2003/45

PROTOKOLL
FOR DEN 32. SESJON I DEN BLANDETE NORSK-RUSSISKE FISKERIKOMMISJON

1. Åpning av sesjonen

Den 32. sesjon i Den blandete norsk-russiske fiskerikommisjon ble avholdt i St. Petersburg 10. – 14. november 2003. Den norske delegasjon ble ledet av J. Krog, representant for Kongeriket Norges regjering i Den blandete norsk-russiske fiskerikommisjon, departementsråd i Det kgl. Fiskeridepartement. Den russiske delegasjon ble ledet av A. Makojedov, representant for Den russiske føderasjons regjering i Den blandete norsk-russiske fiskerikommisjon, viseformann i Den russiske føderasjons statskomité for fiskerier.

Partenes delegasjoner fremgår av Vedlegg 1.

2. Godkjenning av dagsorden

Partene godkjente dagsorden, jfr. Vedlegg 2.

3. Arbeidsgrupper

I samsvar med § 3 i Forretningsordenen for Den blandete norsk-russiske fiskerikommisjon oppnevnte partene felles arbeidsgrupper for:

- statistikk
- sel i det nordøstlige Atlanterhav
- forskningssamarbeid
- protokoll.

4. Utveksling av fangststatistikk for 2002 og hittil i 2003

Partene utvekslet fangststatistikk over fisket i Barentshavet og Norskehavet i 2002 og hittil i 2003 på omforente skjemaer. Partene konstaterte at de offisielle opplysningene som ble levert, var nøyaktige og sammenfallende.

Partene drøftet informasjon angående uregistrert uttak av torsk i Barentshavet og Norskehavet.

Den russiske part informerte om at den vil fortsette arbeidet med å fremskaffe data om landinger i tredjeland. Partene ble enige om å samarbeide om å fremskaffe slike opplysninger, se pkt. 12.5.

Den norske part uttrykte ønske om å få informasjon om norske fartøys landinger i Russland.

Partene ble enige om å tilrettelegge for at dataene om forskningsfangst i tabell IV i fremtiden skal spesifiseres på ICES-område på samme måte som kommersiell fangst.
Partene var enige om å videreføre den regelmessige utveksling av månedlig fangststatistikk for fisk og reker fordelt på ICES-område I og II.

5. Regulering av fisket etter torsk og hyse i 2004

5.1 Fastsettelse av totalkvoter og fordeling av kvoter

Partene var enige om at det er en usikkerhet i bestandsanslaget for norsk arktisk torsk, og understreket sterkt behovet for økt forskningsinnsats i hele bestandens utbredelsesområde for å få mer eksakte resultater. Partene viste til at Det internasjonale råd for havforskning (ICES) også har påpekt at manglende toktdekning svekker troverdigheten av den vitenskapelige rådgivning.

Partene var enige om at det er behov for å videreutvikle omforente langsiktige strategier for forvaltning av fellesbestandene i Barentshavet og Norskehavet. Partene understreket i denne sammenheng at "Grunnleggende prinsipper og kriterier for langsiktig, bærekraftig forvaltning av levende marine ressurser i Barentshavet og Norskehavet" vedtatt på 31. sesjon er en god basis for forvaltningsbeslutninger.

Partene bekreftet målsettingen om, innen rammen av omforente beskatningsstrategier, å rette seg etter rådgivninger fra ICES som er basert på presiserte referansepunkter, ved fastsettelse av TAC.

Partene var enige om å følge en beskatningsstrategi for torsk og hyse som ivaretar hensynet til:

-å tilrettelegge for en langsiktig høy avkastning av bestandene
-ønsket om å oppnå stor grad av stabilitet i TAC fra år til år
-full utnyttelse av all til enhver tid tilgjengelig informasjon om bestandsutviklingen.

På grunnlag av disse prinsippene bekreftet partene at følgende beslutningsregel vil bli brukt for den årlige kvotefastsettelse for norsk arktisk torsk:

-beregn gjennomsnittlig TAC-nivå for de 3 kommende år basert på F_{pa}. TAC for neste år fastsettes til denne utgangsverdien av TAC for disse 3 årene.
-påfølgende år gjentas beregningen av TAC for de neste 3 år basert på oppdatert informasjon om bestandsutviklingen, dog slik at TAC ikke skal endres med mer enn +/- 10% av TAC for foregående år
-dersom gytebestanden faller under B_{pa} vil partene måtte vurdere lavere TAC enn det beslutningsregelen tilsier.

Partene var i prinsippet enige om å bruke tilsvarende beslutningsregel for hyse, men med en høyere grense for prosentvis årlig endring i TAC på grunn av større naturlige fluktuasjoner i hysebestanden.

Partene var enige om at arbeidsgruppen som utarbeidet dokumentet "Grunnleggende prinsipper og kriterier for langsiktig, bærekraftig forvaltning av levende marine ressurser i

Barentshavet og Norskehavet" det kommende år skal fortsette å utarbeide eksempler på hvordan disse beslutningsregler vil virke. Arbeidsgruppen skal spesielt se på hvilke grenser for prosentvis årlig endring det vil være hensiktsmessig å benytte.

Partene fastsatte totalkvoter for torsk og hyse for 2004 samt fordeling av disse på Norge, Russland og tredjeland (Vedlegg 3). Fordeling av tredjelandskvoten på soner for 2004 er gjengitt i Vedlegg 4.

Partene ble enige om gjensidige kvoter av torsk og hyse i hverandres økonomiske soner, Jfr. Vedlegg 5.

Partene var enige om at de ved behov vil vurdere mulighetene for gjensidige overføringer av kvoter for torsk, hyse og andre fiskeslag i løpet av 2004 og økning av partenes kvoter i hverandres soner.

Fiske med garn, line og håndredskap skal gjennomføres innenfor de kvoter partene har fastsatt.

Partene var enige om å informere hverandre om kvoter som tildeles tredjeland av fellesbestander, herunder om de kvanta som tildeles innenfor kommersielle prosjekter.

Partene var enige om å konsultere hverandre om eventuelle overføringer av kvoter tildelt tredjeland av Norge eller Russland til den annen parts sone.

5.2 Andre tiltak

Partene orienterte hverandre om resultatene av gjennomførte forsøk med sorteringssystemer. Partene var enige om å fortsette arbeidet med utvikling av seleksjonsteknologi i fiskeredskaper.

Den norske part orienterte den russiske part om at det modifiserte russiske sorteringsrist-systemet for torsketrål, "Sort-V", vil være tillatt benyttet i norske farvann. Den russiske part aksepterte at de norske sorteringsristsystemene "enkeltrist" og "fleksirist" vil være godkjent for bruk i torsketrål i russisk farvann i Barentshavet.

Partene ga Det permanente utvalg i oppdrag å korrigere kontrollinstruksen for sorteringsrist i torsketrål i henhold til dette.

Partene var enige om at det for fremtiden skal være tilstrekkelig for å få tillatelse til å bruke nyutviklede sorteringssystemer i farvann under den annen parts fiskerijurisdiksjon, at de aktuelle spesifikasjoner for disse er godkjent i Det permanente utvalg med påfølgende rapportering til Den blandete norsk-russiske fiskerikommisjon.

Partene var enige om å videreføre utveksling av informasjon om det biologiske grunnlagsmateriale for stengning og åpning av fiskefelt på omforent skjema utarbeidet av Det permanente utvalg.

5.2.1 Tekniske reguleringer

Partene var enige om at det er et langsiktig mål å innføre felles tekniske reguleringstiltak, herunder ens maskevidde og ens minstemål for hele utbredelsesområdet for torsk og hyse.

Tekniske reguleringstiltak fremgår av Vedlegg 7.

6. Regulering av fisket etter lodde i 2004

Partene bekreftet beskatningsstrategien for lodde der TAC ikke settes høyere enn at, med 95% sannsynlighet, minst 200.000 tonn lodde får anledning til å gyte.

Partene vurderte vitenskapelige data om loddebestanden, som vitnet om sterk nedgang i gytebestanden på grunn av naturlig fluktuasjon i bestanden. Partene besluttet, på dette grunnlag, ikke å åpne for loddefiske i 2004.

7. Spørsmål vedrørende forvaltning av norsk vårgytende sild i 2004

Partene var enige om at deres mål er å oppnå en multilateral løsning for forvaltningen av norsk vårgytende sild også for 2004.

Dersom det ikke foreligger en slik løsning til årsskiftet 2003/2004, vil partene imidlertid fastsette en midlertidig ordning slik at norsk og russisk fiske kan gjennomføres i tråd med tradisjonelt fiskemønster.

8. Regulering av fisket etter andre fiskeslag i 2004

Kvoter på andre bestander og tekniske reguleringstiltak fremgår av Vedlegg 6 og 7.

Partene var enige om at beskatning av fiskebestander som ikke er kvoteregulert, bare kan skje som bifangst ved fiske av kvoteregulerte fiskeslag. Partene var enige om gjensidige bifangstkvoter i hverandres økonomiske soner. Disse bifangstkvotene kan bli økt dersom hensynet til den praktiske avvikling av fisket tilsier det. Partene vil så snart som mulig behandle anmodninger om å øke bifangstkvotene.

8.1 Blåkveite

Partene var enige om å opprettholde forbudet om direkte fiske etter blåkveite i 2004.
Den norske part opplyste at det vil bli gjennomført et begrenset kystfiske i tradisjonelt omfang med konvensjonelle redskaper i områder under norsk fiskerijurisdiksjon.

Den russiske part informerte om at det vil bli gjennomført forsøksfiske etter blåkveite ved bruk av ulike fiskeredskaper i kystsonen av Barentshavet i områder under russisk jurisdiksjon.

For å oppnå bedre kunnskap om bestandens geografiske utbredelse i antall og biomasse for hver aldersgruppe fordelt gjennom året, har Den blandete norsk-russiske fiskerikommisjon

videreført et treårig (2002–2004) felles forskningsprogram mellom PINRO og Havforskningsinstituttet, jfr. Vedlegg 10.

Tekniske reguleringstiltak fremgår av Vedlegg 7.

Partene gjorde seg kjent med nye opplysninger om artens grenseoverskridende karakter og ble enige om å fortsette diskusjonen om denne saken under den 33. sesjon i Den blandete norsk-russiske fiskerikommisjon.

8.2 Uer

Partene drøftet bestandssituasjonen for snabeluer (Sebastes mentella), og konstaterte at den er i særdeles dårlig forfatning, noe som vekker bekymring.

Tillatt bifangsprosent og tekniske reguleringstiltak fremgår av Vedlegg 6 og 7.

8.3 Sei

Partene viste til at en målrettet og rasjonell forvaltning av seibestanden de siste ti år har medført et høyere bestandsnivå og en større geografisk utbredelse av sei, også mot øst, herunder områder i russisk økonomisk sone.

Partene er enige om at Russland kan fastsette forvaltningstiltak for fiske og bifangst av sei i russisk økonomisk sone, og at den norske part informeres om slike tiltak.

Kvote og tekniske reguleringstiltak fremgår av Vedlegg 6 og 7.

9. Forvaltning av kamtsjatkakrabbe (Paralithodes camtschaticus) i Barentshavet i 2004

Partene utvekslet informasjon om resultatene av forskning på kamtsjatkakrabbe (Paralithodes camtschaticus) i Barentshavet og mottok en felles rapport fra PINRO og Havforskningsinstituttet om resultatene fra forskningen i 2003.

Partene konstaterte at det var manglende kunnskap om det gjensidige forholdet mellom krabben og øvrige arter i økosystemet i Barentshavet, og ga forskerne fra begge land i oppdrag å utvide forskningen på dette området. Den norske part uttrykte bekymring for spredningen av kamtsjatkakrabbe vestover fra krabbens kjerneområder i Barentshavet, siden dette påvirker de tradisjonelle kystfiskeriene.

Partene sa seg enige i den norske parts forslag om å arrangere et norsk-russisk symposium om resultatene av forskningen på kamtsjatkakrabbe i andre halvdel av 2004. (Vedlegg 10).

Den norske part orienterte om at en fra norsk side vil treffe tiltak for å hindre eller begrense spredningen av kamtsjatkakrabbe vest for 26°Ø.

Den russiske part tok koordinatene som vil bli fastsatt av den norske part for en ytterste vestlig grense for utbredelse av kamtsjatkakrabbe i norsk økonomisk sone til etterretning, og understreket at disse tiltakene må være av en slik art, at de ikke medfører skade på krabbe-bestanden i russisk økonomisk sone.

Den norske part skal informere om effektene av disse tiltakene på den 33. sesjon i Den blandete norsk-russiske fiskerikommisjon.

I henhold til den vedtatte forvaltningsstrategi for bestanden av kamtsjatkakrabbe i Barentshavet fastsatte partene mulig uttak av kamtsjatkakrabbebestanden for 2004 til inntil 500.000 individer i russisk økonomisk sone og inntil 280.000 individer i norsk økonomisk sone øst for 26°Ø.

Partene bestemte at den nevnte mengde skal fanges med bruk av forskjellige fangstregimer. Den russiske part skal av det kvantum som er fastsatt for russisk sone bruke 140.000 eksemplarer til studium av populasjonsstruktur, antall og utbredelse av krabben, og 100.000 eksemplarer til å bestemme størrelsen på bifangst av krabbe ved trålfiske etter bunnfisk, og utarbeide kriterier for stengning og åpning av områder. Det skal leveres inn fangst- og statistikkdata fra denne fangsten til forskningsformål.

Partene fastsatte et fangstuttak av 10.000 individer under minstemål (pre-rekrutter) til hver av partene i tillegg til fastsatt TAC. Den russiske part skal benytte dette kvantum til forskningsformål i henhold til programmet "Utarbeidelse av teknologi og opprettelse av anlegg for kunstig reproduksjon og kommersiell oppdrett av kamtsjatkakrabbe". Den norske part vil nytte sitt kvantum pre-rekrutter til forsknings- og utviklingstiltak.

Tekniske reguleringstiltak fremgår av Vedlegg 7, punkt 10.

10. Regulering av fisket etter reker i 2004

Partene behandlet utviklingen i fisket og bestandssituasjonen for reker i Barentshavet. Partene var enige om at forskere fra de to land skal fortsette utvidete undersøkelser av rekebestanden og rekens biologi i Barentshavet. De konstaterte at norske og russiske forskere arbeider med bestandsvurdering av reker. Dette arbeidet omfatter torskens predasjon på rekebestanden.

Partene var enige om at det er nødvendig å få forskningen på reke bedre integrert med annen forvaltningsrettet forskning i området.

Norsk side uttalte ønske om at russisk side innfører for Russlands økonomiske sone et minstemål på 6 cm for reker (15 mm carapax) og med tillatt innblanding av 10% reker under minstemål i vekt i fangsten, som grunnlag for stengning av områder med for mye rekeyngel.

Partene ba norske og russiske forskere om å foreta en biologisk vurdering for innføring av felles minstemål for reke i Barentshavet.

Partene var enige om at stenging av felt ved rekefiske skal gjennomføres på grunnlag av data om bifangst av blåkveite, torsk, hyse og uer.

Kvoter og tekniske reguleringstiltak fremgår av Vedlegg 6 og 7.

Partene ba forskerne om å se på mulighetene for videre utvikling av seleksjonsteknologi i fiskeredskap med sikte på å redusere innblanding av ueryngel i rekefisket.

11. Regulering av selfangsten i 2004

Partene er bekymret over veksten i bestandene av grønlandssel, noe som har negativ innvirkning på tilstanden til de viktigste fiskebestandene i Barentshavet, og vil i den forbindelse drøfte mulige tiltak for økning av selfangsten.

Partene konstaterte at ICES er inne i en prosess for å definere biologiske referansepunkter for populasjoner av grønlandssel og klappmyss. Resultatene av dette vil gjøre det mulig å utvikle en konkret forvaltningsstrategi for selbestandene.

Partene fastsatte TAC for 2004 basert på rådgivning fra ICES.

Partene registrerer at anbefalt TAC fra ICES er lavere for 2004 enn tidligere år. Lavere kvoteanbefalinger har sammenheng med implementering av føre-var prinsippet, og er et resultat av usikkerheter og mangler i datagrunnlaget.

Kvoter og reguleringstiltak, herunder fangst for vitenskapelige formål, fremgår av Vedlegg 6 og 8.

12. Forvaltningssamarbeid

Partene vil fortsette samarbeidet mellom de to lands fiskerimyndigheter for ytterligere å effektivisere ressurskontrollen og reguleringen av fisket.

Partene var enige om at alle norsk-russiske fellesprosjekter, også forskningsprosjekter, i forbindelse med utnyttelse av fellesbestander i Barentshavet og Norskehavet, skal behandles av Den blandete norsk-russiske fiskerikommisjon, og godkjennes av Det norske fiskeridepartement og Den russiske føderasjons statskomité for fiskerier. Hver part forplikter seg til å informere den annen part om hvilke kvoter som tildeles og mottas innenfor rammene av slike prosjekter, og om de kvanta fisk som landes i henhold til disse kvotene.

12.1 Rapport fra Det permanente utvalg for forvaltnings- og kontrollspørsmål på fiskerisektoren

Partene fikk Det permanente utvalgs redegjørelse for arbeidet i utvalget og godkjente utvalgets arbeid.

Partene ga Det permanente utvalg i oppdrag å utarbeide et utkast til dokumentet "Omforente tiltak for forbedring av regulerings- og kontrollsystemene i Barentshavet og Norskehavet", som skal inneholde:

- en analyse av status for eksisterende regulerings- og kontrolltiltak på fiskeriområdet;
- begrunnede kriterier for å oppnå et optimalt regulerings- og kontrollregime;
- omforente tiltak for å oppnå et optimalt nivå på regulering og kontroll med fisket;
- analyse av faktorer som kan vanskeliggjøre oppnåelse av et slikt nivå, samt forslag om mulige måter å fjerne dem på

Partene ble enige om å holde de nødvendige ekstra møter for å utarbeide dokumentet.

Partene vil legge forholdene til rette for fortsatt effektivt arbeid i Det permanente utvalg. Protokollen fra møtet i Det permanente utvalg i Murmansk 29. september - 3. oktober 2003 vedlegges (Vedlegg 9).

12.2 Grunnleggende prinsipper og kriterier for langsiktig, bærekraftig forvaltning av levende marine ressurser i Barentshavet og Norskehavet

"Arbeidsgruppen for beskatningsstrategier" leverte sin rapport "Report of the Basic Document Working Group to the Joint Norwegian-Russian Fishery Commission, autumn 2003" (Vedlegg 11), med beskrivelse av arbeidet siden 31. sesjon, fangstopsjoner for norsk-arktisk torsk 2004 – 2006, samt arbeidsplan for å få forvaltningsregelen akseptert i ICES.

Partene sa seg meget tilfreds med arbeidsgruppens arbeid og godkjente rapporten – som et viktig normativt grunnlag for en langsiktig strategi for bærekraftig forvaltning av kommersielle fiskebestander i Barentshavet og Norskehavet. Arbeidsgruppens funksjonstid ble forlenget til neste møte i Den blandete norsk-russiske fiskerikommisjon. I tillegg til det videre arbeidet med Grunnlagsdokument, ba partene arbeidsgruppen om å igangsette et norsk-russisk forskningssamarbeid for å klarlegge forventede nivåer for høstingspotensialet av ulike kommersielle bestander i Barentshavet, under følgende mandat:

Mandat
Å gjennomføre en vitenskapelig utredning omkring optimalt uttak (maksimalt langtidsutbytte) av de viktigste kommersielle arter i Barentshavet, basert på eksisterende kunnskap. Dette inkluderer en vurdering av

- størrelsesorden av maksimalt langtidsutbytte og tilhørende fiskedødelighet
- effekter av å fastsette relativt stabile kvoter

Dette arbeidet skal ta utgangspunkt i en analyse av bestandsdynamikken for norsk-arktisk torsk og ta hensyn til dens interaksjon med andre bestander som påvirker det tillatelige uttaket av denne. Etter hvert må dette arbeidet suppleres med undersøkelser av andre bestander i denne prioriterte rekkefølge: lodde, sild, grønlandssel, vågehval, reker, hyse osv.

Utredningen skal inkludere alle økosystemelementer som er tilgjengelige for undersøkelser, herunder naturlige og menneskeskapte effekter på reproduksjon, tilvekst og overleving. Arbeidet skal inneholde bekreftelse på at modellene som brukes i disse analyser gir pålitelige resultater som kan sammenholdes med bestandenes kjente historie. Utredningen skal også spesifisere videre forskning som kan gi mer presise svar på disse spørsmål.

Arbeidsplan
Arbeidet innledes ved utarbeidelse av en arbeidsplan som skal spesifisere tidsaspekter og kostnader forbundet med en slik utredning, samt framdriftsplan for det videre arbeidet. Planen skal også spesifisere hvilke modeller som skal benyttes og vurdere deres evner til å gi relevante svar på oppgavene gitt i mandatet. Denne planen skal forelegges Den blandete norsk-russiske fiskerikommisjon under den 33. sesjon høsten 2004.

12.3 Erfaring med Memorandum om samarbeidsordninger mellom partenes kontrollmyndigheter

Partene var enige om at dette memorandumet tjener som et godt grunnlag for å bedre kontrollen og samarbeidet, og påpekte at det er nødvendig å videreføre arbeidet i samsvar med bestemmelsene i det.

12.4 Reglene for partenes utstedelse av lisenser for fiske og håndhevelse av fiskeribestemmelsene

Partene vurderte Det permanente utvalgs forslag om å endre den gjeldende lisenspraksis for fiske i hverandres soner, og ble enige om følgende:

Fartøy som har tillatelse til å fiske pr. 31. desember 2003, kan fortsette å fiske i 2004 på vilkårene i denne tillatelsen inntil nye lisenslister er utvekslet og godkjent.

Partene vil som tidligere løpende sende melding til den annen part om fartøy som strykes av listen.

Søknadsskjema skal kun sendes for fartøy som ikke har hatt lisens i 2003, og for fartøy som har hatt endringer i fartøyopplysningene. Ved slik søknad skal det benyttes samme skjema som i tidligere år. Partene var enige om at det i henhold til etablert praksis ikke skal være krav om å utstede lisensdokumenter til hvert enkelt fartøy.

12.5 Kontrolltiltak for fiske i Barentshavet og Norskehavet i 2004

Partene konstaterte nødvendigheten av streng kontroll med fisket i Barentshavet og Norskehavet, og drøftet konkrete tiltak for gjennomføring av denne.

Partene ble enige om å holde fast ved tidligere oppnådde avtaler om kontroll med russiske landinger i norske havner.

For å få fullstendige data og for å få styrket kontrollen med omlastinger på havet og landinger i tredjeland, ga partene Det permanente utvalg i oppdrag å utarbeide forslag om følgende koordinerte tiltak:

- sette i gang en prosess for etablering av kontrollpunkt/kontrollområder for omlasting både til sjøs og i havn
- utveksling av opplysninger fra satellittsporing, rapportering om fremstilling i kontrollpunkt/kontrollområde for omlasting (etter etablering) samt informasjon på fartøynivå om kontroll med omlastinger i kontrollpunkt/kontrollområde
- retningslinjer for vedtak om nekting av lisens (tillatelser) til fartøy som med overlegg har gjort seg skyldig i kvoteovertredelser
- gjennomføre større grad av utveksling av inspektører som observatører på hverandres inspeksjonsfartøy
- forenkle ordninger for partenes adgang til løpende oppdatert informasjon om kvotetildeling på rederi-/fartøynivå.

Det permanente utvalg vil fremlegge felles rapport om forslag som er omforente i utvalget innen 1. juli 2004. Forslagene kan vedtas pr. brevveksling eller på møte mellom formennene i Den blandete norsk-russiske fiskerikommisjon.

Partene er enige om at det er nødvendig med en bedre dialog med tredjeland for å kunne få mer fullstendig informasjon om landinger i disse landene av partenes fartøy, og gir Det permanente utvalg i oppdrag å igangsette en prosess for å opprette kontakt med tredjeland angående utveksling av relevant informasjon.

12.6 Tredjelands fiske og gjennomføring av Avtale av 15. mai 1999 mellom Norge, Den russiske føderasjon og Island om visse samarbeidsforhold på fiskeriområdet

Partene utvekslet informasjon om gjennomføring av den trilaterale avtalen mellom Norge, Russland og Island, og konstaterte at avtalen har fungert etter sin hensikt.

I forbindelse med en eventuell revisjon av avtalen eller de bilaterale protokoller, vil partene underrette hverandre offisielt og i god tid før fristen for underretning om revisjon som utløper 30. juni 2006.

Partene bekreftet sin enighet om at ved inngåelse av kvoteavtaler med tredjeland, skal tredjeland forplikte seg til å begrense sitt fiske til de kvoter som er tildelt av kyststatene, uavhengig av om fisket skjer i eller utenfor Norges og Russlands fiskerijurisdiksjonsområder.

Partene drøftet tredjelands fiske i Barentshavet og Norskehavet, og var enige om å videreføre aktiv kontroll med dette fisket slik at det kan bringes til opphør når de tildelte kvoter er oppfisket.

Partene bekreftet sin enighet om at reguleringstiltakene for bestanden av norsk-arktisk torsk gjelder i hele dens utbredelsesområde.

12.7 Felles omregningsfaktorer for fiskeprodukter

Partene var enige om at anvendelse av nøyaktige omregningsfaktorer er av avgjørende betydning for å få et sant bilde av ressursuttaket.

Partene var enige om å bruke felles omregningsfaktorer som angitt i Vedlegg 7.

Ved fastsettelse av omregningsfaktorer skal "Agreed methods for measurement and calculation of conversion factors" og den felles norsk-russiske arbeidsinstruks for måling og beregning av omregningsfaktorer for ferske fiskeprodukter produsert om bord i fiskefartøyer, benyttes.

Partene ga Det permanente utvalg i oppdrag å videreføre arbeidet med fastsettelse av nøyaktige omregningsfaktorer i samsvar med det man har blitt enige om, jfr. Protokoll fra møtet i Det permanente utvalg i Murmansk 29. september - 3. oktober 2003, Vedlegg 9.

12.8 Prosedyrer for stenging og åpning av fiskefelt

Partene var enige om å fortsette å anvende felles norsk-russisk ordning for stenging og åpning av fiskefelt for bunnfisk og reker.

13. Felles forskning på levende marine ressurser

Partene konstaterte med tilfredshet at forskningssamarbeidet mellom de to land utvikler seg på et kvalitativt nytt nivå der man anvender ulike moderne metoder og instrumenter for innsamling og bearbeiding av data om fellesbestandenes tilstand.

Partene understreket igjen den betydning de tillegger forenkling av adgang for forskningsfartøyer fra den ene part i den annen parts økonomiske sone. De viste til at det norsk-russiske toktsamarbeidet representerer en av de lengste og beste tradisjoner i fiskerisamarbeidet mellom de to land. Slik forskning er en nødvendig forutsetning for å skaffe til veie pålitelige vurderinger av fellesbestandenes tilstand og å utarbeide det vitenskapelige grunnlaget for fastsettelse av TAC.

Partene konstaterte med tilfredshet at toktsamarbeidet i år har utviklet seg i en positiv retning. Partene drøftet den russiske parts krav om inspektør på de norske forskningsfartøyene. Partene vil fortsette arbeidet med å forenkle prosedyren for tillatelser til at forskningsfartøy fra en part skal kunne arbeide i den annen parts økonomiske sone.

