3
Engeland	2,8
Italië	8,5
Zweden	1,0
Polen	4,0
Ierland	1,5
Denemarken	7,4
Griekenland	4,3

Binnenwater? Kustwater? Beiden?
Bpristine of streefbeeld (40% Bpristine)?

Binnenwater + kustwateren (ha)	**700000**	**700000**	**700000ha**
Range $B_{pristine}$	**5000**	**13000**	**20500t**
Range Streefbeeld (40% $B_{pristine}$)	**2000**	**5200**	**8200t**
Bpristine (kg/ha)	**7**	**19**	**29kg/ha**
Streefbeeld (40% $B_{pristine}$) (kg/ha)	**3**	**7**	**12kg/ha**

...Nederlandse Aalbeheerplan (ABP)....

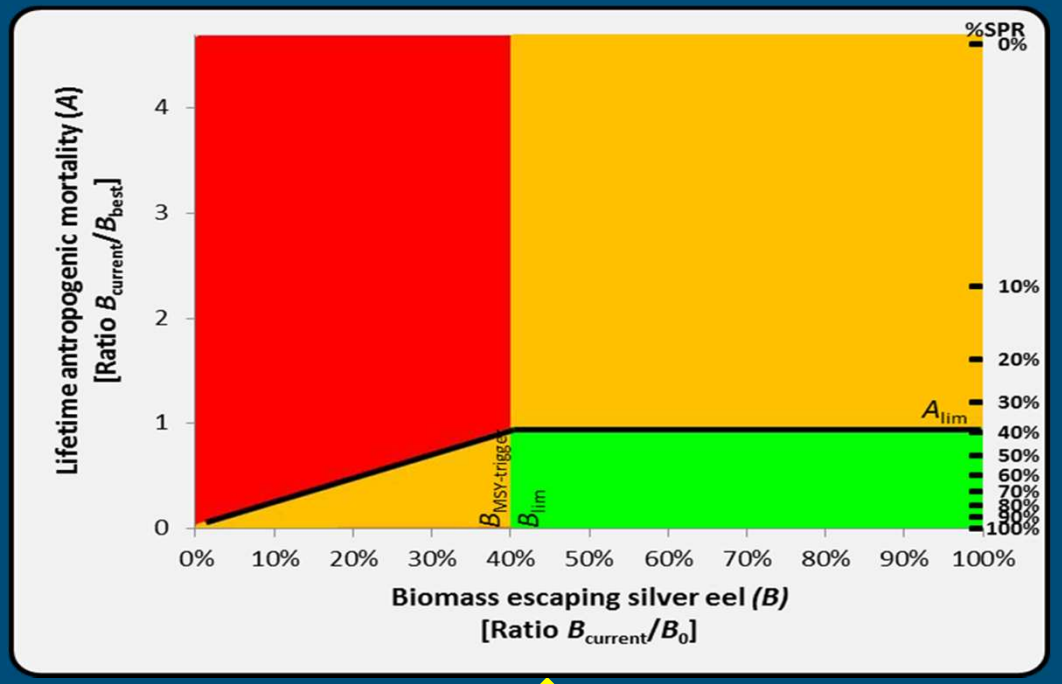
Table 1.1 Overview of all the (un)foreseen measures described in the Dutch Eel Management Plan to be implement to reach the 40% escapement objective.

No	Foreseen Measure	Planned implementation	Realised implementation
1	Reduction of eel mortality at pumping stations and other water works; of the 1800 most important migration barriers 900 will be solved by 2015 and the remaining 900 by 2027	2015-2027	Due to financial constrains at the Ministry of I&M the scheduled refurbishments have been postponed
2	Reduction of eel mortality at hydro-electric stations with at least 35%	2009	November 2011***
3	The establishment of fishery-free zones in areas that are important for eel migration	2010	1 April 2011**
4	Release of eel caught (a) at sea and (b) at inland waters by anglers	2009	1 October 2009
5	Ban on recreational fishery in coastal areas using professional gear	2011	1 January 2011*
6	Closed season from 1 September to 1 December	2009	1 October 2009
7	Stop the issue of licences for eel snigglers by the minister of EL&I I state owned waters	2009	1 May 2009
8	Restocking of glass eel and pre-grown eel from aquaculture	2009	Early 2010
9	Research into the artificial propagation of eel.	ongoing	EU-project started
No	Unforeseen Measure		
10	Closure eel fishery in contaminated (PCBs, dioxins) areas		1 April 2011

***** The use of fykes and long-lines by recreational fishers has been banned in nearly all marine and inland waters. The use of gillnets, however, by recreational fishers is still allowed in a few marine waters.
****** The vast majority of the contaminated areas that were closed for commercial fisheries on 1/4/2011 are the main rivers. These rivers are the most important "high ways" for diadromous species like salmon and eel.
*** Due to technical difficulties the maximum achievable reduction in mortality by adjusted turbine management is 24%.

...*B*s en het Aangepaste Voorzorgsdiagram...

