PROTOKOLL
FOR DEN 34. SESJON I DEN BLANDETE
NORSK-RUSSISKE FISKERIKOMMISJON

1. Åpning av sesjonen

Den 34. sesjon i Den blandete norsk-russiske fiskerikommisjon ble avholdt i Kaliningrad 24. –28. oktober 2005. Den norske delegasjon ble ledet av J. Krog, representant for Kongeriket Norges regjering i Den blandete norsk-russiske fiskerikommisjon, departementsråd i Det kgl. Fiskeri- og kystdepartement. Den russiske delegasjon ble ledet av A. Makojedov, representant for Den russiske føderasjons regjering i Den blandete norsk-russiske fiskerikommisjon, direktør i Det russiske landbruksministeriets fiskeripolitiske avdeling.

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

4. Utveksling av fangststatistikk for 2004 og hittil i 2005

Partene utvekslet fangststatistikk over fisket i Barentshavet og Norskehavet for 2004 og hittil i 2005 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, og uttrykte sin bekymring for situasjonen. Som i 2004 har den norske part også i 2005 på ICES AFWG møte overlevert rapporter om uregistrert uttak av torsk i Barentshavet. Den russiske part ga en orientering om deres analyse av uregistrert uttak av torsk i Barentshavet.

Med begge parters erkjennelse om at det eksisterer et betydelig uregistrert uttak av torsk i Barentshavet, er det et prioritert mål å bruke alle mulige virkemidler for å avdekke og forhindre slike ulovligheter.

Den russiske part påpekte at Norge de siste årene, i henhold til offisiell statistikk, har hatt et overfiske av torskekvoten.

Den norske part orienterte om at omlegging av reguleringssystemet for kystfisket, har resultert i at man ikke forventer overfiske i 2005.

Partene utvekslet informasjon om landinger fra norske og russiske fartøyer i 3. land i 2004 og for de første 9 måneder i 2005. Partene bekreftet sin enighet om å samarbeide om å fremskaffe opplysninger og å utveksle data om landinger i 3. land.

Den norske part viste til at det i 2005 månedlig er oversendt til den russiske part akkumulert oversikt over russiske fartøyers landinger i Norge, og gjentok ønsket om også i fremtiden å få opplysninger om norske fartøys landinger i Russland.

Partene var enige om, etter konkret anmodning, å utveksle fangstopplysninger for kvoteregulerte bestander.

Partene fremla data om forskningsfangst fordelt på ICES-områder I og II, og var enige om at dataene om forskningsfangst i tabell IV også 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.

Den norske part opplyste at det i Norge pågår et omfattende arbeid for å beregne omfanget av fritids- og turistfiske i norske farvann. Resultatet fra arbeidet vil bli meddelt den russiske part. Partene var enige om å utveksle informasjon om fritids- og turistfiske i sine respektive farvann på årlig basis.

5. Regulering av fisket etter torsk og hyse i 2006

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 var enige om å fastsette TAC for torsk i tråd med ICES sine anbefalinger i henhold til forvaltningsstrategien og beslutningsregelen som ble vedtatt på 33. sesjon.

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. Siden det vitenskapelige grunnlaget for beslutningsregelen for hyse ennå ikke er fullført, er partene enige om å bruke den til fastsettelse av TAC inntil dette grunnlaget blir fullført.

Partene fastsatte totalkvoter for torsk og hyse for 2006 samt fordeling av disse på Norge, Russland og tredjeland (Vedlegg 3). Fordeling av tredjelandskvoten på soner for 2006 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 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

Det permanente utvalg fikk på den 32. sesjon i oppdrag å ajourføre gjeldende norsk-russiske retningslinjer for kontroll av sorteringsristsystemer i torsketrål. Partene konstaterte med tilfredshet at Det permanente utvalg har fullført dette oppdrag i møte i Murmansk 3. – 7. oktober 2005, se Vedlegg 9.

Partene var enige om at det for fremtiden skal være tilstrekkelig for å få tillatelse til å bruke nyutviklede sorteringsristsystemer i farvann under den annen parts jurisdiksjon, 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 2006

Partene bekreftet den tidligere vedtatte 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 et lavt nivå i gytebestanden på grunn av naturlig fluktuasjon i bestanden. Partene besluttet ikke å åpne for loddefiske i 2006.

7. Spørsmål vedrørende forvaltning av norsk vårgytende sild i 2006

Partene var enige om at deres mål er å oppnå en multilateral løsning for forvaltningen av norsk vårgytende sild også for 2006.

Den norske part informerte om sin tilnærming til forvaltningen av bestanden av norsk vårgytende sild under kyststatenes fempartskonsultasjoner. Den russiske part tok denne informasjonen til etterretning og uttrykte forståelse for visse forslag som ikke forverrer Russlands stilling i sildefisket.

Dersom det ikke foreligger en slik løsning til årsskiftet 2005/2006, vil partene fra 1. januar 2006 fastsette en midlertidig ordning slik at norsk og russisk fiske kan gjennomføres i tråd med tradisjonelt fiskemønster.