Partene beklaget at det for annet år på rad ikke hadde vært mulig å gjennomføre det omsøkte norske økologiske hvaltoktet i RØS. De understreket betydningen av toktet som grunnlag for økt forståelse av hvalens betydning i økosystemet. Forskerne påpekte at denne type forskning forutsetter uttak av hval og uttrykte håp om at neste års tokt ville få slik tillatelse.

Partene vedtok program for felles norsk-russisk forskning på levende marine ressurser i 2004, jfr. Vedlegg 10.

Partene konstaterte at det er uunngåelig med et uttak av levende marine ressurser, herunder bifangst, under gjennomføringen av forskningstokt, bestandsovervåkning, innsamling av data for forvaltningsbeslutninger og andre forskningsformål.

Partene fastsatte fangstkvanta for alle arter for gjennomføring av forskningsarbeid på levende marine ressurser, bestandsovervåking og innsamling av data for å treffe forvaltningsbeslutninger. Av hensyn til transparensen i det norsk-russiske forskningssamarbeidet understrekes betydningen av at hele fangsten for disse formål, inklusive bifangst, skal rapporteres på vedtatt statistikkskjema, jfr. punkt 4. Havforskninginstituttet og PINRO vil i god tid før toktstart utveksle informasjon om antall og navn på fartøy som skal delta i undersøkelser og overvåking av levende marine ressurser, tid for gjennomføring av disse og fangstkvanta, jfr. Vedlegg 10.

Det 10. Norsk-russiske symposiet ble avholdt i Bergen, Norge 27-29 August 2003 under tittelen "Management strategies for commercial marine species in Northern Ecosystems".

14. Forretningsorden for Den blandete norsk-russiske fiskerikommisjon

Partene diskuterte og vedtok ny revidert forretningsorden for Den blandete norsk-russiske fiskerikommisjon, jfr. Vedlegg 12.

15. Eventuelt

15.1 Forholdet til "Avtale av 1995 om gjennomføring av bestemmelsene i De forente nasjoners havrettskonvensjon av 10. desember 1982 om bevaring og forvaltning av vandrende fiskebestander og langtmigrerende fiskebestander"

Partene drøftet forholdet til "Avtalen av 1995 om gjennomføring av bestemmelsene i De forente nasjoners havrettskonvensjon av 10. desember 1982 om bevaring og forvaltning av vandrende fiskebestander og langtmigrerende fiskebestander", og påpekte at anvendelsen av bestemmelsene i denne avtalen reiser enkelte spørsmål som kan ha relevans for arbeidet i Den blandete norsk-russiske fiskerikommisjon.

Partene var derfor enige om å drøfte denne saken videre på 33. sesjon i Den blandete norsk-russiske fiskerikommisjon.

Partene var enige om å avholde neste ordinære sesjon i Den blandete norsk-russiske fiskerikommisjon i Norge i oktober/november 2004.

Denne protokoll er utferdiget 14. november 2003 i St. Petersburg på norsk og russisk, med samme gyldighet for begge tekster.

Representant for Kongeriket Norges regjering i Den blandete norsk-russiske fiskerikommisjon

J. Krog

Representant for Den russiske føderasjons regjering i Den blandete norsk-russiske fiskerikommisjon

A. Makojedov

VEDLEGG 1

I. Den norske delegasjon til den 32. sesjon i Den blandete norsk-russiske fiskerikommisjon, St. Petersburg, 10. - 14. november 2003

Jørn Krog	Norges representant i Den blandete norsk-russiske fiskerikommisjon, departementsråd, Fiskeridepartementet, Delegasjonsleder
Peter Gullestad	Norges stedfortredende representant i Den blandete norsk-russiske fiskerikommisjon, fiskeridirektør, nestleder for delegasjonen
Kirsti Henriksen	Avdelingsdirektør, Fiskeridepartementet
Ole-David Stenseth	Rådgiver, Fiskeridepartementet
Kjell Kristian Dørum	Rådgiver, Fiskeridepartementet
Jon Ramberg	Avdelingsdirektør, Utenriksdepartementet
Anne-Kristin Jørgensen	Fiskeriråd, Den norske ambassade i Moskva
Lisbeth Plassa	Seksjonssjef, Fiskeridirektoratet
Are Strand	Rådgiver, Fiskeridirektoratet
Åsmund Bjordal	Forskningsdirektør, Havforskningsinstituttet
Kjell Nedreaas	Forskningsleder, Havforskningsinstituttet
Harald Gjøsæter	Forskningsleder, Havforskningsinstituttet
Tore Haug	Professor, Fiskeriforskning
Jan Sundet	Seniorforsker, Fiskeriforskning
Reidar Nilsen	Leder, Norges Fiskarlag
Åge Remøy	1. nestleder, Norges Fiskarlag
Knut Werner Hansen	Landsstyremedlem, Norges Fiskarlag
Erlend Hanssen	Tillitsvalgt, Norsk Sjømannsforbund
Paul Jensen	Nestleder, Norges Kystfiskarlag
Dag Klaastad	Tolk
Ingmund Fladaas	Tolk

VEDLEGG 1

II. Den russiske delegasjon til den 32. sesjon i Den blandete norsk-russiske fiskerikommisjon, St. Petersburg, 10. – 14. november 2003

Anatolij N. Makojedov	Den russiske føderasjons representant i Den blandete norsk-russiske fiskerikommisjon, viseformann i Den russiske føderasjons statskomité for fiskerier, delegasjonsleder
Sergej E. Djagilev	Sjef for vitenskaps- og utdanningsavdelingen i Den russiske føderasjons statskomité for fiskerier
Nina G. Kim	Seksjonsleder i internasjonal avdeling i Den russiske føderasjons statskomité for fiskerier
Vasilij Zelenkov	Direktør for SevPINRO
Vladimir M. Borisov	Laboratorieleder, VNIRO
Vasilij Sokolov	Laboratorieleder, VNIRO
Nikolina Kovatsjeva	Laboratorieleder, VNIRO
Konstantin V. Drevetnjak	Seksjonsleder, PINRO
Aleksej Lysyj	Seksjonsleder, PINRO
Mikhail Sjeveljov	Seksjonsleder, PINRO
Stanislav Lisovskij	Laboratorieleder, PINRO
Nikolaj Usjakov	Seniorforsker, PINRO
Boris I. Berenbojm	Seniorforsker, PINRO
Valerij Sjlejnik	Ekspert, PINRO
Vladislav N. Svetotsjev	Laboriatorieleder, SevPINRO
Sergej Ju. Baljabo	Seksjonsleder, Murmanrybvod
Vjatsjeslav I. Semenas	Direktør, Murmansk regionale overvåkingssenter
Gennadij D. Antropov	Leder av råstofftjenesten i "Rosrybakkolkhozsojuz" - Unionen av russiske fiskerikollektiver
Jevgenij Kolesnikov	Representant for Utenriksministeriet
Vladimir S. Antipin	Representant for Grensevakttjenesten i Den russiske føderasjons Sikkerhetstjeneste
Igor Sukhanov	Representant for Grensevakttjenesten i Den russiske føderasjons Sikkerhetstjeneste
Viktor Rozjnov	Representant for Grensevakttjenesten i Den russiske føderasjons Sikkerhetstjeneste
Ljudmila Zaslavskaja	Seksjonsleder, internasjonal seksjon, "Giprorybflot"
Sergej A. Sennikov	Tolk, PINRO

VEDLEGG 2
Dagsorden for den 32. sesjon i Den blandete norsk-russiske fiskerikommisjon, St. Petersburg, 10. - 14. november 2003

1. Åpning av sesjonen
2. Godkjenning av dagsorden
3. Arbeidsgrupper
4. Utveksling av fangststatistikk for 2002 og hittil i 2003
5. Regulering av fisket etter torsk og hyse i 2004
   - 5.1 Fastsettelse av totalkvoter og fordeling av kvoter
   - 5.2 Andre tiltak
     - 5.2.1 Tekniske reguleringer
6. Regulering av fisket etter lodde i 2004
7. Spørsmål vedrørende forvaltning av norsk vårgytende sild i 2004
8. Regulering av fisket etter andre fiskeslag i 2004
   - 8.1 Blåkveite
   - 8.2 Uer
   - 8.3 Sei
9. Forvaltning av kamtsjatkakrabbe (Paralithodes camtschaticus) i Barentshavet i 2004
10. Regulering av fisket etter reker i 2004
11. Regulering av selfangsten i 2004
12. Forvaltningssamarbeid
    - 12.1 Rapport fra Det permanente utvalg for forvaltnings- og kontrollspørsmål på fiskerisektoren
    - 12.2 Videreutvikling av grunnleggende prinsipper og kriterier for langsiktig, bærekraftig forvaltning av levende marine ressurser i Barentshavet og Norskehavet
    - 12.3 Erfaring med Memorandum om samarbeidsordninger mellom partenes kontrollmyndigheter
    - 12.4 Reglene for partenes utstedelse av lisenser for fiske og håndhevelse av fiskeribestemmelsene
    - 12.5 Kontrolltiltak for fisket i Barentshavet i 2004
    - 12.6 Tredjelands fiske og gjennomføring av Avtale av 15. mai 1999 mellom Norge, Den russiske føderasjon og Island om visse samarbeidsforhold på fiskeriområdet
    - 12.7 Felles omregningsfaktorer for fiskeprodukter
    - 12.8 Prosedyrer for stenging og åpning av fiskefelt
13. Felles forskning på levende marine ressurser
14. Forretningsorden for Den blandete norsk-russiske fiskerikommisjon

15. Eventuelt

15.1 Forholdet til "Avtale av 1995 om gjennomføring av bestemmelsene i De forente nasjoners havrettskonvensjon av 10. desember 1982 om bevaring og forvaltning av vandrende fiskebestander og langtmigrerende fiskebestander"

16. Avslutning av sesjonen

VEDLEGG 3

OVERSIKT OVER TOTALKVOTER OG FORDELING AV KVOTER MELLOM NORGE, RUSSLAND OG TREDJELAND (I TONN) I 2004

		TOTAL KVOTE			OVERFØRING	NASJONALE KVOTER	
	SUM	AVSETNING	KVOTEANDEL		FRA		
FISKESLAG	(TOTAL-KVOTER)	TIL TREDJELAND	NORGE	RUSSLAND	RUSSLAND TIL NORGE	NORGE	RUSSLAND
	I	II	III=(I-II)/2	IV=(I-II)/2	V	VI=III+V	VII=IV-V
TORSK	466.000	68.800	198.600	198.600	6.000	204.600	192.600
NORSK KYSTTORSK	20.000		20.000			20.000	
MURM.TORSK	20.000			20.000			20.000
SUM TORSK	506.000	68.800	218.600	218.600	6.000	224.600[1]	212.600[1]
HYSE	130.000	6.000	62.000	62.000	4.500	66.500	57.500

[1]Inntil 18.000 tonn kan disponeres til forsknings- og forvaltningsformål, jfr. Vedlegg 10.

VEDLEGG 4

I. FORDELING AV TREDJELANDSKVOTEN AV TORSK I 2004 (I TONN)

TOTALT	SVALBARD-OMRÅDET	NORGES ØK. SONE	RUSSLANDS ØK. SONE
68.800	19.400	28.700	20.700

II. FORDELING AV KVOTER FOR TORSK OG HYSE TIL TREDJELAND I PARTENES ØKONOMISKE SONER I 2004 (I TONN)[1]

FISKESLAG	NORGES ØK. SONE	RUSSLANDS ØK. SONE	I ALT	HERAV I DET TILSTØTENDE OMRÅDE I BARENTSHAVET	
				NORGE	RUSSLAND
TORSK	28.700	20.700	49.400	20.700	20.700
HYSE	3.600	2.400	6.000	2.400	2.400

[1]Eventuelle udisponerte andeler kan overføres til nasjonal kvote.

VEDLEGG 5

KVOTER I 2004 FOR GJENSIDIG FANGST AV TORSK OG HYSE FOR NORGE OG RUSSLAND I DE TO LANDS ØKONOMISKE SONER (I TONN).

Disse kvotene gjelder ikke for et tilstøtende område for en felles fiskeriregulering i Barentshavet.

OMRÅDER	FISKESLAG		I ALT
	TORSK	HYSE	
NORGES KVOTER I RUSSLANDS ØKONOMISKE SONE	140.000	20.000	160.000
RUSSLANDS KVOTER I NORGES ØKONOMISKE SONE	140.000	20.000	160.000

VEDLEGG 6

I. KVOTER TIL RUSSLAND PÅ NORSKE BESTANDER I NORGES ØKONOMISKE SONE (I TONN) I 2004

BESTAND	KVOTE	MERKNADER
Vanlig uer Sebastes marinus Snabeluer Sebastes mentella	2.000	Bifangst, maksimum 20% i hver enkelt fangst.
Kolmule	50.000*	Kan fiskes i et nærmere avgrenset område i Norges økonomiske sone hvis koordinater vil bli presisert og i fiskerisonen ved Jan Mayen utenfor 4 n. mil
Sei	10.000	Bifangst ved fiske av torsk og hyse, maksimum 49% i hver enkelt fangst.
Steinbit	2.000	Direkte fiske og bifangst.
Andre bestander	3.000	Ikke kvoteregulerte bestander tatt som bifangst i fiske etter kvoteregulerte bestander.

*Kvoten av kolmule kan bli nedjustert avhengig av utfallet av drøftelser om forvaltningen av kolmule.

II. KVOTER TIL NORGE PÅ RUSSISKE BESTANDER I RUSSLANDS ØKONOMISKE SONE (I TONN) I 2004

BESTAND	KVOTE	MERKNADER
Reker	3.000	
Steinbit	1.500	Direkte fiske og bifangst.
Flyndre	1.000	Direkte fiske og bifangst.
Andre bestander	500	Ikke kvoteregulerte bestander tatt som bifangst i fiske etter kvoteregulerte bestander.
Grønlandssel	10.000 voksne dyr	Fangst i Østisen. Ved fangst av årsunger balanseres ett voksent dyr med 2,5 unger.*

*Også i russisk fangst i Kvitsjøen og Barentshavet balanseres 1 voksent dyr med 2,5 unger.

VEDLEGG 7

TEKNISKE REGULERINGSTILTAK OG FELLES OMREGNINGSFAKTORER FOR FISKEPRODUKTER

I. TEKNISKE REGULERINGSTILTAK

1. Torsk og hyse

1.1 Det er påbudt å bruke sorteringsrist i torsketrål i nærmere avgrensede områder i Barentshavet. Bruk av rist skal skje i henhold til tekniske spesifikasjoner fastsatt av respektive myndigheter, basert på en minste spileavstand på 55 mm. Omforente spesifikasjoner for de godkjente ristsystemene er utarbeidet.

Det er tillatt å bruke småmasket not eller duk-materiale i lede- og akterpanel i ristsystemene.

1.2 Det tillates innblanding av torsk og hyse under minstemål i et omfang av inntil 15% av det samlede antall i den enkelte fangst.

1.3 I tilfelle det i et fangstområde er mer enn 15% torsk og hyse i antall under fastsatte minstemål i fangstene, treffer hver av partene vedtak, på grunnlag av forskningsdata, om stengning av angjeldende område. Vedtak om stenging eller åpning av fiskefelt trer i kraft 7 dager etter at Partene har informert hverandre om vedtaket. Vedtaket om stenging og åpning trer i kraft straks for de to lands fartøy som mottar informasjon om vedtak direkte fra de ansvarlige myndigheter.

1.4 Det er forbudt å bruke flytetrål i torskefisket.

2. Lodde

De tekniske reguleringstiltak er suspendert mens det er stopp i loddefisket.

3. Sei

I fisket etter torsk og hyse er det tillatt å ha inntil 49% bifangst av sei i vekt av de enkelte fangster og av landet fangst.

4. Blåkveite

Ved fiske etter andre fiskeslag er det tillatt å ha inntil 12% bifangst av blåkveite i vekt av de enkelte fangster og inntil 7% om bord ved avslutning av fisket og av landet fangst.

5. Uer

5.1 I fisket etter andre fiskeslag er det tillatt å ha inntil 20% bifangst av uer i vekt av de enkelte fangster og av landet fangst.

6. Kolmule

Under fisket etter kolmule tillates en innblanding på inntil 10% makrell i den enkelte fangst.

7. Reker

7.1 Det er påbudt å bruke sorteringsrist i alt rekefiske i de to lands fiskerijurisdiksjons-områder.

7.2 Bifangst av torske- og hyseyngel i rekefisket skal ikke overskride 800 eksemplarer pr tonn reker. Bifangst av blåkveite skal ikke overskride 300 eksemplarer pr tonn reker. Bifangst av ueryngel skal ikke overskride 1000 eksemplarer pr tonn reker.

7.3 Ved stengning av felt på grunn av for stor innblanding av blåkveite eller yngel av torsk, hyse, og uer skal vedtak om stenging eller åpning av fiskefelt tre i kraft 7 dager etter at partene har informert hverandre om vedtaket. Vedtaket om stenging og åpning trer i kraft straks for de to lands fartøy som mottar informasjon om vedtak direkte fra de ansvarlige myndigheter.

8. Fangstdagbok

Innen utgangen av hvert døgn er det tillatt å korrigere opplysninger i fangstdagboken om angjeldende døgns fangst.

9. Bruk av instruks for kontroll av bruk av sorteringsrist i torsketrål

Ved kontroll av bruk av sorteringsrist i torsketrål skal kontrollmyndighetene anvende instruksen som er utarbeidet av Det permanente utvalg for fiskerispørsmål på fiskerisektoren, datert 16. september 1999.

10. Kamtsjatkakrabbe (Paralithodes camtschaticus)

10.1 Beskatningsgraden beregnes på basis av bestanden av hannkrabber over minstemål og skal være felles i de to lands økonomiske soner. En beskatningsgrad på inntil 20% av antall hannkrabber over minstemål kan tillates og sikrer stabil reproduksjon av bestanden i denne fasen.

10.2 Det er forbudt å drive fangst på hunnkrabber.

10.3 Minstemål for hannkrabber skal være større eller lik 132 mm carapaxlengde, noe som tilsvarer 150 mm carapaxbredde. Den norske part vil bruke carapax lengdemål og den russiske part carapax breddemål ved fastsettelse av minstemål.

10.4 Fangst av kamtsjatkakrabbe skal bare skje med teiner. Teinene skal utstyres med nett med minimum 70 mm maskevidde. Teinene skal utstyres med innretninger som hindrer muligheten for fortsatt krabbefangst i tilfelle teinene mistes.

10.5 Fangst av kamtsjatkakrabbe skal begrenses slik at det ikke er anledning til å drive fangst i perioder med skallskifte. Fangst tillates således bare i høst-/vinterperioden. Det bør i tillegg anbefales at fangst bare foregår når krabben har størst kommersiell

kvalitet, og en vil anbefale at det blir foretatt forsøksfiske før fisket åpnes i de forskjellige områdene.

10.6 Minste tillatte dybde for fangst av kamtsjatkakrabbe settes til 100 meter og avgrensede områder kan vurderes stengt for krabbefiske ved for stor innblanding av hunnkrabbe og krabbe under minstemål.

10.7 Den norske part kan, i området vest for 26°Ø, treffe tiltak som avviker fra dem som er nedfelt i pkt. 10.1 til 10.6, dog under hensyn til at tiltakene ikke skal medføre skade på krabbebestanden i RØS.

II. FELLES OMREGNINGSFAKTORER FOR FISKEPRODUKTER

1. Torsk

Følgende felles omregningsfaktorer skal benyttes ved ressurskontroll og ved beregning av ressursuttak for norske, russiske og tredjelands fartøyer:

- sløyd med hode: faktor 1,18
- sløyd uten hode rundsnitt: faktor 1,50
- sløyd uten hode rettsnitt: faktor 1,55

For maskinprodusert filet:

- filet med skinn (med tykkfiskbein): faktor 2,60
- filet uten skinn (med tykkfiskbein): faktor 2,90
- filet uten skinn (uten tykkfiskbein): faktor 3,25

2. Hyse

Følgende felles omregningsfaktorer skal benyttes ved ressurskontroll og ved beregning av ressursuttak for norske, russiske og tredjelands fartøyer:

- sløyd med hode: faktor 1,14
- sløyd uten hode rundsnitt: faktor 1,40

Følgende felles midlertidige omregningsfaktorer skal benyttes ved ressurskontroll og ved beregning av ressursuttak for norske, russiske og tredjelands fartøyer:

- sløyd uten hode uten ørebein: faktor 1,65

For maskinprodusert filet:

- filet med skinn (med bein): faktor 2,65
- filet uten skinn (med bein): faktor 2,95
- filet uten skinn (uten bein): faktor 3,15

Appendix 8

THE 32ND SESSION OF THE JOINT NORWEGIAN - RUSSIAN FISHERIES COMMISSION, ST. PETERSBURG, RUSSIA 10 - 14 NOVEMBER 2003

REPORT OF THE WORKING GROUP ON SEALS

Participants:

RUSSIA

G. ANTROPOV	Rosribkolhozsojus, Moskva
V. SVETOCHEV	SevPINRO, Arkhangelsk
E. LAVRINAITIS	Interpreter

NORWAY

T. HAUG	Institute of Marine Research, Tromsø
K. HENRIKSEN	Norwegian Ministry of Fisheries, Oslo
P. JENSEN	Norwegian Coastal Fishermens Union, Lofoten
R. NILSEN	Norwegian Fisherman's Association, Trondheim

Contents:

1. EXCHANGE OF INFORMATION AND SUMMARY OF SEAL CATCHES IN 2003

Norwegian catches were taken by three vessels in the Greenland Sea and one vessel in the southeastern Barents Sea. For logistical reasons, Russian seal vessels did not carry out hunting in the Greenland Sea in 2003. Russian catches of harp seals in the White Sea were taken by local hunters using helicopters.

The recommended 2003 TACs for Greenland Sea hooded seals was 10,300 one year old and older (1yr+) animals or an equivalent number of pups - if a harvest scenario including both 1yr+ animals and pups were chosen, one 1yr+ animal should be balanced by 1.5 pups. For the Greenland Sea harp seals, the 2003 TAC was recommended at 15,000 1yr+ animals or an equivalent number of pups (where one 1yr+ animal should be balanced by 2 pups). The 2003 TAC recommended for harp seals in the Barents Sea and White Sea was defined at 53,000 1yr+ animals or an equivalent number of pups where one 1yr+ animal should be balanced by 2.5 pups. Norway was allocated a quota of 10,000 1yr+ animals (with a similar equivalence between 1yr+ animals and pups). All 2003 seal quotas followed the recommendations given by the ICES Advisory Committee on Fisheries Management (ACFM).

Norwegian and Russian catches in 2003, including catches under permits for scientific purposes, are summarized in the table below:

Area/species	Norway	Russia	Sum
GREENLAND SEA			
Harp seals			
Pups	161	0	161
Older seals (1yr+)	2116	0	2116
Sum	2277	0	2277
Hooded seals			
Pups	5206	0	5206
Older seals (1yr+)	89[1]	0	89
Sum	5295	0	5295
Area subtotal	7572	0	7572
BARENTS SEA / WHITE SEA			
Harp seals			
Pups	2343	37936	40279
Older seals (1yr+)	2955	0	2955
Sum	5298	37936	43234
Area subtotal	5298	37936	43234
TOTAL CATCHES	12870	37936	50806

[1] Including 12 1yr+ animals taken under permit for scientific purposes

2. EXCHANGE OF INFORMATION AND SUMMARY REPORTS OF RESEARCH ACTIVITIES IN 2003

2.1 Norwegian research

2.1.1 Estimation of pup production – Greenland Sea harp seals

From 14 March to 6 April 2002 aerial surveys were carried out in the Greenland Sea pack-ice (the West Ice), to asssess the pup production of the Greenland Sea population of harp seals. One fixed-wing twin-engined aircraft (stationed in Scoresbysound, Greenland, but also permitted to use the Jan Mayen island as a base) was used for reconaissance flights and photographic surveys along transects over the whelping patches once they had been located and identified. A helicopter, stationed on and operated from the applied research vessel (R/V"Lance"), assisted in the reconnaissance flights, and subsequently flew visual transect surveys over the whelping patches. The helicopter was also used for age-stageing of the pups, performed along transects over the patches. Three harp seal breeding patches (A, B and C) were located and surveyed either visually and/or photographically. The total estimate of pup production, including visual survey of Patch A, both visual and photographic surveys of Patch B, and photographic survey of Patch C, was 98 099 (SE=20 419.1), giving a coefficient of variation for the survey of 20.4%.

It is recommended that comprehensive aerial surveys needed to provide estimates of current pup production should be conducted periodically (every 5 year), and that efforts should be made to ensure comparability of survey results. Therefore, the 2002 field work in the Greenland Sea included participation by a Canadian scientist with substantial experience from similar surveys in the Northwest Atlantic. Also, the subsequent analyses of images from the photographic surveys included participation of Canadian and Russian scientific personell with experiene from similar analyses from harp seal surveys in the northwest Atlantic and White Sea, repectively.

Available knowledge of previous abundance of Greenland Sea harp seals is rather restricted. During the period 1977-1991, about 17 000 harp seal pups were tagged in a comprehensive mark-recapture experiment in the Greenland Sea. Based on this experiment, pup production was estimated to be 67 300 (95% CI 56 400-78 113) in 1991. Incomplete aerial surveys performed in 1991 suggested a minimum pup production in this year in excess of 55 000. The present estimate, obtained 11 years later, is certainly higher than the 1991 estimates. It is also higher than the projected 2000 estimate (76 700; 95% CI 48 000 – 105 000), which was obtained using a new population model which was based on original reproductive parameters and tuned to available pup production estimates. It is important to note, however, that estimates made by different methods are not necessarily comparable, and direct comparisons of the presented 2002 aerial survey results with previous results to quantify changes in pup production should in principle not be done.

2.1.2 Ecological role – Greenland Sea harp and hooded seals

To enable an assessment of the ecological role of harp and hooded seals throughout their distributional range of the Nordic Seas (Iceland, Norwegian, Greenland Seas), a project was initiated in 1999 by members of the NAMMCO Scientific Comittee. The project pays special attention to the period July-February (i.e., between moulting and breeding), which is known to be the most intensive feeding period for both harp and hooded seals. To provide data, seals were collected for scientific purposes on expeditions with R/V"Jan Mayen", conducted in the pack ice belt east of Greenland in September/October 1999 and 2002 (autumn), July/August in 2000 (summer), and February/March in 2001 (winter). Results from analyses of stomach and intestinal contents from captured seals revealed that the diet of both species in this particular habitat were comprised of relatively few prey taxa. Pelagic amphipods of the genus *Parathemisto* (most probably almost exclusively *P. libellula*), the squid *Gonatus fabricii,* the polar cod *Boreogadus saida,* the capelin *Mallotus villosus*, and sand eels *Ammodytes* spp were particularly important. Although their relative contribution to the diet varied both with species and sampling period/area, these five prey items constituted 63-99% of the observed diet biomass in both seal species, irrespective of sampling period.