$B_{current} / B_{best}$



$B_{current} / B_o$

…de *B*s…

Pristine Biomassa (B_0)

De geschatte biomassa uittrekkende schieraal onder ‘pristine’ condities (B_0).

Best mogelijke Biomassa (B_{best})

De geschatte biomassa uittrekkende schieraal onder ‘current best’ (B_{best}) condities. Een schatting van B_{best} wordt gemaakt door alle antropogene sterfte op nul te zetten bij het **huidige recruitment niveau**.

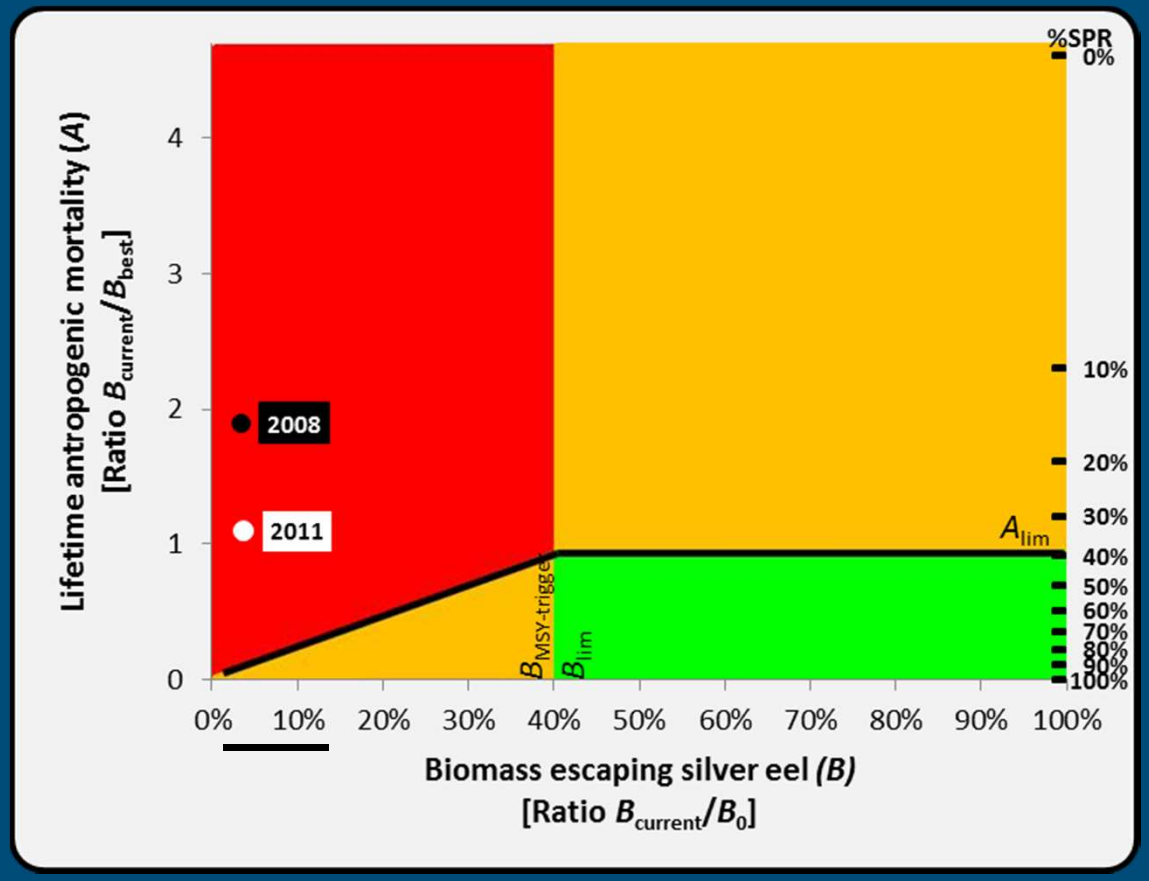
Biomassa voor Aalbeheerplan (B_{pre})

De geschatte biomassa aan uittrekkende schieraal (B_{pre}) voor de implementatie van het Aalbeheerplan (2008)

Biomassa na Aalbeheerplan (B_{post})

De geschatte biomassa aan uittrekkende schieraal (B_{post}) na de implementatie van het Aalbeheerplan (2010)