Den norske part tilbød å beholde i 2006 en ordning for fisket etter norsk vårgytende sild med russiske fartøy som tilsier at den norske part gir den russiske part adgang til å fiske hele den russiske kvoten av norsk vårgytende sild i norske jurisdiksjonsområder, og den russiske part skal avstå fra direktefiske etter norsk vårgytende sild i internasjonalt farvann i Norskehavet. Dette tilbudet skal stå ved lag frem til 20. desember 2005.

8. Regulering av fisket etter andre fiskeslag i 2006

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 2006.

Den norske part opplyste at det vil bli gjennomført et begrenset kystfiske i tradisjonelt omfang med konvensjonelle redskaper i områder under norsk jurisdiksjon.

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.

Partene gjorde seg kjent med rapporten fra det treårige (2002 – 2004) felles forskningsprogrammet utført av PINRO og HI, jfr. Vedlegg 14, og uttrykte tilfredshet med

dette arbeidet som er en viktig basis for definering av status for blåkveitebestanden i Barentshavet og tilstøtende områder.

Basert på data fra det treårige felles forskningsprogrammet, erkjente partene at blåkveitebestanden er utbredt i hele Barentshavet. Partene bestemte å etablere en arbeidsgruppe for å sammenstille viten om blåkveitebestandens geografiske utbredelse, og viten om fangsthistorie og data fra forskning på denne bestanden, med sikte på å utarbeide forslag til felles reguleringstiltak. Arbeidsgruppen skal rapportere til de årlige møtene i Den blandete norsk-russiske fiskerikommisjon.

Partene ga forskere i oppdrag å utarbeide og diskutere på forskningsmøtet i mars 2006 et felles forskningsprogram rettet mot forbedring av bestandsvurdering av blåkveite og utarbeidelse av optimal forvaltningsstrategi for bestanden.

Tekniske reguleringstiltak fremgår av Vedlegg 7.

8.2 Uer

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

Tillatt bifangstprosent 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.

Den russiske part informerte om at den vil drive direktefiske etter sei i russisk økonomisk sone. Den norske part tok dette til etterretning.

Kvote og tekniske reguleringstiltak fremgår av Vedlegg 6 og 7.

9. Forvaltning av kamtsjatkakrabbe (Paralithodes camtschaticus) i Barentshavet i 2006

Partene utvekslet informasjon om resultatene av forskning på kamtsjatkakrabbe (Paralithodes camtschaticus) i Barentshavet og mottok en felles rapport fra norske og russiske forskere om resultatene fra forskningen i 2005 og det treårige forskningsprogrammet om kamtsjatkakrabbe i Barentshavet.

Partene konstaterte at det fortsatt er manglende kunnskap om det gjensidige forholdet mellom krabben og øvrige arter i økosystemet i Barentshavet, og ga forskerne fra begge land i oppdrag å videreføre forskningen på dette området. Kommisjonen godkjente et nytt treårig felles forskningsprogram på kamtsjatkakrabbe for 2005 – 2007, jfr. Vedlegg 10. Resultatene fra dette forskningsprogrammet vil bli rapportert til kommisjonen i 2008.

Den norske part orienterte om hvilke tiltak en har iverksatt i 2005 for å hindre eller begrense spredningen av kamtsjatkakrabbe vest for 26°Ø.

Den russiske part informerte representantene for den norske part om at det er fastsatt en total kvote for kamtsjatkakrabbe i russiske jurisdiksjonsområder i Barentshavet på 3 millioner individer for 2006. Den norske part konstaterte at den russiske part ved unilateralt å fastsette en nasjonal kvote for fangst av kamtsjatkakrabbe har fraveket avtaler om forvaltning av kamtsjatkakrabbebestanden som har vært gjeldende siden 1993, og som har vært realisert i fellesskap ved den felles omforente forvaltningsstrategien for denne bestanden.

Den norske part tok den russiske parts beslutning til etterretning og meddelte at den norske part på ensidig basis fastsetter en kvote for kamtsjatkakrabbe i norsk jurisdiksjonsområde øst for 26°Ø på 300.000 individer for 2006. Fangstperioden for denne kvoten kan bli forlenget til ut januar 2007.

Partene ba de to lands forskere å vurdere hensiktsmessigheten av å videreføre en felles forvaltning av kamtsjatkakrabbebestanden i Barentshavet og fremlegge resultatene på 35. sesjon i Den blandete norsk-russiske fiskerikommisjon.

Forskerne bes likeledes vurdere om det bør utvikles nye forvaltningsstrategier i takt med dynamikken i bestandsutviklingen.

Den norske part informerte om at Norge i tillegg til norsk kvote i norsk økonomisk sone vil benytte et tilleggsuttak av inntil 10.000 individer under minstemål (pre-rekrutter) og 300 hunnkrabber til forsknings- og utviklingstiltak.

Tekniske reguleringstiltak fremgår av Vedlegg 7, punkt 10.

10. Regulering av fisket etter reker i 2006

Partene uttrykte bekymring for den negative bestandsutviklingen 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, samt arbeidet med bestandsvurdering av reker. Dette arbeidet omfatter også 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.