For the hooded seals, *G. fabricii* was the most important food item in autumn and winter, whereas the observed summer diet was dominated by polar cod, however with important contribution also from *G. fabricii* and sand eels. The latter was observed on the hooded seal menu only during the summer period, while polar cod, which contributed importantly also during the autumn survey, was almost absent from the winter samples. During the latter survey, also capelin contributed to the hooded seal diet. *Parathemisto* was most important for the harp seals during summer and autumn, whereas in winter the contribution from krill, capelin, and some other fish species were comparable and even larger. Harp seals appeared to consume some *G. fabricii* at all sampling periods, whereas polar cod, taken mainly in summer and autumn, was replaced by capelin and other fish species on their menu in winter.

The obtained results suggest that the ecology and distribution of the observed prey species can be related to known predator distribution and diving behaviour to give an account of how these seals fit into the Greenland Sea ecosystem. Obviously, the relative contribution of the most important prey species to the diet varied between the two seal species. Hooded seal diets appeared to be particularly characterized by squid *G. fabricii* and polar cod, but pelagic crustaceans (amphipods and krill) were important for harp seals. When the relative intestinal prey composition were compared quantitatively among co-occurring harp and hooded seals in the winter 2001 sample, differences were observed. These are probably the result of different foraging depths of the two seal species. Studies of diving behaviour of harp and hooded seals in the Greenland Sea have revealed that both species usually perform more shallow dives during summer than during winter, and that hooded seals dive to deeper waters than harp seals in both periods. Except for the youngest stages, which may occur in the upper water layers during summer, the major hooded seal prey *G. fabricii* has a typical mesopelagic distribution with occurrence mainly at depths greater than 400 m. This is in contrast to the distribution of the major food of harp seals: the observed krill and amphipod species are usually confined to the more upper water layers (< 200m depth). The methods used in diet studies assumes that whole prey species are taken. If parts of fish (e.g.,

the belly or other parts not including head with otoliths) are eaten this might well occur unregistrated in the performed analyses.

2.1.3 Sampling from harp seals taken as by-catch in gill nets

Biological data from 30 harp seals, taken as bycatch in March-April in gill-net fisheries in Finnmark, North Norway, were collected in 2003. Sampling included sex, age, condition and stomach contents, and the material is being analysed.

2.2 Russian research

2.2.1 Estimation of pup production of harp seals in the White Sea

During the 1997 and 1998 meetings of the Joint ICES/NAFO Working Group on Harp and Hooded Seals (WGHARP), it was noticed and appreciated that Russian scientists had made substantial efforts to obtain reliable pup production estimates for the White and Barents Sea stock of harp seals. In March 2000, Russian scientists conducted two fully independent surveys of the pups on breeding lairs in the White Sea: one with helicopter and one with airplane. The results from these surveys were presented to the 2000 (Copenhagen) meeting of WGHARP and the helicopter survey results have been published in the international scientific journal in 2003. Using the strip transect method, a mean uncorrected estimate of pups of 325,643 (SE=36,168), including pups harvested prior to the survey (30,729 pups), was obtained in the helicopter surveys. In the aeroplane survey, an uncorrected pup production estimate of 339,710 (SE=32,400), which includes pups harvested prior to the survey (30,729 pups), was obtained.

At the most recent WGHARP meeting (Arkhangelsk, Russia, 2003) Russian scientists presented data from harp seal pup surveys conducted in the White Sea in 2002 and 2003. The aerial surveys with photographing on transects on the whelping grounds, the "Arctica" AN-26 plane, equipped with video and the photo facilities (including a camera capable to take pictures of seals in the IR-range) was used. Numbers of harp seal pups in 2002 were estimated at 330,000 (according to a 20 March survey) and in 2003 328,000 (according to surveys performed on 18 and 21 March). The new Russian results were accepted and approved by WGHARP at the September 2003 session. The present Working Group **commend** the high quality of the Russian research in both aeroplane and (previous) helicopter surveys.

2.2.2 Harp seal breeding in the White Sea in 2003

Studies of the White Sea harp seal breeding period were conducted from February 28 to March 9 in 2003. In total, 1957 pups were checked for sexual ratio (the males were on excess, the sexual ratio was to 1:1.1).

On February 28 about 50 % of pups were 1-2 days old (n=285). By March 2 the fraction of this age group was reduced to 20 % (n=282), up to March 4 this parameter was on level of 24 % (n=166). On the last day of harvest (March 8) the share of newborns was about 8 %.

Average pup body weight on February 28 was 12,5±0,12 kg (n=285). On March 2 the body weight had increased to 15,3±0,21 kg (n=282) , on March 4 it was 16,4±0,37 kg (n=166), and on March 9 it was 18,9±0,30 kg (n=166). The 1995-2003 studies of harp seal whelping terms have shown that the 2003 data corresponds well to the average long-term parameters. The average weight of harp seal pups caught on ice during the period from March 22 to March 29, were 37,4±0,66 kg (n=79) for ragged jacket pups and 37,6±1,68 kg (n=11) for beaters, which corresponds to the average long-term data.

From the recent aerial surveys, executed in late February - early March, it has been found out that whelping patches in the White Sea are formed in the depth of ice fields within the center of the Basin area, much more southward than in the last 6 years. In the western and northern parts of the Basin the absence of ice suitable for harp seal whelping was observed. This situation, in combination with strong winds of western directions, caused a fast outward drift of the whelping patches from the Basin to the northern White Sea parts (Gorlo and Voronka areas).

To study harp seal distribution within the Mezen Gulf (in the White Sea) an expedition was organized in May 2003. No invasion to and mass mortality along the coasts in the Mezen Gulf were observed. Similar inspections were carried out within the Kandalaksha Bay in May 2003, but without observattions of mass mortalities (as were observed in 1998 and 2001). Collection of information from local fishermen during the spring-and-summer period did not indicate mass mortality either during the 2003 season. It is expected that the pup mortality rate in the White Sea in 2003 was close to the average long-term values.

2.3. Joint Norwegian-Russian work

2.3.1 Studies of reproduction

Trends in mean age at sexual maturity (MAM) were analysed for the Greenland Sea and Barents/White Sea stocks of harp seals based on data series collected by Russian and Norwegian scientists from the early 1960s to the early 1990s. Together with historical data on length at age, values of MAM are used as indicators of per capita resource levels in the two stocks of Northeast Atlantic harp seals. There was no long term trends in the Greenland Sea data set: A common MAM of 5.6 years could be fitted to data from 1959-90 and there were no significant differences in length at age of moulting females between samples collected in 1964 and 1987. For Barents Sea/White Sea harp seals, MAM increased significantly from 5.4 years in the period 1962-72 to 8.2 years in the period 1988-1993 concurrently with a decline in body growth rates found in earlier studies. The results indicate stock specific differences in per capita resource levels for maturing females, which might be related to different trends in stock abundance or density independent changes in habitat quality for the two stocks. The high values of MAM and low growth rates in the Barents Sea stock in the late 1980s to early 1990s coincided with severe depletion of important prey species in the Barents Sea, reports of mass invasions of harp seals alongthe Norwegian coast and indications of reduced body condition. All of this is consistent with a hypothesis of reduced per-capita resource levels within the distribution area of Barents Sea harp

seals at that time, but no cause-and-effect relationship for the long-term trend in age at maturity can be established.

2.3.2 Abundance estimation

On several occasions WGHARP has discussed the possibilities and undisputable advantages involved in exchange of scientists between the "harp-and-hooded-seal-counting" countries during each others field work and subsequent analyses, discussions and presentations of results. This would ensure standardisation of both the field- and analytical methods involved. For this reason Norwegian scientists patrticipated in the 2000 aerial surveys in the White Sea, and have also taken part in the subsequent analyses and presentations of the data. Furthermore, one Russian expert has participated in the analyses of material collected during the Norwegian 2002 aerial surveys in the Greenland Sea.

2.3.4 Harp seal / capelin overlap

In September 2001 and 2002, Norwegian and Russian scientists performed aerial surveys, using an especially designed Russian aeroplane, in the northeastern Barents Sea. The main aim of these surveys were to assess whether there was an overlap in distribution, and thus potential predation, between harp seals and capelin at this time of the year. The personell in the plane cooperated with Norwegian and Russian research vessels which assessed the distribution and abundance of capelin in the area simultaneous with the aerial surveys. The observations made indicated that harp seals were primarily found in drift ice areas, north of the key areas for capelin, thus indicating only low degree of distributional overlap between the two species in September.

2.3.5 Joint seal age estimations

In spring 2003 a joint Norwegian-Russian age-reading experiment on harp seal teeth was conducted in Tromsø with participation of one age reader from Russia (SevPINRO) and 2 age readers from Norway (IMR). Age estimates of known age teeth suggested a general tendency to overestimate age by 1 year or more in the age classes 5-11 years while the age of older animals tended to be overestimated. Graphical inspections of the results suggested differences between readers in both accuracy and precision, but these were not found to be statistically significant. Overall the study indicates that age estimates of harp seals should be treated as probability distributions rather than point estimates even in the youngest age classes. Adequate description of the probability distributions and the effects of having different readers can only be achieved by repeating the experiment with a much larger sample size.

3. STATUS OF STOCKS AND MANAGEMENT ADVICE FOR 2004

WGHARP met at SevPINRO, Arkhangelsk, Russia, 2-6 September 2003 to assess the stocks of Greenland Sea harp seals, White Sea / Barents Sea harp seals and Greenland Sea hooded seals.

New information about pup production was available, and enabled WGHARP to perfrom modelling which provided ICES with sufficient information (at the ACFM meeting in Copenhagen, Denmark, 8-17 October 2003) to give advice on status and to identify catch options that would sustain the populations at present levels withnin a 10 year period.

Management agencies have requested advice on "sustainable" yields for these stocks. ICES notes that the use of "sustainable" in this context is not identical to its interpretation of "sustainable" applied in advice on fish and invertebrate stocks. "Sustainable catch" as used in the yield estimates for seals means the catch that is risk neutral with regard to maintaining the population at its current size within the next 10 year period.

Population assessments were based on a new population model that estimates the current total population size using the historical catch data and estimates of pup production. These estimates are then projected into the future to provide a future population size for which statistical uncertainty is provided for each set of catch options.

There are several significant differences between the current model and the one used for the previous assessment (in 2000). The previous model used only two age classes (pups and 1+ animals), while the new model uses 20 age classes. Information about age composition in catches is available from age estimations from annual rings in canine teeth. Work carried out following the previous assessment, including discussions on and recommendations from the Workshop to Develop Improved Methods for Providing Harp and Hooded Seal Harvest Advice, indicated that the earlier model was less appropriate than a model with a full age structure. The same population dynamic model was used for all three of the northeast Atlantic populations, but with stock specific values of biological parameters. The inclusion of a full age structure into the model was an improvement from previously used estimation programs. In general the new model gives lower catch options than previous models. This is due to uncertainty in, in some cases also complete lack of, updated relevant data for the assessed stocks.

The advice given by ICES in 2003 was used by this Working Group on Seals to establish management advice for 2004 to the Joint Norwegian-Russian Fisheries Commission.

3.1. Greenland Sea

The Working Group **recommends** the following opening dates for the 2004 catch season: 1) Sucling pups, opening date of 18 March (0700 GMT) for catches of pups of both harp and hooded seals; 2) weaned pups, opening dates 20 March for hooded seals and 1 April for harp seals; 3) seals aged 1 yr and older (1yr+), opening date 22 March for hooded seals and between 1 and 10 April for harp seals. Adult hooded seal males should be permitted taken from 18 March. The Group recommends a closing date set at 30 June (2400 GMT) for harp seals and 10 July (2400 GMT) for hooded seals in 2004. Exceptions on opening and closing terms may be made in case of unfavourable weather or ice conditions. If, for any reason, catches of pups are not permitted, quotas can be filled by hunting moulting seals.

The Working Group agreed that the ban on killing adult females in the breeding lairs should be maintained for both harp and hooded seals in 2004.

3.1.1 Hooded seals

The Working Group noted the conclusion from ACFM that recent removals have been below the recommended sustainable yields.

The pup production and total population for 2003 was obtained using the model described above. Inputs to the model were:

Pup production estimate: Aerial surveys in 1997 resulted in estimates of pup production in the Greenland Sea of 23 762 pups (95% C.I. 14 819 to 32 705). This estimate is considered to be negatively biased since it was not corrected for the temporal distribution of births or for scattered pups. The actual number of pups produced in 1997 could, therefore, be larger.
Natural mortality: $M_{1+} = 0.12$.
Pup mortality: $M_0 = 3M_{1+}$.
Age at maturity ogive:
Estimated proportion of mature females (p) at ages 2-10, based upon data obtained from the NW Atlantic population

Age	2	3	4	5	6	7	8	9	10
P	0.029	0.262	0.504	0.734	0.802	0.802	0.850	0.908	1.00

Pregnancy rate for mature females: F=0.97

Based on this input, the model estimated the following 2003 abundance for Greenland Sea hooded seals: 120 000 (95% C.I. 65 000-175 000) 1+ animals with a pup production of 29 000 (95% C.I. 17 000-41 000).

The 1997 estimate of pup production is the only estimate available for the Greenland Sea hooded seal stock. The single estimate of pup production is over 6 years old and there are no estimates of reproductive rates for this stock. Therefore, any advice provided should be extremely cautious. One method of providing advice in such data poor situations is through the use of the Potential Biological Removals (PBR) approach. The Potential Biological Removal (PBR) has been defined as:

$$PBR=0.5 \cdot R_{Max} \cdot F_r \cdot N_{Min},$$

where R_{Max} is the maximum rate of increase for the population , F_r is a recovery factor with values between 0.1 and 1 and N_{Min} is the estimated population size using 20th percentile of the log-normal distribution. R_{Max} is set at a default of 0.12 for pinnipeds. It is appropriate to set the recovery factor (F_r) 0.75 given the time since the last survey and uncertainty in parameters used to determine the total abundance.

The PBR approach can be used when only a single estimate of abundance is available. This approach would be appropriate within the precautionary approach to marine resource management implemented by ICES.

Based on a request from the Joint Norwegian-Russian Fisheries Commission, ICES was requested to give options (with indication of medium term consequences) for three different catch scenarios:

- Current catch level (average of the catches in the period 1999 – 2003)
- Sustainable catches.
- Two times the sustainable catches.

For the reasons outlined above, however, ICES rather recommend a PBR-based approach. A catch of 5 600 hooded seals in 2004 would sustain the population at present level. The Working Group **recommend** that this be used as a basis for the determination of a TAC for hooded seals in the Greenland Sea in 2004:
5,600 animals (irrespective of age).

3.1.2 Harp seals

The Working Group noted the conclusion by ICES that recent removals have been below the recommended sustainable yields, and that prolongation of current catch level will likely result in an increase in population size.

The model solves for a constant exploitation which stabilise the 1+ population. Inputs to the model were:

Pup production estimates (from previous tag-recapture experiments (1983-1991) and from recent (2002) aerial surveys):

Year	Pup production estimates	c.v.
1983	58539	.104
1984	103250	.147
1985	111084	.199
1987	49970	.076
1988	58697	.184
1989	110614	.077
1990	55625	.077
1991	67271	.082
2002	98099	.204

Natural mortality: $M_{1+} = 0.12$.
Pup mortality: $M_0 = 3M_{1+}$.

Age at maturity ogive: p(3) = 0.058, p(4) = 0.292 p(5) = 0.554, p(6)=0.744, p(7)=0.861, p(8)=0.926, p(9)= 0.961, p(10)=0.980, p(11)=0.990, p(12)=0.995, p(13)=0.997, p(14)=0.999, p(15)=0.999
Pregnancy rate for mature females: F=0.833.

Based on this input, the model estimated the following 2003 abundance for Greenland Sea harp seals: 349 000 (95% C.I. 319 000-379 000) 1+ animals with a pup production of 68 000 (95% C.I. 62 000-74 000).

Based on a request from the Joint Norwegian-Russian Fisheries Commission, ICES gave **catch options** for three different catch scenarios:

- Current catch level (average of the catches in the period 1999 – 2003)
- Sustainable catches.
- Two times the sustainable catches.

The sustainable catches are defined as the (fixed) annual catches that stabilise the future 1+ population. The catch options are further expanded using different proportions of pups and 1+ animals in the catches.

As a measure of the future development of the estimated population, the ratio between the size of the 1+ population in 2013 and 2003 is used.

					10 Year Projection
Option #	Catch level	Proportion of 1+ in catches	Pup catch	1+ catch	$N_{2013,1+} / N_{2003,1+}$
1	Current	48% (current level)	1953	1819	1.16
2	Sustainable	48%	5990	5530	1.01
3	Sustainable	100%	0	8200	1.02
4	2 X sust.	48%	11981	11059	0.79
5	2 X sust.	100%	0	16400	0.81

While current catch level (option 1) will likely result in an increase in population size, ICES emphasized that a catch of 8,200 1+ animals (catch option 3), or an equivalent number of pups, in 2004 would sustaina the population at present level within a 10 year period. The Working Group **recommend** that this be used as a basis for the determination of a TAC for harp seals in the Greenland Sea in 2004:
8,200 1+ animals or an equivalent number of pups. If a harvest scenario including both 1+ animals and pups is chosen, one 1+ seal should be balanced by 2 pups.
Catches 2X sustainable levels will result in the population declining by approximately 20-25% in the next 10 years.

3.2 The Barents Sea / White Sea

The Working Group **recommends** the following terms concerning opening and closing dates and areas of the catches: From 27 February to 20 April for Russian coastal catches and from 23 March to 20 April for Norwegian and Russian sealing ships. However, it is proposed that, in the case of difficult weather or ice conditions, the harvesting can be prolonged till 10 May. Exceptions from opening and closing dates should be made, if necessary, for scientific purposes. The Norwegian participants in the Working Group suggest to prolong dates of harvesting to 1 July, and to determine the operational areas for the Norwegian catch activities to be the southeastern Barents Sea to the east of 20°E.

The Working Group agreed that the ban on killing adult harp seal females in the breeding lairs should be maintained in 2004.

3.2.1. Harp seal.

The Working Group noted the conclusion by ICES that recent removals have been below the recommended sustainable yields, that prolongation of current catch level will likely result in an increase in population size, and that there is some evidence that densities may be so high that biological processes like rate of maturation may be showing density dependent effects.

The model solves for a constant exploitation which stabilise the 1+ population. Inputs to the model were:

Pup production estimates (from Russian aerial surveys):

Year	Pup production estimate	c.v.
1998	286 260	.073
2000	322 474	.089
2000	339 710	.095
2002	330 000	.200

Natural mortality: $M_{1+} = 0.09$.
Pup mortality: $M_0 = 5M_{1+}$ (fixed)
Age at maturity ogive: p(5) = 0.1, p(6) = 0.18, p(7) = 0.35, p(8)=0.6, p(9)=0.7, p(10)=0.94, p(11)= 1.0
Pregnancy rate: F=0.84.

The first (1998) pup production estimate is uncorrected, while the later ones have corrections applied. For 2000 there are two independent estimates for pup production.

Based on these input values, the model estimated the following 2003 abundance of harp seals in the White Sea: 1 829 000 (95% C.I. 1 651 000-2 006 000) 1+ animals with a pup production of 330 000 (95% C.I. 299 000-360 000).

Based on a request from the Joint Norwegian-Russian Fisheries Commission, ICES gave **catch options** for three different catch scenarios:

- Current catch level (average of the catches in the period 1999 – 2003)
- Sustainable catches.
- Two times the sustainable catches.

The sustainable catches are defined as the (fixed) annual catches that stabilise the future 1+ population. The catch options are further expanded using different proportions of pups and 1+ animals in the catches.

As a measure of the future development of the estimated population, the ratio between the size of the 1+ population in 2013 and 2003 is used.

					10 Year Projection
Option #	Catch level	Proportion of 1+ in catches	Pup catch	1+ catch	$N_{2013,1+} / N_{2003,1+}$
1	Current	7% (current level)	37979	2992	1.16
2	Sustainable	7%	102 486	7 714	0.99
3	Sustainable	100%	0	45 100	1.03
4	2 X sust.	7%	204 972	15 428	0.71
5	2 X sust.	100%	0	90 200	0.80

While current catch level (option 1) will likely result in an increase in population size, ICES emphasized that a catch of 45,100 1+ animals (catch option 3), or an equivalent number of pups, in 2004 would sustain the population at the present level within a 10 year period. The Working Group **recommend** that this be used as a basis for the determination of a TAC for harp seals in the Greenland Sea in 2004:
45,100 1+ animals or an equivalent number of pups. If a harvest scenario including both 1+ animals and pups is chosen, one 1+ seal should be balanced by 2.5 pups.
Catches 2X sustainable levels (options 4 and 5) will result in the population declining by approximately 20-25% in the next 10 years.

3.2.2 Other species

The Working Group agreed that commercial hunt of bearded seals should be banned in 2004, as in previous years, but it **recommend** to start catch under permit for scientific purposes to investigate results of long time protection.

3.3 Biological limits of yield

Biological limits of yield reflecting very low risk of collapse must be developed within a

Precautionary Approach framework. ICES discussed a recent approach on the application of the Precautionary Approach (PA) and conservation reference points to the management of harp and hooded seals, originally developed for the stocks in the Northwest Atlantic. Within this framework, conservation, precautionary and target reference points can be identified and linked to specific actions to aid in managing the resource. For seals, abundance and yield should be identified in terms of numbers rather than as biomass (as done in fish).

Harp and hooded seals are commercially exploited to varying levels throughout the North Atlantic. The availability of scientific information concerning the status of these resources (abundance, reproductive and mortality rates) also varies between the species. A conceptual framework for applying the PA to Atlantic seal management was outlined (see figure below). For a data rich species, one target, one precautionary and one conservation reference level are proposed. A target reference level could be established at 70% (N_{70}) of the pristine population size or a proxy of the pristine population (e.g. maximum population size). When populations fall below N_{70}, conservation objectives assume a greater role in the setting of harvest levels, and measures are put in place to allow the population to increase above the precautionary reference level. A precautionary level is established at 50% of the estimated pristine population size, while a conservation limit (or limit reference point) resulting in closure of commercial harvesting is established at 30% of the estimated maximum population size. It should be stressed that the percentages given above are just meant as an example, in this case taken from a framework suggested for the Northwest Atlantic population of harp seals. The suggested percentages resulted from a review of general models used in fisheries literature and of an approach developed in the conservation literature.

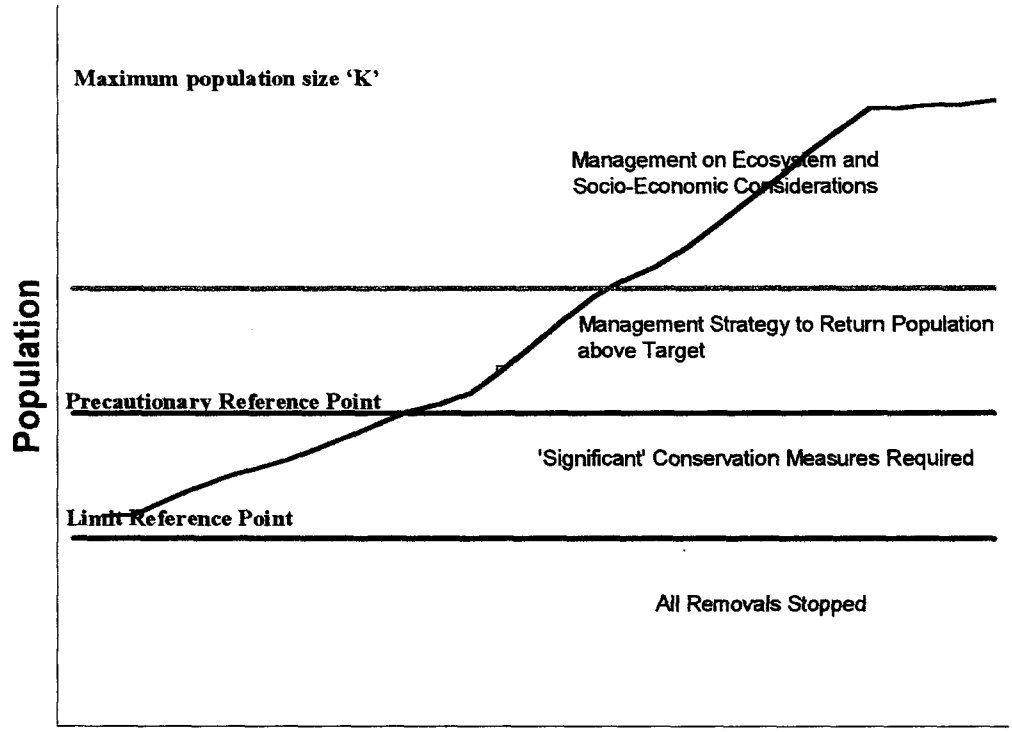
In the northwest Atlantic, it is required that populations have at least three abundance estimates, that the most recent abundance estimate is no more than 5 years old, and that recent data on fecundity or mortality rates are available – otherwise the population would be considered data poor, and requires a more risk adverse approach to their management. In data poor situations, the uncertainty associated with the resource's status and the impact of a particular management action increases and as a result, more caution is required. This could be accomplished by identifying the maximum allowable removals that will ensure that the acceptable risk of the population falling below this reference point is only 5%. This level has been referred to as the Potential Biological Removal (PBR) and can be approximated using default values and an estimate of abundance. Since the only data required is an estimate of population size, this or a similar approach is appropriate for data poor species. The PBR approach has the added advantage that the simulation trials used to establish the appropriate population size (N_{Min}) ensured that the formulation is robust when the model assumptions are relaxed and plausible uncertainties are included.

ICES notices the similarity between the suggested framework for seals and the framework used in the management of fish resources. ICES will further develop the seal framework and will propose reference points, if possible, for the different harp and hooded seal populations.

As yet, no reference points are proposed for the individual stocks of harp and hooded seals in the Northeast Atlantic. Until such reference points are established ICES suggests that harvesting could be continued at recent levels or at levels that will sustain the stocks at present level with high

probability.

Figure below: Suggested reference points and control rules for implementing the Precautionary Approach into the management of harp and hooded seals in the North Atlantic. The curve indicates the growth of the northwest Atlantic harp seal population from the late 1970s and up to date.



3.4 Prospects for future sealing activities

3.4.1 A joint Norwegian-Russian workshop - background

There are concerns over the current lack of ability on both the Norwegian and Russian side to fulfill given quotas on harp and hooded seals. Also, the multispecies perspective of seal management is a matter of concern in the two countries.

The main problem for the sealing industry in the last 2-3 decades has been the market situation. Protest activities initiated by several Non-governmental Organisations in the 1970s destroyed many of the old markets for traditional seal products which were primarily the skins. The results has been reduced profitability which subsequently resulted in reduction in available harvest capacity (e.g., the availability of ice-going vessels) and effort. With the present reduced logistic harvest capacity in Norway and Russia it is impossible to take out catches that would stabilise the stocks at their present levels. Unless sealing again becomes profitable, it is likely that this situation will prevail.

Recently, however, there have been some indications that the market situtation for traditional seal products is in a process of improvement. An important reason for this is increased prices on some of the skin products, in particular beaters (weaned and moulted harp seal pups) and bluebacks (weaned hooded seal pups). Norwegian sealing has been unprofitable for many years, but to keep the activities alive the authorities has provided some governmental subsidies (14.5 million NOK in 2002). It is, however, the intention that Norwegian sealing shall be normalised such that management and catch activities can be organised according to the same procedures as the fish resources on a commercial basis. A national Marine Mammals Council has been established in Norway – the main objective for this council will be to provide management advice to Norwegian authorities in questions regarding marine mammals, both seals and whales. This establishment is a part of normalisation of the management of marine mammals.