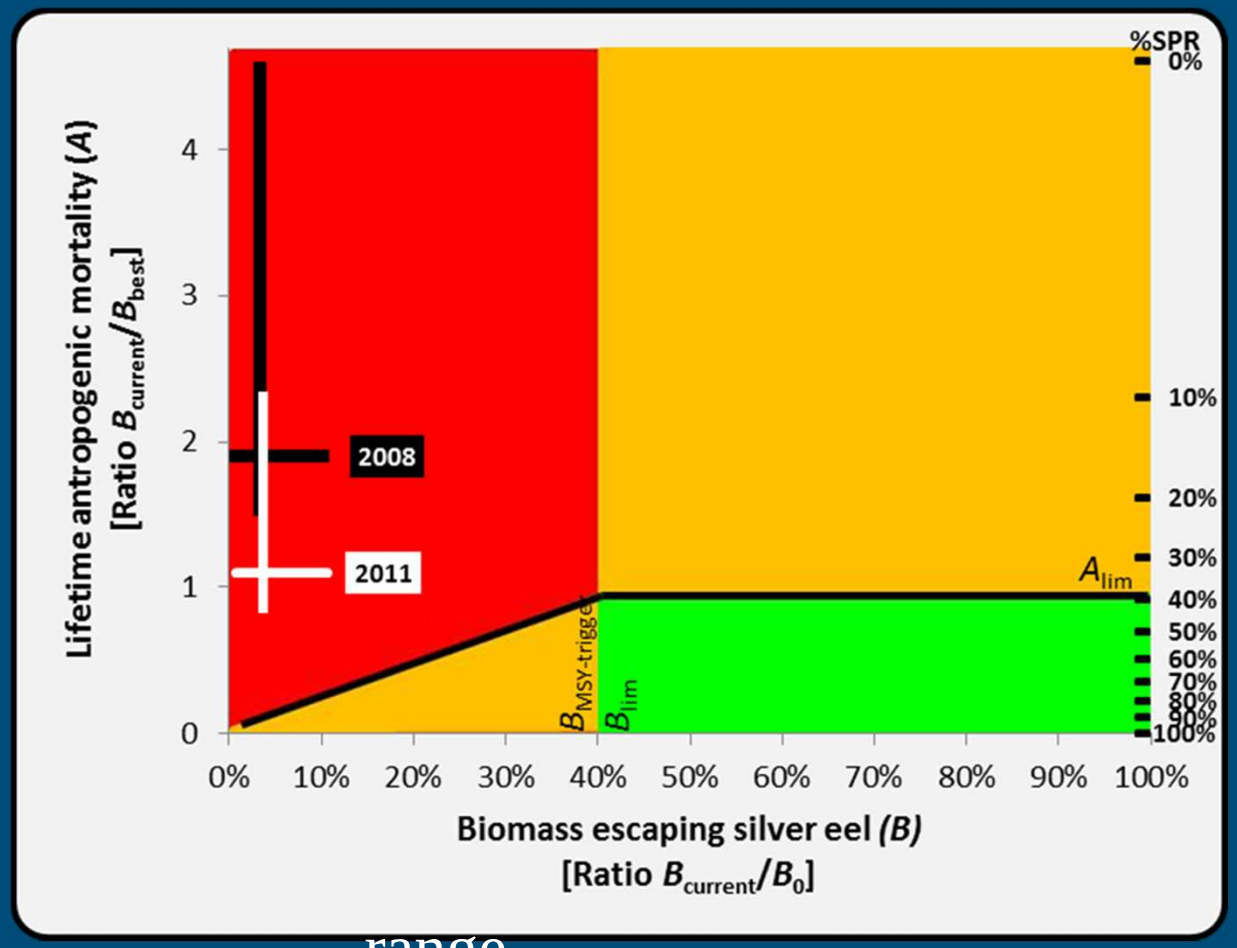
....aangepast ICES voorzorgsdiagram...



Note: onderschatting antropogene mortaliteit barrières, parasieten, PCB c&R mortaliteit recreatieve visserij etc.

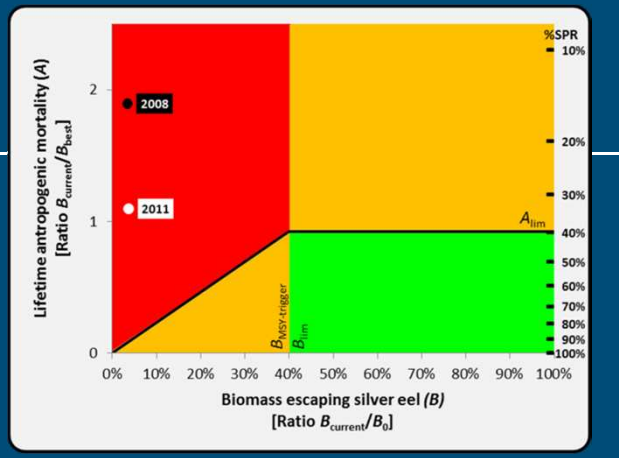
....onzekerheid rond schattingen....

Scenario's 1-3



range Eijsackers

..evaluatie ABP....



Bij de interpretatie impact ABP mbv aangepaste ICES voorzorgsdiagram dient rekening te worden gehouden met:

- limieten/doelstellingen zijn **management** limieten/doelstellingen en geven **geen garantie** dat de aalpopulatie zich hersteld. ACOM terughoudend met gebruik diagram totdat biologische referentiepunten worden vastgesteld.

- onzekerheden rond de indicatoren B_{best}, $B_{current}$,B_0 and $\sum$A, en

- ongekwantificeerde bronnen van sterfte (catch&release mortaliteit, rode aal HPS/gemalen, vervuiling, parasieten) .