On the Russian side the present harp seal catch logistics in the White Sea implies the use of helicopters. This is very expensive, and future activity will depend very much on increased profitability in the operations. On the Russian side there are now no available ice-going sealers. The possibility to use Norwegian sealing vessels in the White Sea catch has been discussed, but no practical results have been obtained.

The possible change in the market situation may represent a key to how future sealing should be organised. As a result of this, the Joint Norwegian-Russian Fisheries Commission, at its meeting in Kabelvåg, Norway, in November 2002, has recommended that an arena be defined, where experts involved in the various aspects and branches of sealing can meet. This must primarily be a meeting for people from all levels of the sealing industry, including participants with knowledge of both the sealing itself, the products and their application, and the market prospects. Themes addressed should primarily focus on market prospects for traditional products (skins), but also the possibility to introduce "new" products (meat- or blubber-based) on the markets should be assessed.

This was the background for the workshop "Prospects for future sealing activities in the North Atlantic" which will be held at SevPINRO in Archangelsk, Russia on 7 September 2003. The practical arrangements were done jointly by The Norwegian Fishing vessel Owners Association, the Institute of Marine Research in Tromsø, and SevPINRO in Archangelsk. The Joint Norwegian-Russian Fisheries Commission has urged the necessity to secure participation also from other seal hunting nations. For this reason, participation from both Canada and Greenland was secured. The workshop had 39 participants from Canada (1), Greenland (1), Norway (18) and Russia (19).

3.4.2 Workshop program

Opening address (Chairman of the Workshop, director Vasily Zelenkov, SevPINRO, Arkhangelsk, Russia)
The northeast Atlantic seal resources and their role in the ecosystem (Professor Tore Haug, Institute of Marine Research, Tromsø, Norway)
Norwegian sealing: Status and prospects (Tor Are Vaskinn, Tromsø, Norway)
Russian sealing: Status and prospects (Chairman of the Committee of Fisheries Leonid P. Meleshko, Arkhangelsk, Russia)
The status and management of harp and hooded seals in Canada (Dr Garry B. Stenson, Dept. of Fisheries and Oceans, Newfoundland, Canada).
Traditional seal products. Status and prospects seen from Norway/Canada (Director Knut Nygaard, Rieber AS, Bergen, Norway).
Small vessels for use in future Russian coastal fisheries and sealing (Erik Jansen, Solombala Shipyard, Arkhangelsk, Russia / SELFA Arctic, Norway).
New seal products
Current and future exploitation of the seal carcass in Norway (Dr Jan Pettersen, Norwegian Institute of Fisheries and Aquaculture Research, Bergen, Norway)
Products based on simple technology in Norway (Director Arnfinn Karlsen, Polargodt AS, Tjørvåg, Norway)
Russian sealing in the North: Current problems and potential new products (Vitaly Prischemikhin, SevPINRO, Arkhangelsk, Russia)
Discussion
Summary (Professor Tore Haug, Institute of Marine Research, Tromsø, Norway / Director Vasily Zelenkov, SevPINRO, Arkhangelsk, Russia)

3.4.3 Workshop summary

Based on presentations and subsequent discussions, Zelenkov and Haug summarised the workshop as follow:

If profitability in sealing increases, hunting levels are likely to increase up to sustainable levels. It was agreed that this calls for availabilty of updated information about stock status (abundance, productivity and catch statistics), such that catch options can be defined on the best possible basis. Under the precautionary approach, ICES (and NAFO) will not give harvest advice unless such updated information is available. Hunting nations must secure that the stocks are monitored and assessed using accepted methods at regular intervals (no less than every 5 year).

Regulation of the seal populations should be conducted as part of an ecosystem management. Nevertheless, the workshop agreed that seals must be harvested as resources, and not as a pest. Thus, seal resources should be exploited according to the same principles as any other living marine resources.

A more long term strategy for management should be developed. Maybe the approach now under

assessment in Canada (with defined biological reference points) can be a way forward.

Hunting methods and the logistics involved is an issue. Russia must change from helicopter-based to boat-based hunting (and the boats must be designed to facilitate participation in other fisheries outside the sealing season), whereas a renewal of the vessel fleet is becoming urgent for Norway. Modernizing of the hunting logistics must take into account that the final design shall be for future sealing (where the whole seal is utilized) and not for the more traditional pelt-blubber and, to a lesser extent, meat sealing.

Self-sustained profitability is a key word for future sealing activities. It is, therefore, necessary to increase the profits of sealing by increasing the value of each seal. This requires that the whole animal is utilized, and that effort is spent to develop methods to make new products of the parts of the seal that were previously discarded or left on the ice. Exchange of information about the progress in work to develop new products must occur among hunting nations.

New products from sealing is still at an experimental, and not at a large scale, stage. The development of new products must, therefore, occur in parallell with production of more traditional seal products (pelts, blubber, meat). The market situation for certain pelts (in particular bluebacks and beaters, whitecoats are at present uninteresting outside Russia) is improving. Nevertheless, marketing of both traditional and new products will be both necessary and important.

The workshop profoundly encouraged people form sealing nations to cooperate in the future, both on the scientific level (on one side to obtain safe and acceptable assessments and management of the seal stocks; on another side to develop new products), on the industrial level (initiate production of new products, secure sufficient marketing of both new and more traditional products), and among the hunters (renewal of hunting methods and logistics).

Taking into account the recommendations from the workshop, Russia has declared the intent to initiate building of ice-going sealing vessels. Russian sealing operators requires to get the necessary support to entertain future hunting activity. The Working Group **recommends** that similar workshops, with representatives of the sealing industry in the northern region, are arranged on a more regular basis in the future.

3.4.4 Norwegian initiatives to make sealing more effective

To make Norwegian sealing activities more efficient, a decision (made 11 February 2003) to revise and simplify the existing rules and regulations for the practical conduction of sealing were implemented from the 2003 season on.

A Parliamentary White Paper, dealing with marine mammal issues, is currently being prepared in Norway. The Paper, aimed to be presented to and discussed in the Norwegian Parliament in 2004, will define the future Norwegian policy regarding management and exploitation of seals (and whales) in Norwegian and adjacent waters.

4. RESEARCH PROGRAM FOR 2004+

4.1. Norwegian investigations

4.1.1 Collection of biological material from the commercial hunt

Biological material, to establish age distributions in catches as well as reproductive and nutritive status of the animals, will, if practically feasible, be collected from commercial catches in the southeastern Barents Sea in 2004. On a longer term, such data will be collected also in the Greenland Sea. Data necessary to assess the reproductive status of the harvested seal stocks will also be collected in the near future.

Studies of the ecology of harp and hooded seal pups in the Barents Sea and Greenland Sea will be continued. The long term aim of these investigations is to get a better understanding of the underlaying mechanisms determining the recruitment success from year to year for the two species. The implication of this seal pup project in 2004 is biological sampling from approximately 600 harp seal pups taken in the commercial hunt in the southeastern Barents Sea. Body condition data will also be secured from some of the adult seals taken in the commercial catches.

4.1.2 Estimation of hooded seal pup production in the Greenland Sea

Last time hooded seal pup production was assessed in the Greenland Sea was in 1997. Since abundance estimates of hunted seal stocks should be obtained no less than every 5 year, Norway plan to conduct surveys to obtain data necessary for estimation of the abundance of hooded seals of the Greenland Sea stock in 2005. The methodological approach will be designed along the same lines as the recent (2002) Greenland Sea harp seal survey, i.e., to conduct aerial surveys of pups in the Greenland Sea pack-ice during the whelping period (March-April). A fixed-wing twin-engined aircraft (stationed in Scoresbysound, Greenland) will be used for reconaissance flights and photographic surveys along transects over the whelping patches once they have been located and identified. A helicopter, stationed on and operated from a research vessel, will assist in the reconnaissance flights, and subsequently fly visual transect surveys over the whelping patches. The helicopter will also be used for other purposes (stageing of pups and tagging). As part of the preparations, fuel to be used by the aeroplane must be transported by ship to Scoresbysound the summer before the surveys, i.e., during summer in 2004.

4.1.3 Ecology of harp and hooded seals in the Greenland Sea

A project aimed to provide the data necessary for an assessment of the ecological role of Greenland Sea harp and hooded seals throughout their distributional area of the Nordic Seas (Iceland, Norwegian, Greenland Seas) was conducted in 1999-2002. The field work is now completed, some results are published, and it is the intention that the data shall be subjected to further analyses and prepared for publication in 2004.

4.1.4 Harp seals taken as by-catches in gillnets

Provided harp seals invade the coast of North Norway also during winter in 2004, biological samples will be secured from animals taken as bycatches in Norwegian gill net fisheries.

4.1.6 Seal physiology

On a research cruise to the Greenland Sea in March 2004, the effect of and tolerance to hypoxia in the central nervous tissue of harp and hooded seals will be studied.

4.2.Russian investigations.

4.2.1 Harp seal pup production in the White Sea in 2004

Substantial practical experience in carrying out aerial surveys of harp seal pup production in the White Sea has accumulated in Russia. In 1997 – 2003, 6 aerial photographic surveys were conducted. The results have been reported on a regular basis to WGHARP, and published in Russia and abroad. In 2004, Russia plans to conduct a harp seal pup photography survey and to obtain new data for assessment of the stock. The methodological approach will be similar to previous surveys. Depending on the ice and other conditions, ground truthing necessary to adjust the aerial surveys parameters will also be conducted.

4.2.2. Studies of whelping harp seal in 2004

Biological material for determination of age structure in catches and the reproductive and feeding status of adult females will, if practically feasible, be collected during the 2004 commercial seal hunt. Collection of material on the morphology and ecology of harp seal pups will be continued in the White Sea. Basic attention will be given to such aspects as female breeding terms, time duration of pups in developmental stages, and the beginning of independent feeding. If ice conditions allow, tagging of pups with roto-tags will be conducted. Within the framework of the scientific program it is intended to collect biological samples from 500 adult females and 500 pups of any sex. It is also the intention to continue research on the feeding habits of the seals and their interactions with commercially important fish species.

4.2.3. Studies of harp seals in the 2004 moulting and feeding periods

In April - May 2004, studies of harp seal spring migrations in the White Sea and Barents Sea will be continued.

4.3. Joint Norwegian - Russian investigations

4.3.1 Feeding habits of harp seals in open waters of the Barents Sea

In 2001 and 2002, Norwegian and Russian scientists performed an aerial survey to assess whether there was an overlap in distribution, and thus potential predation, between harp seals and capelin in the Barents Sea. This experiment will now be followed with boat-based surveys aimed to study pelagic feeding by harp seals in the Barents Sea during summer and autum. For various reasons it was not possible to initiate the project in 2003 as planned. However, the project is now planned to run over a three-year period (2004-2006). A first survey to address these questions will take place in May-June 2004. In the Norwegian area (NEZ) a chartered Norwegian coast guard vessel will be used, whereas a Russian vessel will be applied in REZ. There will be a mix of Norwegian and Russian scientific personell on both vessels. The boat-based survey may be supported with aerial reconnaissance surveys performed by a Russian aeroplane.

4.3.2 Tagging of Barents Sea / White Sea harp seals with satellite tags

The successful joint Norwegian-Russian 1996 project (and a similar project during harp seal breeding in 1995) with tagging of harp seals with satellite transmitters in the White Sea will be continued with final analyses of data and joint publication of results in 2004. The Working Group **recommends** that satellite tagging experiments with harp seals in the White Sea are continued jointly between Norwegian and Russian scientists with the purpose to study distribution, migrations and daily activity of the seals. This will give an important contribution to a better understanding of the temporal and spatial distribution of the seals, which is important input data when their total consumption of marine resources in the Barents Sea is to be assessed. It is important that animals of different sexes and ages are tagged. Preferably, 2004 will be used to select the right tag types, to sort out potential legal problems involved in using this sort of equipment in the White Sea, to define a joint research program that shall ensure a proper design on the experiment, and to secure funding. Deploymnet of tags will be attempted conducted in 2005.

4.3.3 Life history parameters in seals

Upon request, forwarded during meetings of the Joint Norwegian-Russian Fisheries Commission, one Russian scientist was invited to participate in scientific work on Norwegian sealers during March-April in 1997-1999 in the southeastern part of the Barents Sea, and in 2000 in the Greenland Sea. This Norwegian-Russian research cooperation is encouraged, e.g., by extending an invitation to Russian scientists to participate on Norwegian sealers in the southeastern Barents Sea and/or in the Greenland sea also in 2004. This would enable coordinated and joint sampling of biological material. The Working Group **recommend** that Russian scientists are offered the possibility to participate in Norwegian research activities in 2004 as described above. If Russia can realize scientific or commercial vessel trips in the White, Barents and Greenland Seas, invitation for participation of Norwegian scientists is desirable.

From the Russian side it has been suggested that Norwegian and Russian scientists coordinate their research on various biological aspects of the early life phase of seal pups in the White Sea /

Barents Sea. Exchange of data and joint publication should be considered. Russian scientists also suggest to repeat previous (1970 – 1980) workshops, where experience of different countries scientists concerning the determination of seal age were exchanged. For this purpose, the use of teeth from seals of known age should be used. As a first step in this activity, one Russian expert were invited to stay in Norway (Tromsø) in January/February 2003 to study the age of harp seals taken in the Norwegian commercial hunt in recent years. The Woorking Group recommend that this sort of activities are continued.

4.4. Necessary research takes

For completion of the proposed Norwegian and Russian research programs, the following numbers of seals are planned to be caught under special permits for scientific purposes in 2004:

Area/species/category	Russia	Norway
Barents Sea / White Sea		
Whelping grounds		
Adult breeding harp seal females	500	0
Harp seal pups	500	0
Outside breeding period		
Harp seals of any age and sex	2000	250
Ringed seals	400	0
Bearded seals	300	0
Greenland Sea*		
Whelping grounds		
Adult breeding harp seal females	500**	25
Harp seal pups	500**	25
Adult breeding hooded seal females	500**	25
Hooded seal pups	500**	25
Outside breeding grounds		
Harp seals of any age and sex	0	100
Hooded seals of any age and sex	0	100
Ringed seals	10*	100
Bearded seals	10*	10

* If Greenland Sea quotas are allocated to Russia, these will be used for collection of biological samples
** Only possible if convenient vessel will be available

5. OTHER BUSINESS

5.1 White whale research

Taking into account the experience stored by Russian and Norwegian experts in studies of white whale abundance, distribution and migrations within the White and Barents Seas, the Working Group **recommends** that Russian and Norwegian scientists unite efforts in developing the techniques for an investigations (including abundance estimation and studies of migration using satellite tags) of white whales in the White Sea. Russian scientists offer Norwegian scientists the opportunity to take part in white whale investigations within the White Sea, as a first stage (2004-2005) to conduct a joint tagging of white whales in the White Sea in the summer season.

5.2 Studies of minke whale ecology

The northeast Atlantic stock of minke whales is known to consume a substantial amount of fish (including commercially important species such as capelin, herring and gadoids). To improve the data base needed to assess the impact of minke whales on the Barents Sea fish stocks, it was suggested at the 2001 meeting of the Joint Norwegian-Russian Fisheries Commission that a research program be developed. In response to this, a joint Norwegian-Russian research program to particularly study the ecology of minke whales in the REZ part of the Barents Sea was developed by professor Tore Haug (Norway) and drs Vladimir Potelov and Vladislav Svetochev (Russia). This would imply a take in REZ of 50 minke whales per year for scientific purposes during the investigation period (2002-2005). Norway has approved such a program, and an application weas sent to Russian authorities to permit two Norwegian whaling boats, each with a Norwegian/Russian scientific crew, to hunt a total of 50 minke whales in REZ in 2002. Russian authorities permitted the Norwegian vessels to into the REZ, but unfortunately they were not allowed to hunt whales. The project therefore had to be cancelled in 2002. A similar procedure were followed in 2003, but with the same result. The Working Group **recommends** that a new attempt to initiate the joint Norwegian-Russian research program on minke whale ecology in REZ is made, and that the program be designed to run over the period 2004-2007.

5.3 Joint whale and other surveys

Traditionally two Russian and two Norwegian research vessels have participated in the Barents Sea capelin survey in September each year. By placing whale observers onboard all four vessels one will gain data on the distribution and abundance on whales relative to the distribution of capelin and other potential prey species. Such data will be very valuable to obtain a further understanding of the role of whale species in the ecosystem, and the Working Group **recommends** that such an observer program is established.

It is also suggested to continue the joint aerial investigations to study distribution and to perform an abundance evaluation of marine mammals and birds in the northern parts of the Barents Sea,

including their overlap with fish species such as capelin and polar cod. The investigations will be carried out within the framework of annual surveys of pelagic fishes and have elements of ecosystem approach (September - October).

6. APPROVAL OF REPORT

The English version of the Working Group report was approved by the members on 12 November, 2003.

VEDLEGG 9

PROTOKOLL

MØTE I DET PERMANENTE UTVALG FOR FORVALTNINGS- OG KONTROLLSPØRSMÅL PÅ FISKERISEKTOREN I MURMANSK 29.9. – 3.10.2003

På den 22 sesjon i Den blandete norsk- russiske fiskerikommisjon, jfr. protokollen pkt 11.2, opprettet partene Det permanente utvalg for forvaltnings- og kontrollspørsmål på fiskerisektoren.

Partenes delegasjoner fremgår av vedlegg 1.

Møtet ble avholdt i henhold til saksliste, jfr. vedlegg 2.

1. **Åpning av møtet.**

2. **Godkjenning av dagsorden.**

3. **Utarbeidelse av et felles norsk-russisk dokument om mål og virkemidler i kontrollsamarbeidet i Barentshavet.**

Partene utvekslet dokumenter med forslag til rammer for det videre arbeid. En er enig i å fortsette arbeidet i det neste møtet i Det permanente utvalg. En legger opp til å utveksle synspunkter pr. e-post forut for møtet.

4. **Utveksling av informasjon angående utvikling av sorteringssystemer med ulike materialtyper.**

Partene orienterte hverandre om effektivitetsstudier av praktisk bruk av sorteringssystem. Deriblant utprøving av nye materialer.

Den norske part informerte om at det var innført krav om bruk av kvadratmasker i snurrevad i visse områder. Det ble videre orientert om den pågående utprøvingen av en ny rist i reketrål (Cosmos-rist).

Den russiske part framla et forslag til endringer av det russiske enkeltristsystemet "Sort-V".

Den norske part var enig i at dette modifiserte russiske enkeltristsystemet også kunne tillates brukt i norske farvann, jfr. vedlagte "Regulations on the use of "Sort-V" sorting system with a single grid in Russian trawls". (Vedlegg 3).

Det ble fra den norske part vist til at Norge i forrige møte i Det permanente utvalg hadde orientert om at det i norsk regelverk var åpnet for bruk av en rist i plastmateriale (flexirist), samt en enkeltrist i stål tilpasset norsk topaneltrål . Den norske part vil fremlegge pr. e-mail tekniske spesifikasjoner for disse risttypene for vurdering av den russiske part. Den norske part legger til grunn at disse risttypene også kan tillates brukt i russisk farvann. Den russiske part la til grunn at saken burde legges frem for Den blandete norsk russiske fiskerikommisjonen.

5. Utveksling av informasjon om status for forskning på kongekrabbe i Barentshavet.

Den russiske part orienterte om gjennomføringen av forskningsarbeider for å bestemme kriterier for bifangst av kongekrabbe ved fiske etter andre arter.

Partene orienterte hverandre om den forskning som er gjort så langt på kongekrabbens rolle i økosystemet i Barentshavet, samt undersøkelsene for å skaffe et vitenskapelig grunnlag for å kunne etablere en vestlig grense for utbredelse av kongekrabben.

Den norske part orienterte om forskning på fangst av kongekrabbe med teiner med fluktåpning.

Den norske part orienterte videre om reguleringen av kystfisket etter kongekrabbe i 2003. Reguleringen åpner for at mindre kystfartøy som har hatt størst problemer i sitt tradisjonelle fiske på grunn av kongekrabbe, får delta i fisket. Fisket kan foregå i perioden 1. oktober til 31. desember og er regulert med fartøykvote. Det er kun adgang til å utøve fiske med teine.

I forbindelse med manglende forskningsdata for å fastsette kriterier for bifangst av kongekrabbe ved fiske etter andre arter, og andre problemer forbundet med utbredelse og fangst av kongekrabbe, ser Det permanente utvalg det ønskelig at forskerne i begge land fortsetter forskningen på kongekrabbe innenfor rammene av felles forskningsprogrammer.

6. Planlegging av det kommende seminar for norske og russiske inspektører.

Partene diskuterte praktiske spørsmål om det kommende seminar for inspektører og ble enige om å gjennomføre seminaret i Murmansk i uke 43 (20. – 24. oktober 2003) etter nærmere avtalt agenda. Hver av de 4 kontrollorgan kan møte med inntil 3 representanter.

7. Utveksling av informasjon angående utarbeidelse av forslag til et forenklet, elektronisk basert rapporteringssystem for fiskefartøy

Den russiske part informerte om den historiske utviklingen av det russiske elektroniske rapporteringssystemet for russiske fiskefartøy til myndighetene, samt om det pågående arbeidet for utvikling av elektronisk fangstdagbok.

Basert på erfaringene med bruken av det eksisterende russiske elektroniske rapporteringssystemet, mener den russiske part at kapteinens elektroniske digitale signatur bør bli et obligatorisk krav i de elektroniske rapportene. Kapteinens digitale signatur skal godkjennes av det nasjonale sertifiseringssenteret. Sertifikatene skal være i samsvar med den internasjonale standarden X.509 ITU.

Kapteinens digitale signatur i den elektroniske rapporten gjør det mulig å

- Garantere meldingens avsender.
- Garantere det helhetlige i form og innhold i meldingene når meldingene skal sendes gjennom forskjellige kommunikasjonskanaler.
- Garantere informasjonens sikkerhet (hindre uautoriserte adgang til informasjonen ved hjelp av kryptering).

Den russiske part påpekte betydningen av å få startet en felles utarbeidelse av en elektronisk fangstdagbok. Dette vil i fremtiden gjøre det mulig å forenkle fiskefartøyets føring av elektroniske rapporter, forenkle fiskerimyndighetenes kontroll av fangstdagboken, blant annet ved bruk av fjerntilgang. Dette betyr at kopi av nedtegnelser i den elektroniske fangstdagboken attesteres med digital signatur i kryptert form kan overføres på digitale kommunikasjonskanaler.

Den norske part orienterte om pilotprosjektet Norge-EU om bruk av rapporteringssystemet Satrap#3 som ble avsluttet i september 2003, og viste til at representanter fra Norge og EU skal møtes i oktober for å utveksle erfaringer og evaluere prosjektet.

Partene diskuterte den pågående prosessen i NEAFC/NAFO om forenkling og standardisering av elektronisk fangstrapportering og fremhevet viktigheten av harmonisering av rapporteringssystemet utover det bilaterale samarbeid.

Den norske part demonstrerte "Fartøyregisteret", som er tilgjengelig på Fiskeridirektoratets hjemmesider på Internett.

8. Utveksling av informasjon om gjennomføring av tiltak i henhold til "Memorandum om kontrollsamarbeid".

Partene orienterte hverandre om resultatet av samarbeidet ihht "Memorandum om samarbeidsordninger om kontroll...." i 2003. En er enige om at memorandumet tjener som et godt grunnlag for å bedre kontrollen og samarbeidet mellom partene, og ser det som viktig å videreføre arbeidet i samsvar med bestemmelsene i dette.

Under det norske kystvaktskipet "Senja"s besøk i Murmansk havn fra 10. til 12. september ble det avholdt møte mellom Grensetjenestens ledelse og ledelsen for Landsdelskommando Nord-Norge, samt den norske Kystvakten. Et av tiltakene som der ble diskutert var utveksling av inspektører som observatører i uke 43 mellom fartøyene KV Malene Østervold og ARPU FSB Victor Kingisepp.

Fra russisk side ble det informert om russiske inspektørers aktivitet som observatører ved kontroll av russiske fartøys landinger i Norge. Det ble videre informert om Grensetjenestens kontrollvirksomhet av de maritime ressursene.

Partene utvekslet statistiske data for kontroll av fiskefartøyer.

9. Orientering om etablering av felles omregningsfaktorer for hyse.

Den russiske part meddelte at det planlagte felles tokt for fastsettelse av omregningsfaktorer for hyse finner sted i uke 40 og 41 i 2003 på fartøyet "Arktur". En spesialist fra den norske part ankom fartøyet den 26. september 2003 for å være med på toktet.

Etter gjennomføring av dette forskningstoktet skal partene fremlegge en felles rapport der resultatet fra toktet med "Arktur" sammenholdes med tidligere innsamlede data. Spesialistene skal samarbeide om utarbeidelse av et felles forslag og anbefalinger til omregningsfaktorer for hyse til Det permanente utvalg.

10. Neste møte

Tid og sted for neste møte avtales senere.

Murmansk, 3. oktober 2003

For de norske representantene

Lisbeth W. Plassa

Lisbeth W. Plassa

For de russiske representantene

Boris Prischepa

VEDLEGG 1.

DELTAGERLISTE

FOR MØTET I DET PERMANENTE UTVALG FOR FORVALTNINGS- OG KONTROLLSPØRSMÅL PÅ FISKERISEKTOREN I MURMANSK 29.9. – 3.10.2003.

Den norske delegasjonen:

1. Lisbeth Plassa, delegasjonsleder, seksjonssjef, Reguleringsseksjonen, Fiskeridirektoratet
2. Einar Ellingsen, seksjonssjef, Kontrollseksjonen, Fiskeridirektoratet
3. Steve Olsen, Sjef Kystvaktskvadron Nord
4. Stein-Åge Johnsen, seniorrådgiver, Reguleringsseksjonen, Fiskeridirektoratet
5. Hilde M. Jensen, førstekonsulent, Reguleringsseksjonen, Fiskeridirektoratet
6. Are Strand, rådgiver, Reguleringsseksjonen, Fiskeridirektoratet
7. Ingmund Fladaas, tolk
8. Ragnvald Næss, tolk

Den russiske delegasjonen:

1. Boris Prischepa, delegasjonsleder, sjef for Murmanrybvod
2. Sergey Balyabo, avdelingsleder, Murmanrybvod
3. Pavel Latyshev, senior statsinspektør, Murmanrybvod
4. Igor Polvalyukhin, senior statsinspektør, Murmanrybvod
5. Victor Rozhnov, senior statsinspektør, Grensetjenesten
6. Stanislav Lisovskiy, laboratoriesjef, PINRO
7. Boris I. Berenboim, senior forskningsmedarbeider, PINRO

VEDLEGG 2.

SAKSLISTE

FOR MØTET I DET PERMANENTE UTVALG FOR FORVALTNINGS- OG KONTROLLSPØRSMÅL PÅ FISKERISEKTOREN I MURMANSK 29.9. – 3.10.03.

1. **Åpning av møtet.**
2. **Godkjenning av dagsorden.**
3. **Utarbeidelse av et felles norsk-russisk dokument om mål og virkemidler i kontrollsamarbeidet i Barentshavet.**
4. **Utveksling av informasjon angående utvikling av sorteringssystemer med ulike materialtyper.**
5. **Utveksling av informasjon om status for forskning på kongekrabbe i Barentshavet.**
6. **Planlegging av det kommende seminar for norske og russiske inspektører.**
7. **Utveksling av informasjon angående utarbeidelse av forslag til et forenklet, elektronisk basert rapporteringssystem for fiskefartøy**
8. **Utveksling av informasjon om gjennomføring av tiltak i henhold til "Memorandum om kontrollsamarbeid".**
9. **Orientering om etablering av felles omregningsfaktorer for hyse.**
10. **Neste møte.**

VEDLEGG 3

Appendix

to Protocol of the Permanent Russian-Norwegian Committee on Fisheries Management and Control, (Murmansk, 29.09-03.10.2003)

REGULATIONS ON THE USE OF "SORT-V" SORTING SYSTEM WITH A SINGLE GRID IN RUSSIAN TRAWLS
(Revised edition)

1. Sorting system is used in cod trawls in the areas, where fishery without grids is not permitted. The mesh size in trawl shall correspond to that one established by Fishing Rules (Regulations).

2. The distance between bars shall be not less than 55 mm.

3. The system design and mounting in the trawl shall satisfy the requirements mentioned in items 4, 5, 6, 7, 8 and 9.

4. General-purpose, stainless steel or fibre glass is used to manufacture grids.

5. The sorting system is mounted between conical and cylindrical parts of the trawl bag. The circumference of the trawl bag conic part in the site of system mounting shall be equal to the sorting system circumference.

6. Design of the sorting system

a) The grids

The minimum length and breadth of the grids shall be as follows:

- For vessels with main engine power of 1000 kW or more: 1.5m x1.2m
- For vessels with main engine power of less than 1000 kW: 1.2m x 1.0 m.

b) The netting section:

For vessels with main engine power of 1000 kW or more the netting section shall have a circumference of 76 meshes, a section length of 43.5 free meshes and a mesh size not less than 135 mm.

For vessels with main engine power of less than 1000 kW the netting section shall have a circumference of 64 free meshes, a section length of 37.5 free meshes and a mesh size not less than 135 mm.

The (bottom side) chafer up to 2 m in length may be attached to the lower panel of the netting section provided that it is only attached at the front and along the sides. The chafer shall be attached in such a way that its front edge is parallel to the rear side of the sorting grid.

c) The guiding panel

For vessels with main engine power of 1000 kW or more the guiding panel shall be 1.6 m in length and 3.1 m in breadth. The deviation in linear dimensions of the guiding panel shall be not more than ±10%.

Necessary number of meshes is determined from the mesh size of netting applied.

For the vessels with main engine power of less than 1000 kW the guiding panel shall be 1.3 m in length and 2.5 m in breadth. The deviation in linear dimensions of the guiding panel shall be not more than ±10%.

Necessary number of meshes is determined from the mesh size of netting applied;

d) The lifting panel

For vessels with main engine power of 1000 kW or more the lifting panel shall be 3.1 m in length and 3.1 m in breadth. The deviation in linear dimensions of the lifting panel shall be not more than ±10%.

For the vessels with main engine power of less than 1000 kW a loose panel shall be 2.6 m in length and 2.6 m in breadth. The deviation in linear dimensions of the lifting panel shall be not more than ±10%.

e) Fish outlet

The fish outlet shall be completely open above the sorting grid and guiding panel.

7. Floats

A system used on vessels with main engine power of 1000 kW or more shall be equipped with a maximum of 16 floats, 200-220 mm in diameter.

A system used on vessels with main engine power of less than 1000 kW shall be equipped with a maximum of 13 floats, 200-220 mm in diameter.

8. Mounting the sorting grid in the netting section of the system

The sorting grid shall cover at least half of the netting section of sorting grid system.

9. Mounting the lifting panel

The lifting panel shall cover at least half of the netting part of the sorting system. The lifting panel shall not be mounted more than 6 meshes from the sorting grid.

10. Technical specifications, mounting and cutting designs of the sorting systems for vessels with main engine up to 1000 kW or more are given in Appendices 1-4.

Appendix 1

TECHNICAL SPECIFICATION FOR THE "SORT-V" SORTING SYSTEM USED ON VESSELS WITH MAIN ENGINE POWER OF MORE THAN 1000 KW

THE NETTING SECTION

	Material	Mesh size
Cylindrical part of the system	Twisted or braided twine, 3.1-7.0 mm in diameter	Min 135 mm
Guiding panel	Thread, 2.3-2.5 mm in diameter	Max 40 mm
Lifting panel	Thread, 2.3-2.5 mm in diameter	Max 40 mm
Lastridge rope	3-5 meshes from each side of the panels of the cylindrical part are taken to the seam	
Strengthening of lifting and guiding panels of the system cylindrical part	1-2 meshes from each edge of panels attached are taken to the seam	

Mounting of cylindrical part, fastening of guiding and lifting panels to the upper and lower panels of the system cylindrical part	Twine, 3.1-7.0 mm in diameter
Fastening of guiding and lifting panels to the side panels of the cylindrical part	Twine, 3.1-5.0 mm in diameter
Fastening of the grid to the upper and side panels of the system cylindrical part	Twine, 5.0-7.0 mm in diameter
Fastening of the guiding panel to the grid	Twine, 3.1-5.0 mm in diameter
Fastening of floats to the grid	Rope, 30 mm in circumference, 9.6 mm in diameter

THE GRID

Material: general-purpose or stainless steel, or fibre glass.
Frame: a bar, 23-30 mm in diameter.
Longitudinal rods: bars, 12-13 mm in diameter.
Lateral rods: bars, 14-16 mm in diameter.

THE FLOATS

Plastic or metal floats, 200-220 mm in diameter.

Appendix 2

TECHNICAL SPECIFICATION FOR THE "SORT-V" SORTING SYSTEM USED ON VESSELS WITH MAIN ENGINE POWER LESS THAN 1000 KW

THE NETTING SECTION

	Material	Mesh size
Cylindrical part of the system	Twisted or braided twine, 3.1-6.0 mm in diameter	Min 135 mm
Guiding panel	Thread, 2.3-2.5 mm in diameter	Max 40 mm
Lifting panel	Thread, 2.3-2.5 mm in diameter	Max 40 mm
Lastridge rope	3-5 meshes from each side of the panels of the cylindrical part are taken to the seam	
Strengthening of lifting and guiding panels of the system cylindrical part	1-2 meshes from each edge of panels attached are taken to the seam	

Mounting of cylindrical part, fastening of guiding and lifting panels to the upper and lower panels of the system cylindrical part	Twine, 6.0 mm in diameter
Fastening of guiding and lifting panels to the side panels of the cylindrical part	Twine, 5.0 mm in diameter
Fastening of the grid to the upper and side panels of the system cylindrical part	Twine, 3.0-6.0 mm in diameter
Fastening of the guiding panel to the grid	Twine, 3.1-5.0 mm in diameter
Fastening of floats to the grid	Rope, 30 mm in circumference, 9.6 mm in diameter

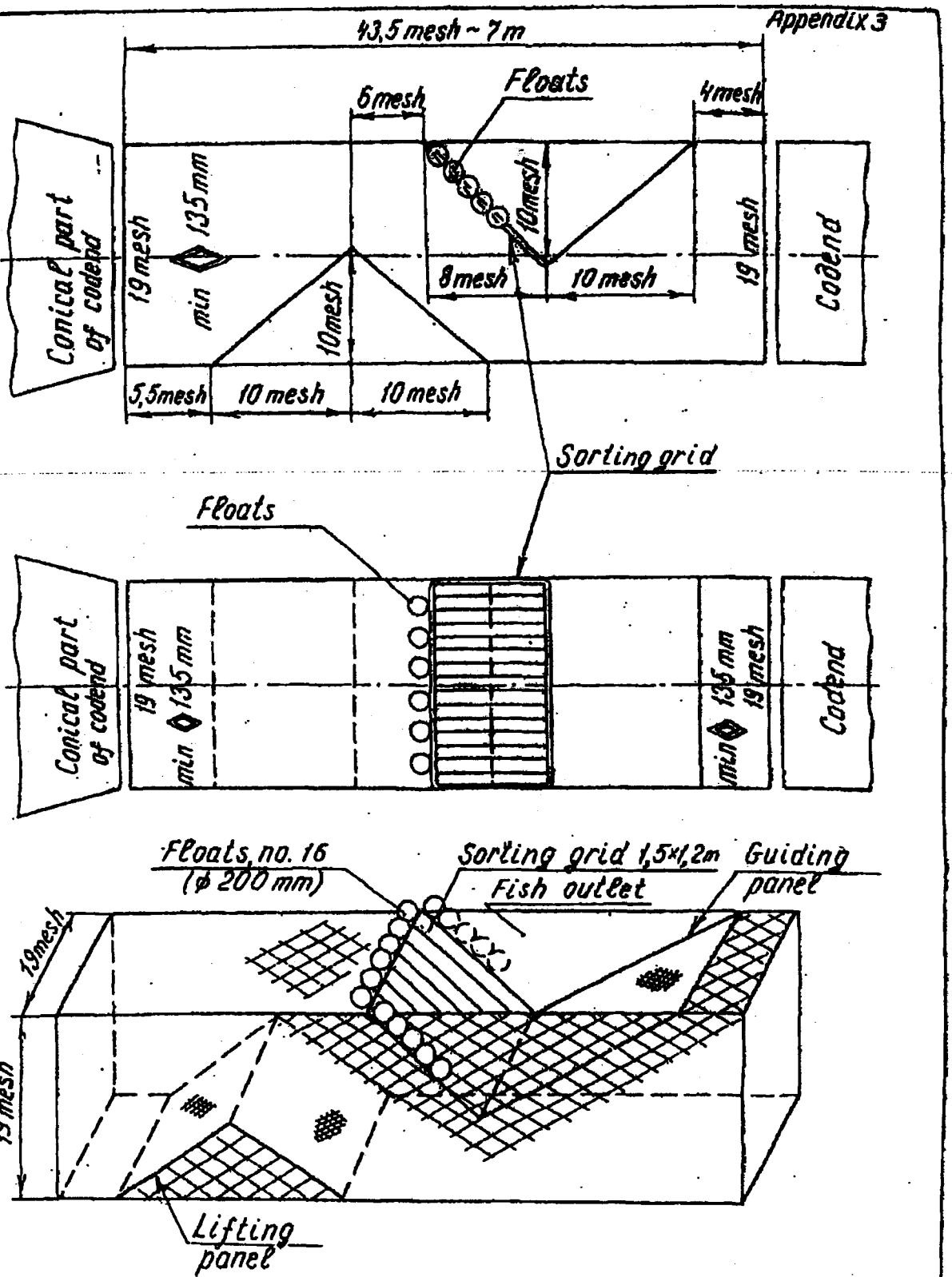
THE GRID

Material: general-purpose or stainless steel, or fibre glass.
Frame: a bar, 23-26 mm in diameter.
Longitudinal rods: bars, 12-13 mm in diameter.
Lateral rods: bars, 14-16 mm in diameter.

THE FLOATS

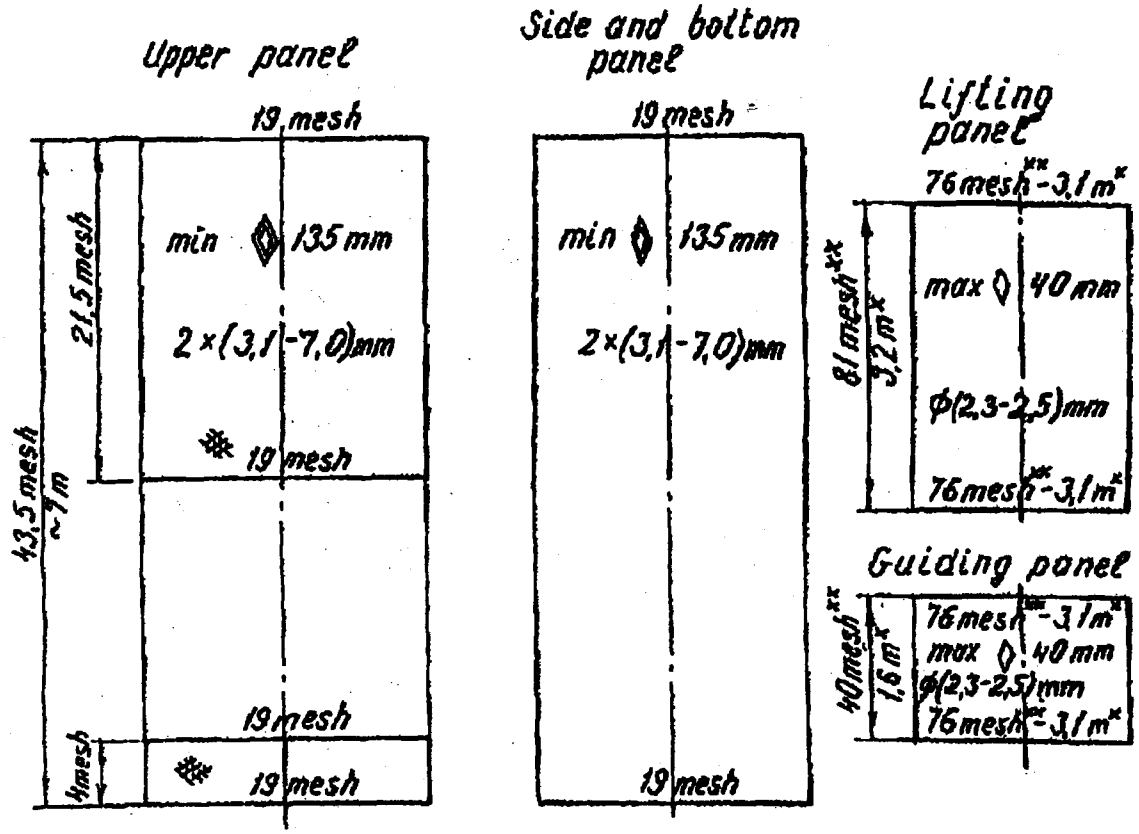
Plastic or metal floats, 200-220 mm in diameter.

Appendix 3

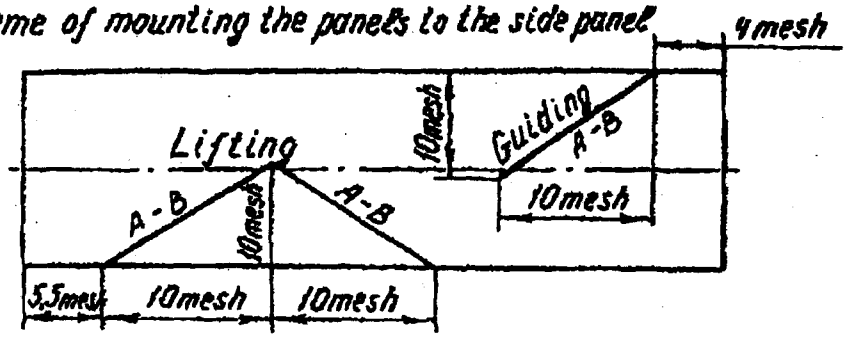


„Sort-V" system for the vessels with the main engine power 1000 kWt above

Ref. A8-1000A Data 09.07.03	SORT-V BIG-TYPE Mounting of grid and float	PINRO 183763; 6 Knipovich St. Murmansk, Russia



Scheme of mounting the panels to the side panel

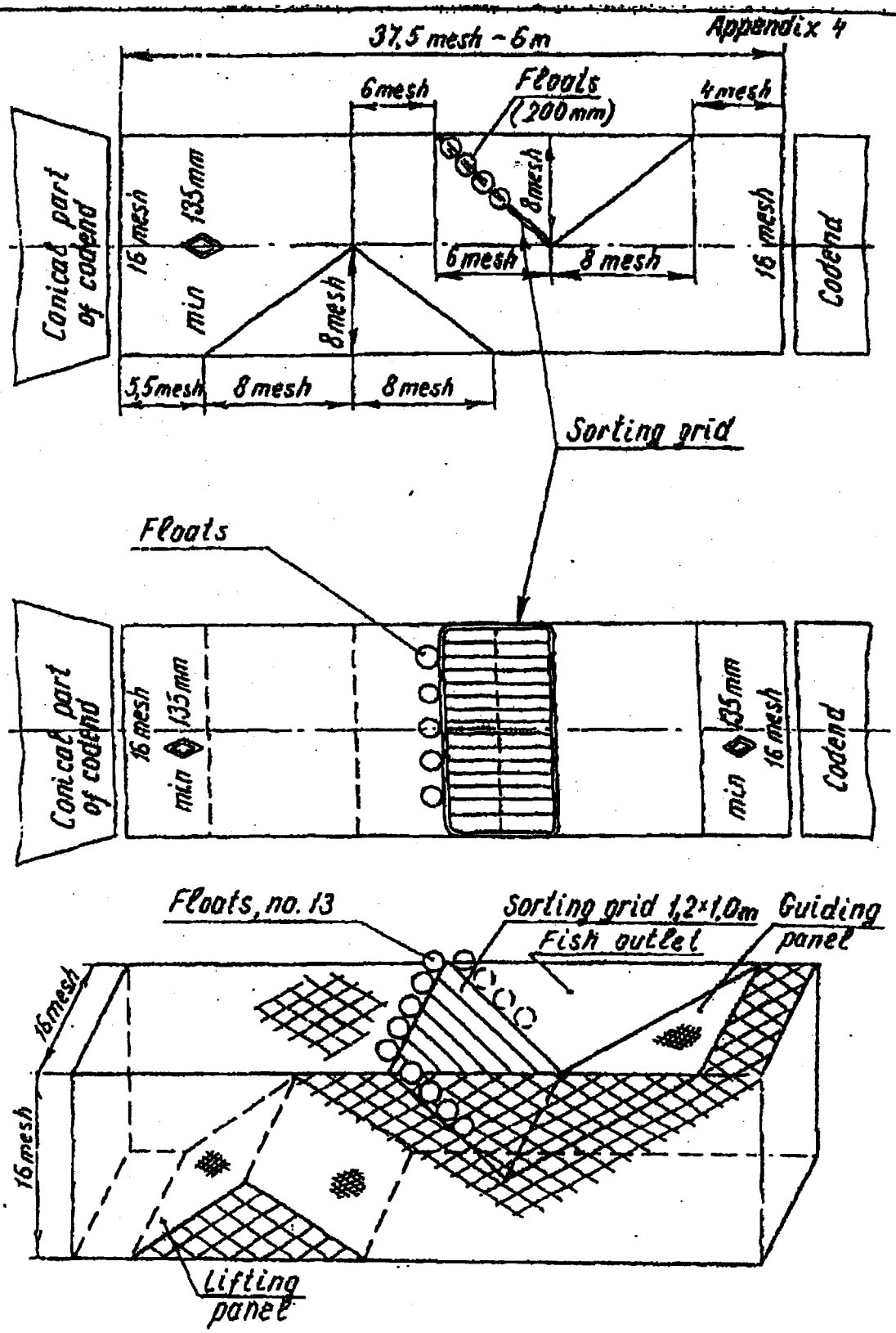


* – acceptable deviation of linear size by ± 10%
** – calculated number of meshes

Netting section of "Sort-V" system for the vessels with the main engine power 1000 kWt above

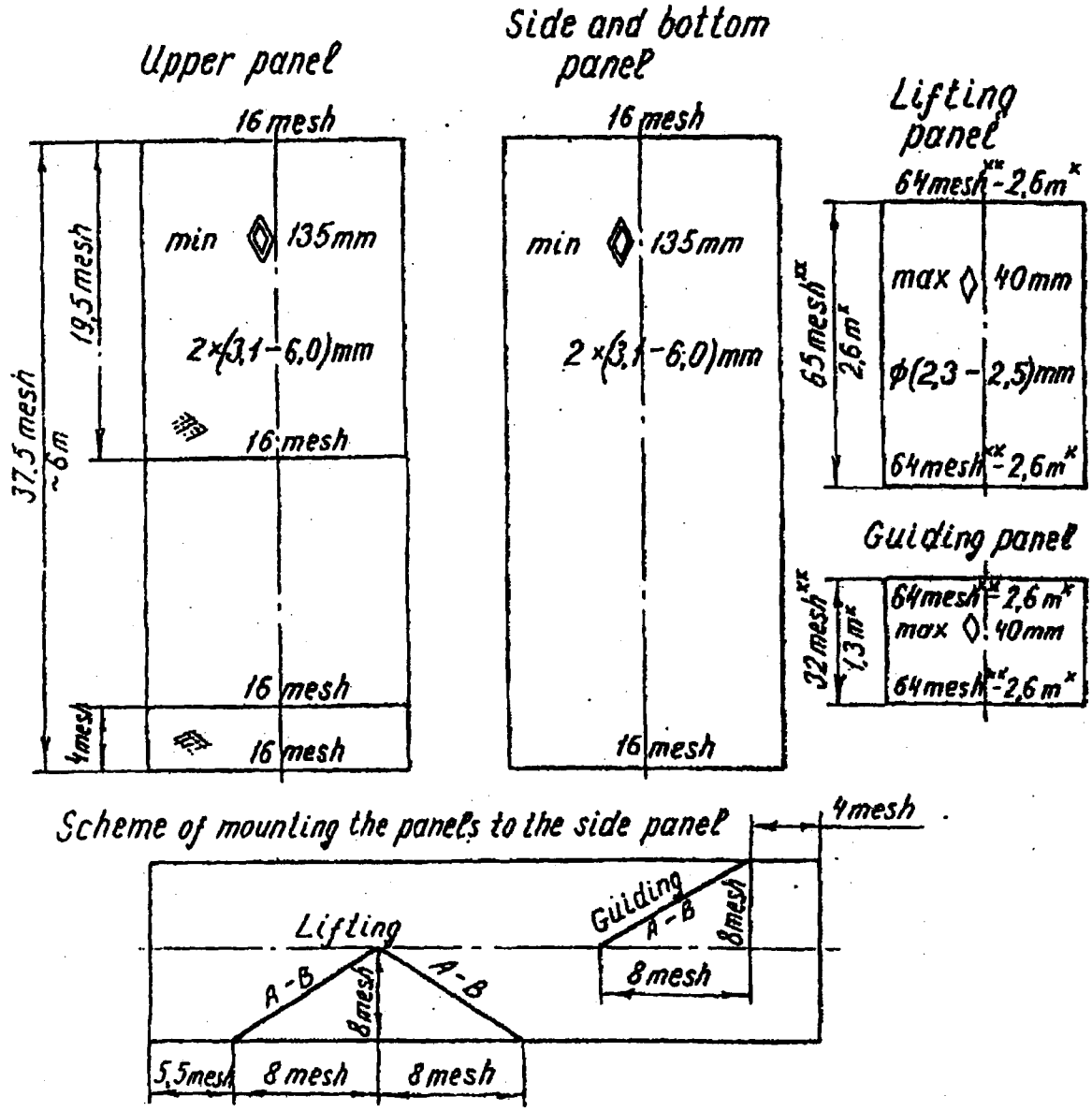
Ref: AB-1000A Data 09.07.03	SORT-V BIG-TYPE Netting section	PINRO 183763; 6 Knipovich st, Murmansk, Russia

Appendix 4



„Sort-V" system for the vessels with the main engine less than 1000 kWt

Ref A8-1001A Data 09.07.03	SORT-V SMALL-TYPE Mounting of grid and float	PINRO 183763: 6 Knipovich st., Murmansk, Russia



* – acceptable deviation of linear size by ±10%
** – calculated number of meshes

Netting section of „Sort-V" system for the vessels with the main engine less than 1000 kWt.

Ref. AB-1001A Data 09.07.03	SORT-V SMALL-TYPE Netting section	PINRO 183763, 6 Knipovich st., Murmansk, Russia

Appendix 10

JOINT NORWEGIAN – RUSSIAN SCIENTIFIC RESEARCH PROGRAM ON LIVING MARINE RESOURCES IN 2004

Contents

1. Planning and coordination of investigations and submitting of results

This program contains the investigations to be carried out in 2004 by Norway and Russia within the frames of the bilateral cooperation between the Norwegian and the Russian parties. The program is in accordance with the national research programmes. Planning, coordination, accomplishment of the investigations, exchange of specialists, data and results will be settled between the two institutes involved. Scientists and specialists from PINRO and IMR will meet in Kirkenes 15-17 March 2004, to discuss joint research programmes, results from surveys and investigations in 2003/2004 and to coordinate survey plans for the rest of 2004. Missing names on vessels and time periods for surveys in this report will be submitted, latest at the March meeting. Future plans for surveys and methodology for preparing biological and acoustic data will be discussed and coordinated. Urgent information according to surveys carried out before the meeting in March will be exchanged by correspondence.

In total, 3 reports have been issued in the Joint IMR-PINRO Report Series by 1. November 2003.

A preliminary program for the planned surveys and cooperation is presented below.

2. Investigations on fish and shrimp stocks, including stock size, -structure, -distribution, -interactions and -ecology

IMR and PINRO will continue the co-operation on the monitoring of the most important commercial fish and shrimp stocks, according to the program listed below. The work will also include continued co-operative research on:

- the stock structure of Northeast arctic cod, based on the joint research program 2003-2004.
- shrimp research as recommended by the ICES working group – with the objective to give recommendations that include the conservation of biodiversity
- by-catch of juvenile fish in the shrimp fishery
- species interactions between cod, herring, capelin and marine mammals
- investigations on Greenland halibut and Red King crab according to agreed joint research programs, 2002-2004

At its 30th session, the mixed Norwegian-Russian Fishery Commission decided to establish a three-year programme of joint Russian-Norwegian investigations of Greenland halibut stocks in 2002-2004. The content of the programme was agreed upon during the annual meeting between Russian and Norwegian scientists in March 2002, and the working schedule and distribution of responsibilities for individual components of the programme were agreed upon during a meeting in Tromsø 4-5 June 2002. A final report from the program is expected to be available during the 34th session of the Mixed Norwegian-Russian Fisheries Commission in 2005.

Data and results will be reported to the ICES Arctic Fisheries Working Group (AFWG) and Northern Pelagic and Blue Whiting Working Group (NPBWWG), and the *Pandalus* Working Group.

Norwegian investigations

Nation:	Norway	Survey title:	Herring spawning area
Time period:	28.02 – 07.03	Vessel:	Håkon Mosby
Target species:	Herring	Secondary species:	
Area:	Herring spawning areas off Norwegian coast from 58°-63°N		
Purpose:	Spawning migration and behaviour		
Reported to:	Internal IMR survey report WGNPBW 2004		

Nation:	Norway	Survey title:	Bottom trawl survey Greenland halibut
Time period:	15.03 – 04.04	Vessel:	1 hired trawler
Target species:	Greenland halibut *Sebastes mentella*	Secondary species:	*S. marinus*
Area:	68°N - 80°N, 400 – 1500 meter depth		
Purpose:	Bottom trawl survey with fixed trawl stations		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Tagging experiment Greenland halibut
Time period:	15.03 – 04.04	Vessel:	1 hired longliner
Target species:	Greenland halibut	Secondary species:	
Area:	68°N - 80°N		
Purpose:	Tagging survey and fishing experiments with vertical lines		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Bottom trawl survey Greenland halibut
Time period:	15.03 – 11.04	Vessel:	1 hired trawler
Target species:	Greenland halibut *Sebastes mentella*	Secondary species:	*S. marinus*
Area:	62°N - 70°N, 400 – 1500 meter depth + Bear Island channel		
Purpose:	Bottom trawl survey with fixed trawl stations		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Cod spawning stock
Time period:	18.03 – 07.04	Vessel:	G.O. Sars
Target species:	Cod	Secondary species:	Haddock, Saithe
Area:	Spawning areas Troms - Lofoten		
Purpose:	Acoustic survey of the North East Arctic Cod spawning stock. Investigations on maturity, fecundity and egg abundance.		
Reported to:	Internal IMR survey report, ICES AFWG 2004		

Nation:	Norway	Survey title:	Herring larvae
Time period:	20.03 – 12.04	Vessel:	Håkon Mosby
Target species:	Herring	Secondary species:	Saithe
Area:	Norwegian shelf areas from Andenes to Karmøy		
Purpose:	Distribution and abundance of herring larvae		
Reported to:	Internal IMR survey report, WGNPBW 2004		

Nation:	Norway	Survey title:	Genetic mapping of cod on spawning areas
Time period:	01.04 – 30.04	Vessel:	Fangst
Target species:	Cod	Secondary species:	
Area:	Fjord areas from Møre to Finnmark		
Purpose:	Collection of genetic material (cooperation with Russian scientists, Ref corresponding Russian surveys in REZ)		
Reported to:	Internal IMR survey report. PINRO		

Nation:	Norway	Survey title:	Shrimp survey
Time period:	15.04 – 06.05	Vessel:	Jan Mayen
Target species:	Shrimp	Secondary species:	Various groundfish species
Area:	Barents Sea		
Purpose:	Abundance and distribution of shrimp and benthos monitoring, hydrography		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Norwegian Sea survey
Time period:	02.05 – 31.05	Vessel:	G.O. Sars
Target species:	Herring, Blue whiting	Secondary species:	Zooplankton
Area:	Norwegian Sea		
Purpose:	Acoustic abundance estimation of pelagic fish and plankton, hydrography		
Reported to:	Internal IMR survey report, WGNPBW 2005, ICES PGSPFN 2005		

Nation:	Norway	Survey title:	Greenland halibut, trawl CPUE
Time period:	20.05 – 31.05	Vessel:	Two hired commercial trawlers
Target species:	Greenland halibut	Secondary species:	
Area:	Troms – Spitsbergen 70°30'N - 73°30'N (6 days), 73°30'N - 76°00'N (5 days)		
Purpose:	Abundance of Greenland halibut based on catch rates by commercial trawl (CPUE)		
Reported to:	Internal IMR survey report, ICES AFWG 2004 and PINRO		

Nation:	Norway	Survey title:	Bottom trawl survey Greenland halibut
Time period:	02.08 – 24.08	Vessel:	1 hired trawler
Target species:	Greenland halibut *Sebastes mentella*	Secondary species:	*S. marinus*
Area:	68°N - 80°N, 400 – 1500 meter depth		
Purpose:	Bottom trawl survey with fixed trawl stations		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Bottom trawl survey Greenland halibut
Time period:	02.08 – 29.08	Vessel:	1 hired trawler
Target species:	Greenland halibut *Sebastes mentella*	Secondary species:	*S. marinus*
Area:	62°N - 70°N, 400 – 1500 meter depth + Bear Island channel		
Purpose:	Bottom trawl survey with fixed trawl stations		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Tagging experiment Greenland halibut
Time period:	08.08 – 22.08	Vessel:	1 hired longliner
Target species:	Greenland halibut	Secondary species:	
Area:	68°N - 80°N		
Purpose:	Tagging survey and fishing experiments with vertical lines		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Tagging experiment Greenland halibut
Time period:	September	Vessel:	1 hired longliner
Target species:	Greenland halibut	Secondary species:	
Area:	62°N - 67°N		
Purpose:	Tagging survey and fishing experiments with vertical lines		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Fjord and coastal ecosystem survey
Time period:	11.10 – 11.11 11.10 – 07.11	Vessel:	Johan Hjort Jan Mayen
Target species:	Saithe, coastal cod, 0-group herring	Secondary species:	Haddock, *Sebastes marinus*
Area:	North Norwegian fjord and coastal areas from Varanger to Møre.		
Purpose:	Acoustic and trawl abundance estimation of saithe, coastal cod and other groundfish species. Acoustic abundance estimation of 0-group herring. Environmental investigations		
Reported to:	Internal IMR survey report, WBNPBW 2005, AFWG 2005		

Nation:	Norway	Survey title:	Bottom trawl survey Greenland halibut
Time period:	15.11 – 05.12	Vessel:	1 hired trawler
Target species:	Greenland halibut *Sebastes mentella*	Secondary species:	*S. marinus*
Area:	68°N - 80°N, 400 – 1500 meter depth		
Purpose:	Bottom trawl survey with fixed trawl stations		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Tagging experiment Greenland halibut
Time period:	15.11 – 05.12	Vessel:	1 hired longliner
Target species:	Greenland halibut	Secondary species:	
Area:	68°N - 80°N		
Purpose:	Tagging survey and fishing experiments with vertical lines		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Bottom trawl survey Greenland halibut
Time period:	15.11 – 12.12	Vessel:	1 hired trawler
Target species:	Greenland halibut *Sebastes mentella*	Secondary species:	*S. marinus*
Area:	62°N - 70°N, 400 – 1500 meter depth + Bear Island channel		
Purpose:	Bottom trawl survey with fixed trawl stations		
Reported to:	Internal IMR survey report, ICES AFWG 2005		

Nation:	Norway	Survey title:	Tagging of herring
Time period:	20.11 – 20.12	Vessel:	Hired vessel
Target species:	Herring	Secondary species:	
Area:	Nordland - Troms		
Purpose:	Tagging of herring		
Reported to:	Internal IMR survey report, WGNPBW 2005		

Nation:	Norway	Survey title:	Herring wintering area
Time period:	01.12 – 20.12	Vessel:	Johan Hjort
Target species:	Herring	Secondary species:	
Area:	Vestfjorden and shelf areas outside Lofoten-Vesterålen		
Purpose:	Acoustic abundance estimation of herring		
Reported to:	Internal IMR survey report, WGNPBW 2005		

Nation:	Norway	Survey title:	Herring wintering area
Time period:	01.12 – 20.12	Vessel:	G. O. Sars
Target species:	Herring	Secondary species:	
Area:	Vestfjorden		
Purpose:	Methodological acoustic investigations herring		
Reported to:	Internal IMR survey report		

Russian investigations

Nation:	Russia	Survey title:	Greenland halibut
Time period:	01.01-30.03	Vessel:	1 trawler
	01.04-30.06		1 trawler
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfish and redfish
Area:	NEZ between 70° 00' - 73° 30' N		
Purpose:	Investigation of stock condition, stock dynamics of CPUE, comparison in catchability "longline-trawl", tagging. Investigation of Greenland halibut distribution density in natural environment using video-acoustic equipment.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Greenland halibut
Time period:	01.01-31.03	Vessel:	1 trawler
	01.04-30.06		1 trawler
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfish and redfish
Area:	Area adjacent to Svalbard between 73° 30' - 76° 00' N		
Purpose:	Investigation of stock condition, stock dynamics of CPUE, comparison in catchability "longline-trawl", tagging. Investigation of Greenland halibut distribution density in natural environment using video-acoustic equipment.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Greenland halibut
Time period:	01.01-31.03	Vessel:	1 longliner
	01.04-30.06		1 longliner
Target species:	Greenland halibut	Secondary species:	Cod, catfish, redfish, tusk and skates.
Area:	NEZ and area adjacent to Svalbard between 70° 00' - 76° 00' N		
Purpose:	Investigation of stock condition, stock dynamics of CPUE, comparison in catchability "longline-trawl", tagging.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Cod, haddock
Time period:	10.01-10.04	Vessel:	1 trawler
Target species:	Cod, haddock	Secondary species:	Catfish, redfish, flatfish and saithe
Area:	The Barents Sea, REZ and Grey Zone		
Purpose:	Collection of data on distribution and biological condition during winter period and spawning, investigations of "predator-prey" interactions, stock structure using genetic methods, estimation of undersized fish by-catches.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Cod, haddock
Time period:	15.01-31.03	Vessel:	4 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, flatfish, saithe, redfish and Greenland halibut
Area:	NEZ, Grey Zone, The Barents Sea Enclave and area adjacent to Svalbard		
Purpose:	Collection of data on distribution and biological condition during winter and spawning, investigation of "predator-prey" interactions and other ecological interactions.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Distribution and migration of spawning and post-spawning herring
Time period:	01.02-31.03	Vessel:	1 rented trawler
Target species:	herring	Secondary species:	Other pelagic species
Area:	The Norwegian Sea		
Purpose:	Investigation of herring distribution, collection of data for stock assessment.		
Reported to:	Internal survey report, ICES WGNPBW 2004		

Nation:	Russia	Survey title:	Cod, haddock
Time period:	01.04-30.06	Vessel:	2 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, redfish, flatfish and saithe
Area:	The Barents Sea, REZ and Grey Zone		
Purpose:	Collection of data on distribution and biological condition during feeding migrations, tagging of cod, investigations "predator-prey" interactions		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Cod and haddock
Time period:	01.04-30.06	Vessel:	4 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, flatfish, saithe, redfish and Greenland halibut
Area:	NEZ, Grey Zone, The Barents Sea Enclave and area adjacent to Svalbard		
Purpose:	Collection of data on distribution and biological condition during feeding migrations, investigation of "predator-prey" interactions and population-genetic structure for cod.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	*Sebastes mentella*
Time period:	15.04-20.05	Vessel:	1 R/V
Target species:	*Sebastes mentella*	Secondary species:	Other demersal species
Area:	The Barents Sea including Norwegian Economic Zones and areas adjacent to Svalbard.		
Purpose:	Assessment of abundance and biomass of redfish, oceanography		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Shrimp and demersal fish
Time period:	20.04-25.05	Vessel:	R/V
Target species:	Shrimp and demersal fish	Secondary species:	Other demersal species
Area:	The Barents Sea including Russian Economic Zone and territorial waters		
Purpose:	Assessment of abundance and distribution of shrimp		
Reported to:	Internal survey report, ICES *Pandalus* WG 2004		

Nation:	Russia	Survey title:	Coast fjords survey of cod, haddock and saithe
Time period:	01.05-30.06	Vessel:	2 R/V
Target species:	Haddock, cod, saithe	Secondary species:	Other demersal species
Area:	Russian territorial waters and the internal waters: coastal areas from Varangerfjord to Svjatoj Nos		
Purpose:	Stock assessment of cod, haddock and saithe; collection of biological and genetic data for spawning cod		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Cod, haddock
Time period:	10.05-10.06	Vessel:	1 trawler
Target species:	Cod	Secondary species:	Catfish, flatfish and lumpsucker
Area:	Coastal areas between Varangerfjord and Svjatoj Nos.		
Purpose:	Investigation of coastal cod distribution, stock structure using genetic methods, collection of biological data.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Inmature haddock, saithe and cod
Time period:	20.05-20.06	Vessel:	1 R/V
Target species:	Haddock, saithe	Secondary species:	Other demersal species
Area:	The Barents Sea including Norwegian Economic Zone		
Purpose:	Stock assessment of haddock, saithe, cod; distribution and CPUE		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	International herring survey in the Norwegian Sea
Time period:	31.05-31.07	Vessel:	R/V Fridtjof Nansen
Target species:	herring	Secondary species:	Other pelagic species
Area:	The Norwegian Sea		
Purpose:	Acoustic stock survey		
Reported to:	Internal survey report, ICES WGNPBW 2005, ICES WG for planning of pelagic fish surveys in the Norwegian Sea (PGSPFN) 2004.		

Nation:	Russia	Survey title:	Cod, haddock
Time period:	01.07-30.08 01.09-30.10	Vessel:	1 longliner 1 longliner
Target species:	Cod, haddock	Secondary species:	Catfish, skates, tusk
Area:	The Barents Sea, REZ and Grey Zone		
Purpose:	Investigation of resources for longliners fleet, morpho-physiological characteristics and aggregations structure.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Cod and haddock
Time period:	01.07-30.09	Vessel:	3 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, flatfish, saithe, redfish and Greenland halibut
Area:	NEZ, Grey Zone, The Barents Sea Enclave and area adjacent to Svalbard		
Purpose:	Collection of data on distribution, abundance and morpho-biological condition during feeding, investigation of "predator-prey" interactions and influence of hydro and meteorological conditions on fish behaviour .		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Greenland halibut
Time period:	01.07-30.09 01.10-30.12	Vessel:	1 trawler 1 trawler
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfish and redfish
Area:	NEZ between 70° 00' - 73° 30' N		
Purpose:	Investigation of stock condition, stock dynamics of CPUE, comparison in catchability "longline-trawl", tagging. Investigation of Greenland halibut distribution density in natural environment using video-acoustic equipment.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Greenland halibut
Time period:	01.07-30.09	Vessel:	1 trawler
	01.10-30.12		1 trawler
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfish and redfish
Area:	Area adjacent to Svalbard between 73° 30' - 76° 00' N		
Purpose:	Investigation of stock condition, stock dynamics of CPUE, comparison in catchability "longline-trawl", tagging. Investigation of Greenland halibut distribution density in natural environment using video-acoustic equipment.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Greenland halibut
Time period:	01.07-31.09	Vessel:	1 longliner
	01.10-30.12		1 longliner
Target species:	Greenland halibut	Secondary species:	Cod, catfish, redfish, tusk and skates.
Area:	NEZ and area adjacent to Svalbard between 70° 00' - 76° 00' N.		
Purpose:	Investigation of stock condition, stock dynamics of CPUE, comparison in catchability "longline-trawl", tagging.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Greenland halibut survey
Time period:	01.07-31.09	Vessel:	1 trawler
Target species:	Greenland halibut	Secondary species:	Catfish, flatfish, saithe, redfish
Area:	REZ and Grey Zone.		
Purpose:	Stock condition investigations, CPUE for stock assessment, tagging.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Cod, haddock
Time period:	03.07-03.10	Vessel:	3 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, redfish, flatfish and saithe
Area:	The Barents Sea, REZ and Grey Zone		
Purpose:	Collection of data on distribution and biological condition during feeding, investigation of "predator-prey" interactions, morpho-physiological characteristics, tagging of cod.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Cod, haddock
Time period:	10.07-20.08	Vessel:	1 trawler
Target species:	Cod	Secondary species:	Catfish, flatfish and lumpsucker
Area:	Coastal areas between Varangerfjord and Svjatoj Nos.		
Purpose:	Investigation of coastal cod distribution, stock structure using genetic methods, collection of biological data.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Shrimp and demersal fish
Time period:	01.08-20.08	Vessel:	R/V
Target species:	Shrimp and demersal fish	Secondary species:	
Area:	Area adjacent to Svalbard		
Purpose:	Assessment of abundance and distribution of shrimp (Proposed as joint survey)		
Reported to:	Internal survey report, ICES *Pandalus* WG 2004		

Nation:	Russia	Survey title:	Distribution and migration of feeding aggregations of herring
Time period:	15.08-30.09	Vessel:	1 rented trawler
Target species:	herring	Secondary species:	Blue whiting and mackerel
Area:	The Norwegian Sea		
Purpose:	Mapping of herring feeding aggregations distribution.		
Reported to:	Internal survey report, ICES WGNPBW 2005		

Nation:	Russia	Survey title:	Complex aerial survey with ecosystem approach elements
Time period:	01.09-25.09	Vessel:	Airborne laboratory An-26 Arktika
Target species:	Capelin, polar cod	Secondary species:	Marine mammals, birds, chlorophyll, zooplankton, oceanographic parameters on the sea surface
Area:	The Barents Sea		
Purpose:	Distribution assessment of capelin and polar cod, marine mammals and birds, investigation of oceanographic parameters on the sea surface as well as identification of areas with high bioproduction.		
Reported to:	Joint IMR/PINRO Report Series		

Nation:	Russia	Survey title:	Cod, haddock
Time period:	30.09-30.12	Vessel:	1 trawler
Target species:	Cod, haddock	Secondary species:	Catfish, redfish, flatfish and saithe
Area:	The Barents Sea, REZ and Grey Zone		
Purpose:	Collection of data on distribution and biological condition during winter and feeding migrations, investigation of "predator-prey" interactions, stock structure using genetic methods.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Cod, haddock
Time period:	01.10-31.12	Vessel:	5 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, flatfish, saithe, redfish and Greenland halibut
Area:	NEZ, Grey Zone, The Barents Sea Enclave and area adjacent to Svalbard		
Purpose:	Collection of data on distribution and biological condition during winter and spawning migrations, investigation of "predator-prey" interactions; estimation of fish condition for winter period and spawning.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Multispecies demersal fish survey
Time period:	15.10-31.12 15.10-31.12	Vessel:	R/V Fridtjof Nansen 1 R/V
Target species:	Cod, haddock, Greenland halibut	Secondary species:	Catfish, redfish, flatfish and saithe
Area:	The Barents Sea including Norwegian and Russian Economic Zones and areas adjacent to Svalbard.		
Purpose:	Assessment of cod, haddock and other demersal species stocks, "predator-prey" relation, oceanography		
Reported to:	ICES AFWG 2005		

Nation:	Russia	Survey title:	Greenland halibut survey
Time period:	16.10-15.11	Vessel:	1 R/V
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfish, redfish
Area:	The Norwegian Sea and areas adjacent to Svalbard.		
Purpose:	Assessment of distribution and abundance.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Complex aerial survey with ecosystem approach elements in the framework of investigations of distribution and biomass assessment of feeding mackerel
Time period:	25.06-05.08	Vessel:	Airborne laboratory An-26 Arktika
Target species:	Mackerel	Secondary species:	Herring, blue whiting, sea mammals
Area:	The Norwegian Sea		
Purpose:	Distribution and biomass assessment of feeding mackerel, abundance and distribution of marine mammals and birds, data on environment conditions on the sea surface, including identification of areas with high bioproduction.		
Reported to:	Internal survey report, ICES WGNPBW 2005		

Joint investigations

Nation:	Norway/Russia	Survey title:	Joint Winter Survey
Time period:	31.01 – 09.03 31.01 – 15.03 February (14d) 29.01 – 29.02 20.01 – 05.03 15.02 – 10.03	Vessel:	G.O. Sars Johan Hjort Hired Norwegian vessels Russian R/V R/V Fridtjof Nansen Hired Russian Trawler
Target species:	Cod, Haddock	Secondary species:	Capelin, herring, *Sebastes mentella*, *S. marinus*, Gr. halibut
Area:	Barents Sea including NEZ and REZ		
Purpose:	Abundance and distribution of demersal fish and capelin. Multi-species interactions with focus on the diet of cod, hydrography, plankton		
Reported to:	Joint IMR/PINRO Report Series and ICES AFWG 2004		

Nation:	Norway/Russia	Survey title:	Joint blue whiting spawning area survey
Time period:	18.03 – 19.04 10.03 – 05.05	Vessel:	Johan Hjort R/V Fridtjof Nansen
Target species:	Blue whiting	Secondary species:	Other pelagic species
Area:	West of the British Isles		
Purpose:	Abundance estimation and distribution of spawning blue whiting, hydrography, plankton		
Reported to:	Internal IMR and PINRO survey reports, WGNPBW 2004		

Nation:	Norway/Russia	Survey title:	Joint capelin larvae and young herring survey
Time period:	07.06 – 30.06 15.05 – 30.05	Vessel:	Håkon Mosby R/V Fridtjof Nansen
Target species:	Capelin, Herring	Secondary species:	
Area:	Southern Barents Sea (including NEZ and REZ)		
Purpose:	Abundance and distribution of capelin larvae and young herring, hydrography, plankton		
Reported to:	IMR-PINRO report series, WGNPBW 2005.		

Nation:	Norway/Russia	Survey title:	Joint ecosystem survey, autumn
Time period:	01.08 – 10.10 02.08 – 10.09 10.08 – 09.10	Vessel:	Johan Hjort Jan Mayen R/V Fridtjof Nansen
Target species:	Greenland halibut, Redfish, Shrimp, Herring, Capelin, 0-group various species	Secondary species:	Cod, Haddock, Polar cod
Area:	Norwegian Sea – Svalbard – Barents Sea		
Purpose:	Abundance and distribution of Greenland halibut (including juveniles north and east of Spitsbergen), *Sebastes mentella*, *S. marinus*, shrimp, herring, capelin, polar cod, 0-group of various species. Hydrography, plankton, sea mammals, seabirds, multi-species interactions		
Reported to:	Joint IMR/PINRO survey report, ICES AFWG 2005, ICES ACFM autumn meeting 2004		

3. Investigations on Red King crab

Investigations on the Red King crab (*Paralithodes camtschaticus*) of the Barents Sea during 2004, in the framework of the joint program.

A symposium on the Red King Crab as an introduced species was arranged in Tromsø in June 2003. Proceedings from the symposium will be published in the Joint IMR/PINRO Report Series.

The Parties have carried out or initiated research in all main topics of the Joint research program (see protocol of the joint scientist meeting in March 2002), except for topic 4; Improvement of methods for stock assessment and calibration of survey methods).
To enhance the research on the Red King Crab the Parties agreed to include the following topics to the joint programme: population structure (revealed by genetic, morphology or/and reproductive unit studies, in addition to migration and larvae drift investigations). The report on the joint Norwegian-Russian research programme of red king crab will be presented at the 34th session of the Joint Norwegian-Russian Fishery Commission in 2005.

As a part of the joint programme the Norwegian Party intend to arrange a Norwegian – Russian symposium in October 2004, to highlight new scientific knowledge on the Red King Crab in the Barents Sea. However, such an arrangement requires funding. Title and details for the symposium will be announced later.

Norwegian investigations

Nation:	Norway	Survey title:	Red King crab survey
Time period:	23.08 – 11.09	Vessel:	Johan Ruud
Target species:	Red King crab	Secondary species:	
Area:	Fjords in Finnmark		
Purpose:	Abundance estimation and ecological investigations		
Reported to:	Internal IMR survey report. PINRO		

Russian survey:

Nation:	Russia	Survey title:	Red king crab
Time period:	05.04-05.05	Vessel:	1 trawler
Target species:	Red king crab	Secondary species:	
Area:	Russian Economic Zone and territorial waters		
Purpose:	Study of Red King crab during spawning. Study of crab larvae, juveniles and benthos, tagging.		
Reported to:	PINRO, IMR		

Nation:	Russia	Survey title:	Red king crab
Time period:	15.08-15.09	Vessel:	1 trawler
Target species:	Red king crab	Secondary species:	
Area:	Russian Economic Zone and territorial waters		
Purpose:	Red king crab distribution, stock assessment, tagging.		
Reported to:	PINRO, IMR		

Nation:	Russia	Survey title:	Red king crab
Time period:	01.07.-15.12	Vessel:	2 vessels
Target species:	Red king crab	Secondary species:	
Area:	Russian Economic Zone and territorial waters		
Purpose:	Collection of data for experimental work on fattening of crab prerecruits, physiologic condition assessment of legal sized males.		
Reported to:	PINRO, VNIRO, IMR		

Nation:	Russia	Survey title:	Red king crab
Time period:	01.04.-30.12	Vessel:	1 vessel
Target species:	Red king crab	Secondary species:	
Area:	Russian territorial waters		
Purpose:	Ecosystem investigations, distribution, biology and estimation of crab effect on the local ecosystems.		
Reported to:	PINRO, VNIRO, IMR		

Nation:	Russia	Survey title:	Red king crab
Time period:	01.01-28.02 01.09-31.12	Vessel:	5 vessels 5 vessels
Target species:	Red king crab	Secondary species:	
Area:	Russian Economic zone and territorial waters		
Purpose:	Collection of data on CPUE, investigations of biology, abundance dynamic, migration patterns and interactions with local ecosystem species.		
Reported to:	PINRO, IMR		

Nation:	Russia	Survey title:	Benthos
Time period:	01.06-31.07	Vessel:	1 R/V
Target species:	Macro-zoobenthos	Secondary species:	Macrozoobenthos
Area:	Russian Economic Zone and territorial waters		
Purpose:	Mapping and assessment of zoobenthos		
Reported to:	PINRO, IMR		

4. Fishing technology and selectivity of fishing gears

Norwegian investigations:

Nation:	Norway	Survey title:	Live fish technology for small coastal vessels
Time period:	10.03 – 07.04	Vessel:	Hired vessel
Target species:	Groundfish	Secondary species:	
Area:	Vesterålen		
Purpose:	Live fish technology for small coastal vessels		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Development of scientific sampling trawl
Time period:	13.04 – 29.04	Vessel:	G.O. Sars
Target species:	Groundfish	Secondary species:	
Area:	Barents Sea		
Purpose:	Development of scientific sampling trawl		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Survival during high fishing intensity
Time period:	13.04 – 10.05	Vessel:	5 hired vessels
Target species:	Cod	Secondary species:	Groundfish species
Area:	Northern Troms		
Purpose:	Survival during high fishing intensity		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Trials with floated fish pots
Time period:	14.04 –26.04	Vessel:	Hired Vessel
Target species:	Groundfish	Secondary species:	
Area:	Coast of Finnmark		
Purpose:	Trials with floated fish pots		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Trials with new designed cod trawl
Time period:	14.04 –30.04	Vessel:	Hired Vessel
Target species:	Cod, Haddock	Secondary species:	
Area:	Barents Sea		
Purpose:	Trials with new designed cod trawl		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Selectivity for lumpsucker in norsel gillnets
Time period:	01.05 – 15.06	Vessel:	2 hired vessels
Target species:	Lumpsucker	Secondary species:	
Area:	Coast of Finnmark		
Purpose:	Study the usefulness of norsel gillnets for catching lumpsucker		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Behaviour of king crab in trawl
Time period:	20.06 – 03.07	Vessel:	Hired vessel
Target species:	Red King crab	Secondary species:	
Area:	Finnmark		
Purpose:	Behaviour of king crab in trawl		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Escapement under trawl
Time period:	02.08 – 23.08	Vessel:	Hired vessel
Target species:	Groundfish	Secondary species:	
Area:	Barents Sea		
Purpose:	Escapement under trawl		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Instrument and gear development for Danish seine
Time period:	15.08 – 11.09	Vessel:	Hired Vessel
Target species:	Demersal species	Secondary species:	
Area:	Vest coast of Finnmark		
Purpose:	Instrument and gear development for Danish seine		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Grid in herring trawl
Time period:	10.11 – 28.11	Vessel:	Hired vessel
Target species:	Herring, Saithe, Cod	Secondary species:	
Area:	Vestfjorden		
Purpose:	Grid in herring trawl		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Development of scientific sampling trawl
Time period:	16.11 – 30.11	Vessel:	G.O. Sars
Target species:		Secondary species:	
Area:	Barents Sea		
Purpose:	Development of scientific sampling trawl		
Reported to:	Internal IMR survey report		

Russian investigations:

Nation:	Russia	Survey title:	Cod, haddock
Time period:	01.07-01.08	Vessel:	1 trawler
Target species:	Cod, haddock	Secondary species:	Other demersal species
Area:	The Barents Sea		
Purpose:	Collection of data for scientific justification of regulation measures for cod and haddock fishery. Investigation of population and genetic structure of cod.		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Selectivity of trawl and longline
Time period:	July-September	Vessel:	1 longliner 1 trawler
Target species:	Greenland halibut	Secondary species:	Other demersal species
Area:	The Barents Sea, NEZ and Svalbard		
Purpose:	Comparison fishing "trawl-longline".		
Reported to:	Internal survey report, ICES AFWG 2005		

Nation:	Russia	Survey title:	Selectivity of trawl
Time period:	March-June July-December	Vessel:	1 longliner 1 trawler
Target species:	Cod, haddock	Secondary species:	Other demersal species
Area:	The Barents Sea, Svalbard		
Purpose:	Estimate efficiency of implementation of soft sorting systems in comparison with systems based on grids during fishing of cod and haddock. Mesh size in trawl bag is 135 – 155 mm.		
Reported to:	Internal survey report		

5. Multispecies interactions in the Barents Sea

The parties will:

- Continue work to establish a joint Norwegian-Russian database on stomach content of marine organism, including sea mammals, in the Barents Sea;
- Continue work to exchange biological data and data on fisheries for multispecies modelling;
- Continue work on multispecies modelling;
- Agree on a program for exchange of scientists;
- Establish a fundament for including marine mammals in the multispecies models for the population dynamics of the most important commercial species in the Barents Sea;
- Consider the possibility to use plankton data in the Barents Sea multispecies models.

The points above will be discussed at the scientific meeting in March 2004.
Multispecies interactions will be studied on several surveys listed under chapter 2 and 9.

6. Oceanographic investigations

Oceanographic investigations will continue in the Barents Sea and Norwegian Sea in accordance with the existing international, bilateral and national programmes. Some surveys dedicated to oceanographic investigations are listed below. Such investigations will also be an integrated part of most of the surveys listed under chapter 2. Data on temperature and salinity from the joint investigations will be presented at the scientific meeting in March 2004. The data will be exchanged after correction and quality assurance.

Norwegian investigations:

Nation:	Norway	Survey title:	Oceanographic sections
Time period:	18.01 –29.01	Vessel:	Johan Hjort
Target species:		Secondary species:	
Area:	Norwegian Sea - Barents Sea		
Purpose:	Svinøy, Gimsøy, Fugløya-Bear Island, Vardø-N		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Oceanographic sections
Time period:	14.03 –18.03	Vessel:	G.O. Sars
Target species:		Secondary species:	
Area:	Barents Sea		
Purpose:	Fugløya-Bear Island, Vardø-N		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Oceanographic sections
Time period:	08.04 –12.04	Vessel:	G.O. Sars
Target species:		Secondary species:	
Area:	Norwegian Sea		
Purpose:	Gimsøy NW		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Oceanographic investigations
Time period:	13.06 –06.07	Vessel:	Johan Hjort
Target species:		Secondary species:	
Area:	Norwegian Sea - Barents Sea		
Purpose:	Gimsøy NW, Bear Island West, Fugløya – Bear Island		
Reported to:	Internal IMR survey report		

7. Monitoring of pollution levels in the Barents Sea

PINRO and IMR will continue to monitor pollution levels in accordance with national programmes. Scientists from PINRO and IMR will discuss and exchange scientific information during the meeting in March 2004. The investigations are based on material collected during the surveys in the Barents Sea.

8. Investigations on age and growth of fish

The cooperation between PINRO and IMR to establish an international database on length-at-age and weight-at-age of fish from scientific surveys and commercial catches will continue. This also includes commercial fisheries catch statistics archived at PINRO and IMR.
The exchange of age reading specialists and material will continue in 2004 according to established routines. In 2004, there will be one meeting of age reading specialists on cod, haddock and Greenland halibut in spring in Murmansk. Exact timing of the meeting will be decided by correspondence.

9. Investigations on marine mammals

Studies of the biology and ecology of the harp seal is planned during the commercial hunt in the Southeastern Barents Sea. Furthermore biological and ecological studies of harp seals will be conducted in open waters of the Barents Sea during summer. Monitoring of minke whale diets will be conducted in the North Sea, the Norwegian Sea and the coast of Finnmark, preferably also in REZ if Russian authorities give permission. Abundance estimation surveys of minke whales will be conducted in the North Sea and the Norwegian Sea.
Photoidentification studies of Humpback whales will be performed in the Barents Sea.
Telemetric and ecological investigations of dolphins will be carried out in May-June in North Sea, Norwegian Sea and the Barents Sea. In 2004 increased effort will be spent on abundance

estimation of grey and harbour seals on the Norwegian coast. Also ecological studies of grey seals will be conducted.

Norwegian investigations:

Nation:	Norway	Survey title:	Grey seal survey
Time period:	23.02-05.03	Vessel:	Hired vessel
Target species:	Grey seal	Secondary species:	
Area:	Norwegian coast from Vega to Lofoten		
Purpose:	Ecological studies of grey seals		
Reported to:	Internal IMR survey report, ICES, NAMMCO		

Nation:	Norway	Survey title:	Harp seal sampling
Time period:	25.03-01.05	Vessel:	Commercial vessel
Target species:	Harp seal	Secondary species:	
Area:	Southeastern Barents Sea		
Purpose:	Biological studies of harp seals		
Reported to:	Internal IMR survey report, ICES, NAMMCO		

Nation:	Norway	Survey title:	Dolphin survey
Time period:	01.05-11.06	Vessel:	Hired vessel
Target species:	Dolphins	Secondary species:	
Area:	North Sea, Norwegian Sea and Barents Sea		
Purpose:	Telemetric and ecological studies of dolphins		
Reported to:	Internal IMR survey report, ICES, NAMMCO, IWC		

Nation:	Norway	Survey title:	Minke whale survey
Time period:	15.05-15.06	Vessel:	4 hired Vessels
Target species:	Minke whale	Secondary species:	
Area:	Norwegian Sea, North Sea, coast of Finnmark.		
Purpose:	Biological sampling of minke whales.		
Reported to:	Internal IMR survey report HI, IWC, ICES, NAMMCO		

Nation:	Norway	Survey title:	Minke whale survey
Time period:	28.06-08.08	Vessel:	Hired Vessel
Target species:	Minke whale	Secondary species:	
Area:	North Sea and Norwegian Sea		
Purpose:	Counting program for estimation of minke whales in the North East Atlantic area.		
Reported to:	Internal IMR survey report HI, IWC, ICES, NAMMCO		

Nation:	Norway	Survey title:	Humpback whale survey
Time period:	01.09-21.09	Vessel:	Hired Vessel
Target species:	Humpback whale	Secondary species:	
Area:	Norwegian and Barents Seas		
Purpose:	Photoidentification of humpback whales.		
Reported to:	Internal IMR survey report HI, IWC, ICES, NAMMCO		

Joint investigations:

Nation:	Norway/Russia	Survey title:	Scientific whaling
Time period:	May-June	Vessel:	Commercial vessels
Target species:	Minke whale	Secondary species:	
Area:	Murman coast		
Purpose:	Biological and ecological investigations of minke whales.		
Reported to:	Internal IMR survey report, IWC, ICES, NAMMCO, PINRO, SevPINRO		

Nation:	Norway/Russia	Survey title:	Harp seal survey
Time period:	01.06 – 01.08	Vessel:	Two hired vessels (one Norwegian and one Russian)
Target species:	Harp seal	Secondary species:	
Area:	Barents Sea		
Purpose:	Ecological studies of harp seals		
Reported to:	Internal IMR survey report, ICES, NAMMCO		

10. Investigations on hydro-acoustic methodology

A Russian-Norwegian Workshop on "Improvement of instrumental methods for stock assessment of marine organisms" was held in Murmansk, 11-14 November 2003.

The main topics for the workshop were target strength investigations and combination of fish density estimates from acoustics and bottom trawl.

Research on survey methodology, involving comparisons between methods and standardisation of methods, should be continued.

11. Norwegian – Russian Symposium

The 10th Norwegian – Russian symposium was held in Bergen, Norway, 27-29 August 2003, under the title "Management strategies for commercial marine species in northern ecosystems" and 50 representatives from scientific institutions, management authorities and fishing industry participated in it. Besides most important commercial species of the Barents Sea the symposium included also discussion of management strategies for relevant stocks in the waters of Faeroe Islands, Iceland, Greenland, Canada and Alaska, as well as approaches to ecosystem based management in different sea areas. The proceedings of the symposium will be published in the joint PINRO-IMR Report Series within March 2004.

The 11th Norwegian – Russian symposium will be held in Murmansk, Russia, in 2005, under the suggested topic: "Ecosystem dynamics and long term catch ambitions of the most important stocks in the Barents Sea"

12. Catch volumes needed for investigations of marine resources and monitoring of the most important commercial species, as well as management tasks.

The agreed catch volumes shall satisfy the need for conducting all tasks described in "Joint Norwegian – Russian Scientific Research Program on Living Marine Resources in 2004", included surveillance activities for the recommendation of area closures (and reopening of areas) as well as other decisions on management of fishing activities on living marine resources in ICES area I and II.

For these tasks, the following annual catch quantities are decided for each party in 2004:

- Maximum 18 000 tonnes of Northeast arctic cod.
- Maximum 3 000 tonnes Greenland halibut.
- Maximum 4 000 tonnes of other groundfish species, including bycatches.

For stocks harvested within a TAC, the catch quantities taken for these purposes are included in TAC (ref. Appendix 3 to the protocol from the 32nd session of the Joint Norwegian-Russian Fisheries Commission).

All catches for research- and management purposes shall be given separately in the catch statistics.

St. Petersburg, 14.11.03

VEDLEGG 11

Report of the Basic Document Working Group to The Joint Norwegian-Russian Fishery Commission, autumn 2003.

Final, October 2003

Abstract

At its 31 Session, The Joint Norwegian-Russian Fishery Commission formulated management strategies for Northeast Arctic cod and haddock. ICES was informed about the strategies, and asked to give advice accordingly. However, this could not be done by ICES until a proper evaluation of the strategies had been performed, an evaluation which will not be ready this year.

Furthermore, The Commission made a request that the "Basic Document Working Group" should evaluate the management strategies. The value of such an evaluation was considered by the Basic Document Working Group to be limited value until ICES had evaluated the strategies.

This report provides the status of the work related to the evaluation of the management strategies for cod and haddock. The Group will ask that The Commission prolongs the mandate of the group to 2004.

1. Introduction

At the 31 Session of The Joint Norwegian-Russian Fishery Commission (hereafter referred to as the Commission) the following decision was made:

"The Parties agreed that the management strategies for cod and haddock should take into account the following:

- *conditions for high long-term yield from the stocks*
- *achievement of year-to-year stability in TACs*
- *full utilisation of all available information on stock development*

On this basis, the Parties determined the following decision rules for setting the annual fishing quota (TAC) for Northeast Arctic cod (NEA cod) from 2004 and onwards:

- *estimate the average TAC level for the coming 3 years based on F_{pa}. TAC for the next year will be set to this level as a starting value for the 3 year period.*
- *the year after, the TAC calculation for the next 3 years is repeated basing on the updated information about the stock development, however the TAC should not be changed by more than +/- 10% compared with the previous year's TAC.*
- *if the spawning stock falls below B_{pa}, the Parties should consider a lower TAC than the decision rules would imply.*

The Parties agreed on similar decision rules for haddock, based on Fpa and Bpa for haddock, and with a fluctuation in TAC from year to year of no more than +/-25% (due to larger stock fluctuations).

The Parties agreed that the working group, which worked out the " Basic Document regarding the main principles and criteria for long term, sustainable management of living marine resources in the Barents and Norwegian seas" during the following year should illustrate how these decision rules will work. The working group shall, in particular, evaluate what level of percentage change in TAC from year to year will be reasonable to utilise.[1] *"*

This report contains the work, which the Basic Document Working Group (BDWG) have done in response to the request made by the Commission. The list of participants of the BDWG meeting(s) is given in Appendix 1. The decision to work out the Basic Document regarding the main principles and criteria for long term, sustainable management of living marine resources in the Barents and Norwegian seas (hereafter referred to as "Basic Document") is referred to below. Thereafter, work done within the International Council for the Exploration of the Seas (ICES) during 2003 in response to request from the Parties is reported. Finally, the Working Group will present various kind of material to aid the Commission in its decision on management measures for cod and haddock for 2004.

2. Relevant decisions at the 30th session of the Commission (November 2001)

At the 30th session of the Commission, the Parties agreed to compose "Basic Document". A working group was appointed to draw up a report to be finished before the 31st session of the Commission (primo November 2002).

3. Management Objectives in the "Basic Document".

The BDWG finalised its report in September 2002. The report, as adopted by the Commission, is attached as Appendix 2 in this report from the group work. The following is a quotation related to the management objectives for the joint stocks in the Barents Sea:

"

*(i) to attain **high sustainable catches** from exploited stocks in the ecosystems of the Barents and Norwegian seas without decreasing their productivity.*

Important element within this objective

- *A value of total allowable catch (TAC) of each exploited stock should not worsen its reproduction. This value should follow annual variations in stocks.*

*(ii) **to keep exploited stocks within safe biological limits** while maintaining the biodiversity and productivity of marine ecosystems.*

Important elements within this objective

[1] This quotation is taken from point 5.1, in the Protocol of the 31 session of The Joint Norwegian Russian Fishery Commission and translated to English. For an accurate interpretation, please consult the text in the official languages of the Commission (Norwegian and Russian).

- *Exploited marine stocks should be considered as a component of marine ecosystems which are object to changes under the influence of both natural and man-induced factors.*

- *The ecosystem approach when establishing TAC for the exploited stocks considers the inter-species relationships, "predator-prey" relations, changes of climatic regime and others.*

(iii) *to ensure* ***sustainable development of fishing industry*** *while exploiting the stocks within safe biological limits;*

Important elements within this objective

- *Regulation of fishing fleet in the area. At present there is an overcapacity of fleet that cause the decrease of catch per unit of effort, decrease of profit and difficulties in the fishing industry with the corresponding social problems in the coastal regions.*

- *Within safe biological limits, harvest control rule should be established with the aim to reduce variations in TAC from year to year.*

(iv) *to attain* ***sustainable social development*** *of maritime regions.*

Important element within this objective

- *To further develop fisheries to contribute as an important industry in the national economy (source of food, export earnings) and to sustain work and income for the population in coastal communities.*

"

The report included a table, which in principle can be used to evaluate some consequences of various management decisions for the cod stock and cod fishery.

4. Relevant decisions at the 31st session of the Commission (November 2002)

At the 31st session of the Commission, the Parties accepted the "Basic Document" (given in Appendix 2), as an important basis for a sustainable management of the fisheries on shared stocks between the two countries. The Parties further asked the BDWG to continue their work as described in the introduction.

5. Work of relevance to NEA cod, within ICES

Within ICES, several processes with relevance to the management of NEA cod have taken place in 2003. One is related to a request to ICES from the Commission. Another is related to biological reference points. In addition to those is the usual assessment work and advisory duties of ICES.

5.1 Request to ICES

The Norwegian Ministry of Fisheries sent a letter to ICES (February 2003), requesting that the advice for TAC on cod and haddock should correspond to the following:

On this basis, the Parties determined the following decision rules for setting the annual fishing quota (TAC) for Northeast Arctic cod (NEA cod) from 2004 and onwards:

- *estimate the average TAC level for the coming 3 years based on F_{pa}. TAC for the next year will be set to this level as a starting value for the 3 year period.*
- *the year after, the TAC calculation for the next 3 years is repeated basing on the updated information about the stock development, however the TAC should not be changed by more than +/- 10% compared with the previous year's TAC.*
- *if the spawning stock falls below B_{pa}, the Parties should consider a lower TAC than the decision rules would imply.*

Although the letter contained a request that ICES should give advice according to the decision rules established by the Commission, ICES was not asked to evaluate if the decision rules are in accordance with the precautionary approach (PA).

5.2 Biological reference points

To evaluate whether the existing biological reference points for Northeast Arctic cod should be modified, a Study Group established by ICES met in Svanhovd, Norway in January 2003 (ICES, 2003a). The Study Group proposed the following new reference points for Northeast Arctic cod: Blim=220 000t, Bpa=460 000t, Flim=0.74 and Fpa=0.40. ACFM accepted the proposed revisions in June, 2003.

5.3 ICES' Arctic Fisheries Working Group

The Arctic Fisheries Working Group met in San Sebastian, Spain, 23 April - 2 May 2003. Their assessment indicated a revision of some year classes. However, the assessment was based upon several indices, not all of which showed an upward trend. The working group made prognoses and possible catch options both the usual way and in accordance with the request (see point 5.1). (Source: ICES, 2003b)

5.4 The Advisory Committee on Fisheries Management (ACFM)

The ACFM report on NEA cod as of May 2003 and its answer to the request for advice made by the Commission (Section 3.1.10) follow as Appendix 3 to this report (ICES, 2003c). ACFM gave the advice that the TAC on NEA Cod should not exceed 398.000 tonnes, corresponding to a fishing mortality of Fpa=0,40. ACFM did not implement the decision rules proposed by Russia and Norway in its advice, but gave the following comment:

"The 2004 catches calculated by applying the harvest rule imply a fishing mortality above Fpa. However, the precautionary reference points as currently used by ICES are defined in the context of advising on an annual TAC based on a predicted catch based on a maximum F.

The objective of this Harvest Control Law is to have a low risk of falling below a Blim point. The proposed harvest control rule or modifications of it may actually secure a low probability of SSB dropping below a Blim point and hence be in accordance with the Precautionary Approach because the decision rule is different from that implied in calculating Fpa. Simulation studies are needed to reveal if this is the case. ICES is prepared to review and evaluate results of such studies. "

To summarize, ACFM states that the decision rules may be in accordance with the precautionary approach, but conclusions cannot be drawn at the moment. As a consequence, advice for 2004 will be given on the basis of the existing "Form of ICES advice", that is, on an annual assessment of Fpa.

6 Evaluation of the suggested harvest control rule

As mentioned in point 5.4, the decision rules suggested by the Commission will not be used as a basis for ACFM-advice until they are thoroughly evaluated. However, the suggested harvest control rules cannot be evaluated using existing software. Thus, IMR has decided to develop new software for medium-term simulations based on the approach outlined in Skagen et al. (2003). This work is in progress, and testing of the software started in September 2003. A thorough evaluation of the proposed harvest control rule will be time-consuming and could not be presented at the October 2003 ACFM meeting. It can be expected that ICES will take a similar approach to the evaluation as done for some flatfish stocks (see Appendix 4), and some of those results may be valid also for Northeast Arctic cod and haddock.

Below, a time schedule for such a thorough evaluation is suggested.

October- December 2003: Discussion on assumptions to be made on uncertainty/bias when testing harvest control rules (SSB-R relationship, uncertainty in weights, maturity and fishing pattern, assessment bias etc.). Discussion on which harvest control rules (F values, constraints on annual change etc.) should be tested. Use of new simulation software to evaluate the proposed harvest control rules.

December 2003/January 2004: Meeting (of BDWG??) where results are discussed and a first draft of the report on the evaluation of the harvest control rules is made.

January-March 2004: Work on report, by correspondence.

March 2004: During or in conjunction with annual meeting between PINRO and IMR scientists, the final report on the evaluation of the harvest control rules is adopted. The report is sent to ACFM.

April- May 2004: ICES AFWG. Performs medium-term simulation and gives advice in accordance with the report on the harvest control rules.

May 2004: Report evaluated by ACFM.

7 Discussion and conclusions

The Commission has asked the BDWG to evaluate the decision rules. However, the fact that ICES has not been in a position to evaluate the decision rules thoroughly, makes it difficult for the BDWG to do so. The BDWG finds that the appropriate procedure now is to contribute to the evaluation that ICES has been requested to perform. When that evaluation is made, it will be possible to ask ICES for options of the decision rules, including other limits on year-to-year variation in TAC. To answer the questions raised by the Commission, the mandate for the BDWG should therefore be prolonged to 2004.

At the 32nd session of the Commission, scheduled to early November 2003, the Commission will therefore have to make a choice between following the ICES advice on TAC for 2004 or follow their own decision rule when deciding on the TAC for 2004. Appendix 5 gives the consequences, as they have now been calculated, of various strategies.

First, a clarification concerning the constraint on the change in quota from one year to the next is needed. It is not entirely clear to ICES whether the constraint of a maximum change of 10% from year to year also applies to the setting of TAC for 2004. In the following, applying this constraint to the 2004 TAC (less than 10% different from the 2003 TAC) is denoted as Catch Rule 1, while not applying this constraint to the 2004 TAC is denoted as Catch Rule 2.

Furthermore, BDWG draws the Commission's attention to one remaining contradiction, which means that on one hand TAC should take into account year-to-year fluctuations in the stock, that for cod stock may be up to 50% between two successive years, and on the other hand a 10% limitation of year-to-year change in TAC. The last aspect implies a risk of both underfishing in the years with increase in the stock and overfishing in the years with decline in the stock.

In this respect it should also be noted that the principle of calculating a TAC for the next year derived from a stock prediction three years ahead in time is new to ICES. The position of F_{pa} reflects uncertainty attached with the existing stock assessment and short-term prediction, and this uncertainty will naturally increase in medium term forecasts. A proper assessment of uncertainty is one of the difficult tasks, which ICES will have to solve before an evaluation of the harvest control rule can be made.

List of Appendices

1. List of participants at the BDWG meeting(s)
2. Final version of the Basic Document (November 2002)
3. Section 3.1.10 of the ACFM advice, June, 2003
4. Similar studies for other stocks
5. Preliminary studies on the effects of the decision rules

References

ICES, 2003a: Report of the Study Group on Biological Reference Points for Northeast Arctic cod. Svanhovd, Norway 13-17 January 2003. ICES CM 2003/ACFM:11.

ICES, 2003b: Report of the Arctic Fisheries Working Group, 23 April – 2 May 2003. San Sebastian, Spain. ICES CM 2003/ACFM:22.

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Kell, L., Smith, M., Scott, R., Pastoors, M., van Beek, F., Hammond, T., and O'Brien, C.M. 2001. Analysis of possibilities of limiting the annual fluctuations in TACs. FISH-2000-02-01. CEFAS, Lowestoft, UK and RIVO, IJmuiden, The Netherlands.

Skagen, D. W., Bogstad, B., Sandberg, P., and Røttingen, I. 2003. Evaluation of candidate management plans, with reference to Northeast Arctic cod. ICES CM 2003/Y:03.

Appendix 1 List of participants at the BDWG meeting(s)

A. During the meeting in Bergen, 25 and 26 August 2003, the following specialists participated:

From Russia

Vladimir M. Borisov
Alexander Zelentsov
Yuri Kovalev
Konstantin V. Drevetnyak
Vladimir Shibanov
Sergei A. Sennikov (interpreter)

From Norway

Åsmund Bjordal
Sigmund Engesæter
Bjarte Bogstad
Per Sandberg

B. During the meeting in Talinn, 24 and 25 September 2003, the following specialists participated:

From Russia

Vladimir Borisov
Konstantin Drevetnyak

From Norway

Åsmund Bjordal
Per Sandberg

Appendix 2 Final version of the Basic Document (November 2002)

BASIC DOCUMENT REGARDING THE MAIN PRINCIPLES AND CRITERIA FOR LONG TERM, SUSTAINABLE MANAGEMENT OF LIVING MARINE RESOURCES IN THE BARENTS AND NORWEGIAN SEAS

1. INTRODUCTION

According to the decision made at the 30th Session of the Joint Russian-Norwegian Fisheries Commission on the development of a Basic Document Regarding the Main Principles and Criteria for Long Term, Sustainable Management of Living Marine Resources in the Barents and Norwegian Seas, the Parties

- referring to the United Nations Law of the Sea (1982) and The Agreement for the implementation of the provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (1995), FAO Code of Conduct for Responsible Fisheries (1995), as well as to the other relevant agreements on the marine law,

- allowing for a long term cooperation and bilateral agreements in fisheries, in particular of the Russian-Norwegian Agreement on Cooperation in Fisheries of 11 April, 1975, as well as the Russian-Norwegian Agreement on Mutual Relations in Fisheries of 15 October, 1976,

- considering that a large part of living resources of the Norwegian and Barents seas are integral ecological complex exploited by both states,

- being committed to secure long-term conservation and sustainable exploitation of living marine resources, and to improve the co-operation with this aim,

- following the principles of responsible fisheries, management and understanding the necessity to avoid the negative influence on the marine environment, to conserve biological diversity, to sustain the integrity of marine ecosystems and to minimize the risk of long-term or irreversible consequences of fisheries,

- allowing for the necessity to develop the national fisheries and potential fisheries possibilities aimed at the full and rational exploitation of fish resources,

- considering the absence of common, clearly expressed principles and criteria of the sustainable long-term management of such resources,

- recognizing that stocks may vary due to both natural factors which cannot be regulated and to fisheries that can be regulated,

agreed to formulate common principles and criteria of sustainable long-term management of fisheries which can be used by managers of Russia and Norway when developing annual measures of regulation of fishery for jointly harvested stocks of the Barents and Norwegian Seas.

This document should be regarded as a tool to conduct a rational management of living marine resources in the Norwegian and Barents seas. It should however, be emphasized that the document could be improved further at the request of the Joint Russian-Norwegian Fisheries Commission.

2. TERMS AND DEFINITIONS

In this document there are terms referring to biology, fisheries economics and management which are in need of precisely and adequate definitions. Such definitions are needed to achieve a common understanding between scientists, managers and fishermen:

Cost of regulation: cost of research, elaboration and introduction of regulatory measures and corresponding monitoring, control and enforcement.

Ecosystem based fishery management: management of fisheries based on best available knowledge of the relevant exploited populations, with the aim to conduct the fishing operation in a way that creates the least possible negative effect on the ecosystem.

Harvest control rule: a set of parameters (fishing mortality, TAC, fishing effort etc) annually adopted by managers in order to implement a certain stock management strategy. Applied to fluctuating fish stock, a harvest control rule based on a constant fishing mortality will imply fluctuating levels of TAC whereas a harvest control rule based on TAC or catch ceilings or maximum deviations in catch from year to year will imply a higher degree of catch stability. The choice of harvest control rule will generally reflect a trade-off between important objectives.

Limit biological reference points: minimum level of spawning stock biomass (SSB) and maximum level of fishing mortality (F) that should not be crossed in order to apply the precautionary approach to fisheries management.

Population: a long existing ecologically separated group of individuals of one species where gene exchange within the group is predominant due to its reproductive isolation. In fisheries terms population normally means stock. Temporarily separated from one another groupings (by size, age, feeding grounds, gonad stages) which having reached maturity share a common spawning area, constitute just parts of a whole population.

Precautionary approach to fisheries management: exercise prudent foresight to avoid unacceptable or undesirable situations, taking into account that changes in fisheries are only slowly reversible, difficult to control, not well understood, and subject to change in the environment and human values.

Safe biological limits: reference points established by scientists after conducting retrospective analysis of the dynamics in a given fish stock (usually on the basis of SSB and F). Such

analysis makes it possible to assess the present and expected development of the stock and recommend specific catch levels. Safe biological limits implies a high probability that;

- SSB shall be above the level where the recruitment is impaired
- F shall be below a level where an increase of SSB to safe biological limits can be expected

Shared stocks: are stocks that occur within the exclusive zones of two or more coastal states.

Stock and recruitment: is the relationship between the size of the (parent) spawning stock and the number of recruits joining that stock in later years. The probability is that a depleted stock will produce fewer recruits than an abundant stock of the same species but in a number of cases this relationship does not clearly manifest itself. However, the stock-recruitment relationship serves a theoretical ground for elaboration and application of the principle of precautionary approach in the practice of fish stocks management.

Sustainable management: is the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such development conserves land, water, plant genetic resources, is environmentally non-grading, technologically appropriate, economically viable and socially acceptable.

3. PRINCIPLES AND SCIENTIFIC BASIS FOR MANAGEMENT DECISIONS

3.1 Management obligations

As a basis for the management for the shared stocks managers should:

a) base their work on scientific recommendations and advice from ICES and NEAFC. However, the managers could maintain their right to independent decisions, taking account of the socio-economic aspects and other relevant aspects prevailing for the two Parties.

b) follow the provision for a responsible fishery as expressed in the FAO Code of Conduct for Responsible Fisheries, as well as:

- ensure that fisheries management measures are based on the best scientific data available and directed to maintaining and rebuilding the stocks at or to the levels at which maximum sustainable yield can be assured;

- apply the Precautionary Approach;

- cooperate in developing common measures, which regulate exploitation of shared stocks, having regard to:

    - biological unity and other biological and ecological characteristics of a stock with regard to the specificity of structural elements of its distribution area and life cycle stages;
    - interplay between stock distribution, fisheries and geographic features of a region, including occurrence of the stock and intensity of its harvesting in areas under national jurisdiction;

- pre-agreed measures for management and conservation of the stock, adopted for and applied in the region in question;
- established biological allowable levels and structure of harvest.

3.2 Research activities as a basis for management decisions

A solid scientific basis is necessary for the management of the fisheries in the Norwegian and Barents Seas. Below is a list of necessary data in the field of biological research for stock assessment, catch statistics and bio-economic analysis of fishery and marketing.

In order to improve management advice given by ICES, the parties should co-operate to

a) Make available retrospective analyses, analyses of the actual situation and prognoses of every exploited fish stock and on the environmental situation in this area.

b) Acknowledge the understanding that research into the fields of ichthyology, hydrobiology and oceanography is not only important as such, but also because they are a basis for a broader understanding of processes in the ecosystems and within the economical, technological, social and political areas.

c) Monitor long-time series of the environmental conditions (continuation of investigation on dynamic of temperature on standard sections, current intensity, polar front, year and seasonal variations in the biomass of plankton and other prey organisms).

d) Continue and possibly expand investigation on recruiting year classes to the fish stocks.

e) Carry out systematic surveys by use of hydroacoustic and trawl methodology that cover the largest possible part of the total distribution area of the exploited stocks.

f) Conduct biological analyses, which include age reading, length and weight increases, composition of prey in stomachs and fat content, based both on scientific surveys and commercial catches.

g) Make analyses of catch efficiency and selectivity of different fishing gears and on analyses of time series of catch per unit effort.

h) Make analyses and develop effective technical measures for protecting fry and immature individuals of exploited stocks.

i) Improve the existing models and develop new ones that incorporate quantitative interrelations between stocks and between stocks and the environment.

j) Obtain reliable catch statistics and to find ways for quantifying discards, unreported catches and by-catches.

k) Carry out investigations to map the species composition of the ecosystems as a basis for biodiversity analyses.

l) Proceed with accumulation and analyses of national and joint reliable scientific information on biology, stock structure and interspecies relations.

m) Survey economic indicators of relevance to the economics in the fisheries, such as prices and harvesting costs. Account for historic and social values of fisheries for maritime regions.

4. MANAGEMENT OBJECTIVES

The FAO Code of Conduct for Responsible Fisheries formulates objectives to ensure effective conservation, management and development of living aquatic resources with due respect for the ecosystem and bio-diversity in order to provide, both for present and future generations, a vital source for food, employment, recreation, trade and economic well being for people. These objectives are agreed and universally accepted by all fishing nations.

However, the objectives given in the FAO Code of Conduct are often too general to be applied directly in practical management work. At the same time, both Norway and Russia have concrete objectives for their national fisheries policy.

Many of the current problems in managing the fish stocks are due to lack of, or more commonly, low precision of the management objectives. This basic document defines four management objectives that may be relevant to the shared stocks in the Barents and Norwegian Seas. The suggested management objectives are given below in a non-prioritised order:

(iv) to attain **high sustainable catches** from exploited stocks in the ecosystems of the Barents and Norwegian seas without decreasing their productivity.

Important element within this objective

- A value of total allowable catch (TAC) of each exploited stock should not worsen its reproduction. This value should follow annual variations in stocks.

(v) **to keep exploited stocks within safe biological limits** while maintaining the biodiversity and productivity of marine ecosystems.

Important elements within this objective

- Exploited marine stocks should be considered as a component of marine ecosystems which are object to changes under the influence of both natural and man-induced factors.

- The ecosystem approach when establishing TAC for the exploited stocks considers the inter-species relationships, "predator-prey" relations, changes of climatic regime and others.

(iii) to ensure **sustainable development of fishing industry** while exploiting the stocks within safe biological limits;

Important elements within this objective

- Regulation of fishing fleet in the area. At present there is an overcapacity of fleet that cause the decrease of catch per unit of effort, decrease of profit and difficulties in the fishing industry with the corresponding social problems in the coastal regions.

- Within safe biological limits, harvest control rule should be established with the aim to reduce variations in TAC from year to year.

(iv) to attain **sustainable social development** of maritime regions.

Important element within this objective

- To further develop fisheries to contribute as an important industry in the national economy (source of food, export earnings) and to sustain work and income for the population in coastal communities.

5. DECISION-MAKING CRITERIA

The main objectives for rational fishery management are to seek highest sustainable catches, to keep exploited stocks within safe biological limits, to ensure a sustainable development of fishing industry and a sustainable social development. This implies that the objectives shall attain highest possible yield and economic benefit on the one hand and on the other hand low risk of stock depletion. Since these objectives may be conflicting **in the short term**, managers are required to find a balance between conflicting interests.

The Joint Russian-Norwegian Fisheries Commission needs to apply a **long term strategy** which can lead to the fulfilment of the objectives given the highest priority.

Management objectives are often general and in reality difficult to measure. When evaluating a specific management strategy, there is therefore a need for some indicators, which can be measured and which could be said to represent the various objectives in a fairly accurate manner.

In the table below, some measurable indicators for each of the objectives stated above are suggested. The advantage of the indicators is that they present information available from annual stock assessments. These indicators are, however, not perfect, and in the future, there is clearly a need to replace some of them with more accurate indicators, a process, which first and foremost stresses the need for more knowledge and better prognoses.

The table is organised such that Column 1 gives certain levels of F and TAC and the remaining columns show how these perform according to the different objectives.

- To represent the objective "**to keep exploited stocks within safe biological limits**" focus is set on indicators showing expected development of the exploited stock in a medium-term perspective. Three indicators are chosen; the expected spawning stock biomass (SSB)

in a medium term perspective (Column 2), the probability that this SSB should fall below the reference point Bpa (Column 3) and the expected total stock biomass (TSB) in 2006 (Column 4).

- To represent the objective "**high sustainable catches**" an indicator showing the average level of the total allowable catch in a medium term perspective is suggested. This indicator is shown in Column 6.
- To represent the objectives "**sustainable development of fishing industry**" and "**sustainable social development**" two indicators are chosen. These are; the level of TAC next year (Column 5) and the difference between the highest and lowest TAC during the forecasted period (Column 7).

1	2	3	4	5	6	7
Harvest control rule (parameters)	SSB 2006	P(SSB<Bpa) 2006	SB 2006	TAC 2003	Average TAC and Sum of TAC (2003-2006)	Difference in TAC during 2003-2006 (max-min)
F = a						
F = b						
F = c						
F =a, and TAC<nn tonnes						
F = b, and TAC<nn+ tonnes						
Et cetera						

- Bpa = Precautionary level of spawning stock biomass
- P = probability
- SB = Stock Biomass
- SSB = Spawning stock biomass
- TAC = Total allowable catch (annual)

This table is applied to Northeast Arctic cod in Appendix A where the figures are taken from the Arctic Fisheries Working Group. 16-25 April 2002 (ICES CM 2002/ACFM:18).

APPENDIX A

EXAMPLE OF A "DECISION-MAKING" TABLE TO EVALUATE VARIOUS MANAGEMENT STRATEGIES FOR NORTHEAST ARCTIC COD

Taking account of our best knowledge concerning natural parameters like recruitment, growth and natural mortality, we may calculate how the cod stock is expected to develop as a consequence of the human factor – the fisheries.

The table below shows the result of such analysis. The chosen consequences focus on biological effects that may be of relevance in the decision-making process of the managers. In addition to these biological consequences, economic consequences in terms of prices and costs in the fisheries should (in the future) be included in the decision making table.

Table A1: ***Prognoses of consequences of applying various harvest regimes during 2003-2006***

1	2	3	4	5	6	7
Harvest control rule (parameters)	SSB 2006	P(SSB<Bpa) 2006	SB 2006 (Ages 3+)	TAC 2003	AverageTAC and Sum of TAC (2003-2006)	Difference in TAC during 2003-2006 (max-min)
$F = F_{0.1} = 0.13$	**1501**	**0.00**	**2448**	**105**	**178 / 712**	**144**
$F = F_{pa} = 0.42$	**786**	**0.06**	**1593**	**304**	**371 / 1484**	**109**
$F = F_{2001} = 0.84$	**354**	**0.84**	**1027**	**528**	**462 / 1848**	**135**
Fixed TAC=420.000 t	**561**	**0.44**	**1310**	**420**	**420 / 1680**	**0**
Fixed TAC = 300.000 tonnes	**957**	**0.06**	**1811**	**300**	**300 / 1200**	**0**
F =0.42 and TAC<400.000 tonnes	**788**	**<0.06**	**1596**	**304**	**367 / 1468**	**96**
F =0.42 and Max change from year to year < 15%	**801**	**<0.06**	**1612**	**304**	**369 / 1476**	**115**
Reduce F at low SSB (to be specified)						
Et cetera						

Input data concerning natural parameters:

- Stock abundance at January 1, 2002, as calculated by ICES AFWG in 2002.

- Predictions of weight in catch and stock, maturity ogive, fishing pattern and natural mortality are from ICES AFWG in 2002.
- Recruitment at age 3 in 2002 - 2004 is the same as in the short term prediction in the 2002 AFWG report.
- Recruitment at age 3 in 2005 and 2006 is as in the medium term analysis in the 2002 AFWG report.
- The uncertainty of the stock estimate in 2002 and later years was modelled using a lognormal distribution with a standard error on log scale of 0.3 for all age groups. The errors in numbers at age are assumed not to be correlated.
- No uncertainty is put on the other input data to the prognosis, and the weight, maturation, fishing pattern, natural mortality and recruitment is not made dependent on cod stock abundance.
- 2000 simulations were performed for each harvest control rule.

Appendix 3 Section 3.1.10 of the ACFM advice, June, 2003

3.1.10 Answer to request from the Joint Norwegian-Russian Fisheries Commission on northeast Arctic cod and haddock

ICES has been asked to base its management advice for northeast Arctic cod and haddock for 2004 on the following procedures:

Within Article 5.1 in the protocol from the 31st session of the Joint Norwegian-Russian Fisheries Commission, Norway and Russia have agreed upon the following procedure for the annual fixing of TACs for northeast Arctic cod from 2004:

- *Estimate the average TAC level for the following three years based on F_{pa}. TAC for the following year is set on the basis of this average TAC level;*

- *The following year the estimation of the TAC level for the next three years is repeated based on updated information on stock development. However, the revision of TAC cannot be more than ±10% of the TAC level for the preceding year;*

- *If the spawning stock biomass falls below B_{pa} the Parties must consider fixing a lower TAC than the TAC set according to this procedure.*

According to Article 5.1, Norway and Russia also agreed upon a similar procedure for northeast Arctic haddock, but then based on F_{pa} and B_{pa} for haddock, and with a possible revision of TAC from the preceding year of ±25% due to higher natural fluctuations in the stock.

ICES' Comments

ICES' interpretation of the harvest rule specified above, based on a literal understanding of it, is that the constraint on inter-annual variations of TACs becomes operational in the second year of implementation of the rule, *i.e.* as applying to the TAC in 2005 and subsequent years. This is subsequently referred to as harvest rule 1. However, it is also possible to interpret the rule to provide for a constraint on inter-annual TAC variations in its first year of operation, *i.e.* as first applying to the TAC in 2004, hereafter referred to as harvest rule 2.

ICES presents catch options on the basis of both interpretations, with a view to providing sufficient information to the Joint Norwegian-Russian Fisheries Commission to cover the original intent of its request. Moreover, ICES has based its findings on the revised values for precautionary reference points with regard to northeast Arctic cod, see Section 3.1.2.a. Although under review by ICES, there have as yet been no proposals made for revised precautionary reference points for northeast Arctic haddock. Consequently, ICES' response to the special request from the Joint Norwegian-Russian Fisheries Commission as it relates to haddock is based on the existing values of the reference points.

1) Northeast Arctic cod

The standard ICES short-term catch forecast was modified to provide predictions of yield and SSB for the relevant years, 2004-2006 to enable a three-year average yield to be calculated based on $F_{pa} = 0.40$. The average yield for 2004-2006 is 486 000 t; under harvest rule 2, the expected yield in 2004 becomes 110% of the 2003 TAC, *i.e.* 435 000 t.

A catch option table with both sets of results is presented below. From this, it can be seen that both in relation to the former and the revised precautionary reference points proposed by ICES, neither result is considered by

ICES to be consistent with a precautionary approach to management, as F is above both 0.40 and 0.42. ICES has additionally provided its usual form of advice in its standard stock summary format (Section 3.1.2.a).

Catch forecast for 2004:

Northeast Arctic cod catch options for 2004 based on two interpretations of the Joint Norwegian-Russian Fisheries Commission harvest law.

Basis: F(2003) =F_{sq} =0.70; Catch = 578 000 t; SSB(2004) = 652 000 t.

F	Basis	Landings 2004	SSB 2005
0.44	Catch rule 2 (=0.63*$\mathbf{F}_{sq}$): =1.10*2003 TAC	435	830
0.50	Catch rule 1 (=0.73*$\mathbf{F}_{sq}$)	486	788

Weights in '000 t.
Shaded scenarios considered inconsistent with the precautionary approach.
Catch rule 1 corresponds to ICES's interpretation of the new harvesting strategy in the first year of its operation.
Catch rule 2 corresponds to an application of the ±10% constraint in the first year of the new harvesting strategy.
W:\Acfm\Acfmwg\2003\May\Afwg\NEA Cod And Haddock Request.Doc 68
2) Northeast Arctic haddock

As with northeast Arctic cod, the standard ICES short-term catch forecast was modified to provide predictions of yield and SSB for the relevant years, 2004-2006 to enable a three-year average yield to be calculated based on a F_{pa} fishing mortality of 0.35. The average yield for 2004-2006 is 130 000 t. However, under harvest rule 2, the expected yield in 2004 becomes 125% of the 2003 TAC, i.e. 126 000 t.

A catch option table with both sets of results is presented below which shows that neither of the harvest rules is considered by ICES to be consistent with a precautionary approach to management. ICES has provided its usual form of advice in its standard stock summary format (Section 3.1.3).
Catch forecast for 2004:

Northeast Arctic haddock catch options for 2004 based on two interpretations of the Joint Norwegian-Russian Fisheries Commission harvest law.

Basis: F(2003)=F_{sq} = F(00-02) =0.48 ; landings =140 000 t ; SSB(2004) =133 000 t.

F (2004)	Basis	Landings (2004)	SSB (2005)
0.37	Catch rule 2 (=0.77*F_{sq}): 1.25*2003 TAC	126	146
0.38	Catch rule 1 (=0.795*F_{sq})	130	144

Weights in '000 t.
Shaded scenarios considered inconsistent with the precautionary approach.
Catch rule 1 corresponds to ICES's interpretation of the new harvesting strategy in the first year of its operation.
Catch rule 2 corresponds to an application of the ±25 % constraint in the first year of the new harvesting strategy.
Special Comment

On the basis of the proposed precautionary reference points ICES has:

1. calculated the expected yield under harvest rule 1 and harvest rule 2, and
2. concluded that the catch options for 2004 corresponding to either of these harvest rules do not conform to its interpretation of the precautionary approach.

The target fishing mortality and target SSB (in the harvest control rule called B_{pa} and F_{pa}) applied in the JNRFC harvest control rule should in conformity with the definition of the ICES precautionary reference points be set such that SSB will remain above B_{lim} with high probability.

ICES precautionary reference points were calculated with reference to a two-years-ahead catch forecast, assuming status quo fishing mortality in the intermediate year. Consequently, ICES values of F_{pa} and B_{pa} may not be the appropriate values to apply in a harvest rule that is based on a four-years-ahead catch forecast with averaging of the expected yield and constraints on the permissible inter-annual variation of TACs. Neither may ICES' F_{pa} be the appropriate value with which to calculate the forecast yields under the Joint Norwegian-Russian Fisheries Commission's harvest rule. Consequently, appropriate values of both the fishing mortality and reference SSB that are pertinent to the harvest control rule need to be calculated.

ICES revised its precautionary reference points for northeast Arctic cod. For the northeast Arctic haddock stock the ICES precautionary reference points are under evaluation. As a prerequisite to an evaluation of the appropriate targets to be used in the JNRFC harvest control rule, ICES needs to consider whether revised limit reference points should be adopted for this stock.

The Joint Norwegian-Russian Fisheries Commission should therefore be aware that for northeast Arctic cod, ICES has calculated the expected yields and conformity of the harvest rule to a precautionary approach according to precautionary reference values that may not be fully appropriate.

The 2004 catches calculated by applying the harvest rule imply a fishing mortality above F_{pa}. The objective of this harvest control rule is to have a low risk of SSB dropping below a B_{lim} point. The proposed harvest control rule or modifications of it may actually secure a low probability of SSB dropping below a B_{lim} point and hence be in accordance with the Precautionary Approach because the decision rule is different from that implied in calculating F_{pa}. The inertia of the catch rule will occasionally generate high fishing mortalities in periods with low recruitment and a sufficient stock buffer must be built to guard against stock depletion on such occasions. Simulation studies are needed to reveal if this is the case. ICES is prepared to review and evaluate results of such studies.

In 2003 a Norwegian-Russian working group will consider whether the percentages set for the annual revisions of TAC for northeast Arctic cod and haddock are the most appropriate. ICES notes that this may also provide a suitable forum for experts to review the haddock limit reference points and to calculate suitable precautionary reference points for both cod and haddock.

Appendix 4 Similar studies for other stocks

For 7 flatfish stocks in the North Sea, Skagerrak and the Irish Sea, CEFAS (Lowestoft, UK) and RIVO (IJmuiden, The Netherlands) have carried out an analysis of possibilities of limiting the annual fluctuations in TAC (Kell et al., 2001). In this analysis harvest control rules consisting of fixed F strategies with limitations on annual changes in TACs were considered. Thus, this work is of relevance to evaluation of the proposed harvest control rule for Northeast Arctic cod and haddock, although that rule also contains the additional feature of the '3-year-average' procedure.

The European Commission asked ICES to review the scientific, statistical, biological and technical basis for the results given in Kell et al. (2001). Further, ICES was asked to evaluate given harvest control rules consisting of fixed F strategies with limitations on annual changes in TACs, for 6 of these 7 stocks. This evaluation was done by ACFM in 2002 (ICES, 2003).

ACFM found the results to be reliable for providing management advice with some provisions. Because not all sources of bias and uncertainty were simulated and risk and bias may be underestimated, ACFM concluded that the results reported by Kell et al. (2001) should be interpreted with care and that conclusions should be based on comparative patterns rather than on absolute estimates of probability and risk.

In general, ACFM observed a non-linear relationship between risk of SSB being reduced to less than B_{pa} and the magnitude of TAC constraints. In most short- and medium-term simulations, a TAC constraint of 10% had substantially greater risk than a 20% constraint, but the difference in risk from 20% to 40% constraints was much less. It was also clear that the current state of the stock also had an important effect of the results. For stocks below B_{pa}, imposing a restrictive constraint on the TAC delayed recovery and thus led to an increased risk to the stock. Conversely, for stocks above B_{pa}, such a TAC constraint served to reduce the risk to the stock. For several stocks, the projections indicated a clear optimum target F for minimising risk and maximizing yield in the medium or long term.

It should be noted that the recruitment variability for Northeast Arctic cod and haddock is much greater than for the flatfish stocks evaluated by Kell et al. (2001), and thus the results obtained for those flatfish stocks may not be valid for Northeast Arctic cod and haddock.

Appendix 5 Preliminary studies on the effect of the decision rules for Northeast Arctic cod

Prognoses of consequences of decision rules for Northeast Arctic Cod during 2004-2006

1	2	3	4	5	6	7
Harvest control rule (parameters)	SSB 2007	P(SSB<B pa) 2007	SB 2007 (Ages 3+)	TAC 2004	Average TAC and Catch each year (2004-2006)	Difference in TAC during 2004-2006 (max-min)
F = 0.25	**1548**	**< 5%**	**3011**	**265**	**361(265-366-452)**	**187**
F = F_{pa} = 0.40	**1136**	**< 5%**	**2497**	**400**	**486(400-498-560)**	**160**
F = 0.70	**661**	**14%**	**1865**	**629**	**634(629-646-627)**	**19**
Catch rule 1: 10%> 2003 TAC	**1141**	**N/A**	**2507**	**435**	**480(435-479-527)**	**92**
Catch rule 1: 15%> 2003 TAC	**1024**	**N/A**	**2353**	**454**	**519(454-522-582)**	**128**
Catch rule 1: 20%> 2003 TAC	**997**	**N/A**	**2319**	**474**	**527(474-534-572)**	**98**
Catch rule 2, 10% year-to-year change	**989**	**N/A**	**2310**	**486**	**528(486-530-569)**	**83**
Catch rule 2, 20% year-to-year change	**989**	**N/A**	**2310**	**486**	**528(486-530-569)**	**83**

Catch rule 1: F_{pa}, with '3-year-average' rule, constraint (e.g. 10%) on percentage change in TAC from year to year, effective from 2004 onwards (i. e. 2004 TAC constrained by 2003 TAC).

Catch rule 2: F_{pa}, with '3-year-average' rule, constraint (e.g. 10%) on percentage change in TAC from year to year, effective from 2005 onwards (i. e. 2004 TAC **not** constrained by 2003 TAC).

For **Catch rule 1**, it is seen that increasing the constraint on maximum percentage change in TAC from 10% to 20% would increase the catches in 2004-2006. A 20% constraint would have approximately the same effect as no constraint in the present situation.

For **Catch rule 2**, it is seen that the 10% or a 20% constraint does not affect the TAC in 2005 and 2006, and thus increasing this percentage will not affect these deterministic predictions.

Before new software is developed, the risk associated with catch rules 1 and 2 cannot be calculated.

Input data to predictions

- Stock abundance at January 1, 2003, as calculated by ICES AFWG in 2003. 2003 catch=578 000 t (Fsq=0.70).
- Predictions of weight in catch and stock, maturity ogive, fishing pattern and natural mortality are from ICES AFWG in 2003.
- Recruitment at age 3 in 2003 - 2005 is the same as in the short term prediction in the 2003 AFWG report.
- Recruitment at age 3 in 2006 and 2007 is as in the medium term analysis in the 2003 AFWG report.
- The uncertainty of the stock estimate in 2003 and later years was modelled using a lognormal distribution with a standard error on log scale of 0.3 for all age groups. The errors in numbers at age are assumed not to be correlated.
- No uncertainty is put on the other input data to the prognosis, and the weight, maturation, fishing pattern, natural mortality and recruitment is not made dependent on cod stock abundance.
- 2000 simulations were performed for each harvest control rule.

VEDLEGG 12

14. november 2003

FORRETNINGSORDEN
for
Den blandete norsk-russiske fiskerikommisjon

§ 1

Den blandete norsk-russiske fiskerikommisjon, heretter kalt "Kommisjonen", er opprettet i henhold til Avtalen av 11. april 1975 mellom Kongeriket Norges regjering og regjeringen i Unionen av Sovjetiske Sosialistiske Republikker om samarbeid innen fiskerinæringen, heretter kalt "Avtalen".

Kommisjonen fyller de funksjoner som er nevnt i artikkel IV i Avtalen og artikkel 2 i Avtalen av 15. oktober 1976 mellom Kongeriket Norges regjering og regjeringen i Unionen av Sovjetiske Sosialistiske Republikker om gjensidige forbindelser innen fiskerinæringen, og virker i samsvar med denne forretningsorden.

§ 2

Representanten eller den stedfortredende representanten for den part på hvis territorium Kommisjonens sesjon holdes, leder Kommisjonens møter. Rådgivere og sakkyndige i nødvendig antall kan delta i Kommisjonens arbeid.

I perioden mellom Kommisjonens sesjoner kan partenes representanter eller stedfortredende representanter utveksle korrespondanse direkte om saker som angår iverksettelse av tiltak for å oppfylle Avtalene.

§ 3

Kommisjonen kan opprette de hjelpeorganer den finner nødvendig for å fylle sine funksjoner. Medlemmene av hjelpeorganene oppnevnes av hver av partenes representant eller stedfortredende representant blant medlemmene av de delegasjonene som deltar i Kommisjonens sesjon.

§ 4

Utkast til dagsorden for Kommisjonens ordinære sesjon, utarbeidet på grunnlag av den foregående sesjons anbefalinger, samt forslag som legges frem av partene i tiden mellom sesjonene, sendes av representanten for den part på hvis territorium Kommisjonens sesjon skal holdes, til representanten for den annen part minst en måned før den ordinære sesjons åpning. Med forslagene skal følge nødvendig materiale om hvert enkelt punkt.

I god tid før en ordinær sesjons åpning gjennomfører partene (representanter eller stedfortredende representanter for partene) et forberedende møte hvor dagsorden og hovedlinjer for sesjonens arbeid omforenes.

§ 5

Kommisjonen kan holde ekstraordinære sesjoner. Representanten for den part som foreslår å holde en slik sesjon, sender i god tid representanten for den annen part forslag til dagsordensutkast for den ekstraordinære sesjonen med begrunnelse for hvorfor det er

nødvendig å holde den, samt materiale om hvert enkelt punkt. Ekstraordinære sesjoner holdes på territoriet til den part som foreslår å gjennomføre dem.

§ 6

Alle forslag og anbefalinger på Kommisjonens møter vedtas på grunnlag av enighet mellom partenes representanter eller stedfortredende representanter. Enighet uttrykkes ved håndsopprekning eller muntlig erklæring.

§ 7

Det føres protokoll over resultatene av arbeidet på Kommisjonens sesjoner. Protokollen utferdiges i to eksemplarer, hvert på norsk og russisk, og begge tekster har samme gyldighet.

Protokollen undertegnes av partenes representanter eller stedfortredende representanter.

Kommisjonens vedtak anses å ha trådt i kraft med mindre en av partene innen to måneder etter protokollens undertegningsdato meddeler sine innvendinger.

§ 8

Kommisjonens offisielle språk er norsk og russisk. I tillegg til norsk og russisk kan også engelsk være arbeidsspråk for Kommisjonen.

§ 9

Denne forretningsorden trer i kraft når Kommisjonen vedtar den. Samtidig oppheves Forretningsorden for Kommisjonen, vedtatt på 12. sesjon.

Kommisjonen kan endre og supplere denne forretningsorden.