Partene tok til etterretning en felles rapport fra norske og russiske forskere vedrørende bestandssituasjonen av reker 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 2006

Partene konstaterte at bestandene av grønlandssel i Østisen og Vesterisen fortsatt øker også på grunn av at man ikke fullt ut har fått tatt ut de tildelte kvotene på denne selarten. Kvoteuttaket på grønlandssel i 2005 var fortsatt på et meget lavt nivå.

Partene fremhevet også at det på bakgrunn av eksisterende data og fangstomfang av grønlandssel i Østisen synes å være en tendens til stabilisering av denne bestanden på et maksimalt nivå.

Partene var enige om at antall sel i Østisen og Vesterisen har en innvirkning på de kommersielle fiskebestandene i Barentshavet. I denne situasjonen vil Partene bestrebe seg på å legge forholdene til rette for russiske og norske kommersielle interesser, noe som gir mulighet til å iverksette felles prosjekter, med sikte på en økning i uttaket av sel i Østisen og Vesterisen, og å skape lønnsomhet i fangsten.

Nye data som tyder på nedgang i klappmyssbestandens ungeproduksjon i Vesterisen bekymrer partene.

Partene fastsetter TAC for 2006 basert på rådgivning fra ICES.

Partene konstaterte at ICES fortsatt arbeider med å fastsette biologiske referansepunkter for forvaltning av bestandene av grønlandssel og klappmyss, noe som vil gjøre det mulig å utarbeide en forvaltningsstrategi for selbestandene.

Den norske part ba om økning av kvote for uttak av grønlandssel i Østisen til 15.000 individer. Den russiske part skal informere om sin beslutning angående dette spørsmålet før 15. desember 2005.

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 fiskeri- og kystdepartement og Det russiske landbruksministerium. 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 har gjennomgått rapporten fra Det permanente utvalg om det arbeidet som er gjort, og har funnet det tilfredsstillende.

Partene vil gjennomføre de tiltak som er foreslått. Protokollen for møtet i Det permanente utvalg i Murmansk 3. – 7. oktober 2005 vedlegges, jfr Vedlegg 9.

12.2 Regler for langsiktig, bærekraftig forvaltning av levende marine ressurser i Barentshavet og Norskehavet

"The Basic Document Working Group" leverte sin rapport "Harvest Control Rules for Management of Fisheries on Cod and Haddock – and Optimal Long Term Harvest in the Barents Sea Ecosystem" (Vedlegg 11) med beskrivelse av arbeidet siden 33. sesjon. Dette gjaldt prosessen som ledet frem til at ICES klassifiserte den vedtatte forvaltningsregel for torsk til å være i samsvar med føre-var tilnærmingen under forutsetning av at fisket skal bringes til opphør ved nedgang av SSB under B_{lim}. Rapporten inneholder også status vedrørende forberedelse til evaluering av forvaltningsregelen for hyse og en arbeidsplan for å gjennomføre en vitenskapelig analyse vedrørende optimal høsting (maksimalt langsiktig utbytte) av de kommersielle hovedbestandene av marine organismer i Barentshavet og Norskehavet med hensyn til alle økosystemelementer som er tilgjengelige for undersøkelser.

Partene sa seg tilfreds med arbeidsgruppens arbeid og godkjente rapporten – som et normativt grunnlag for en langsiktig strategi for bærekraftig forvaltning av kommersielle fiskebestander i Barentshavet og Norskehavet. Partene sa seg tilfreds med arbeidet som er utført av forskere fra begge land for gjennomføring av en vitenskapelig analyse vedrørende optimal høsting (maksimalt langsiktig utbytte) av de kommersielle hovedbestandene i Barentshavet og Norskehavet med hensyn til alle økosystemelementer som er tilgjengelige for undersøkelser.

Til neste møte i Den blandete norsk-russiske fiskerikommisjon skal arbeidsgruppen legge frem rapport om følgende:

- Arbeidet med revisjon av datagrunnlag, biologiske referansepunkt og evaluering av beslutningsregel for hyse
- Status for arbeidet for gjennomføring av en vitenskapelig analyse vedrørende optimal høsting av de kommersielle hovedbestandene i Barentshavet og Norskehavet med hensyn til alle økosystemelementer som er tilgjengelige for undersøkelser.

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.

Partene er enige om å foreta korrigering av teksten i memorandumet i forbindelse med endringer i navn og organisasjonsstruktur på russisk side, hos de parter som har undertegnet memorandumet.

Forslaget til memorandum oversendes til dets parter for undertegning.

Partene ga Det permanente utvalg i oppdrag å vurdere om det er behov for ytterligere endringer i memorandumet.

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

Partene var tilfreds med effektiviteten av den forenklede fremgangsmåten for lisensutstedelse til å fiske i hverandres økonomiske soner, og var enige om å beholde ordningen som brukes i 2005, også i 2006.

På denne bakgrunn var partene enige om forslag til Protokoll til avtalen mellom Regjeringen i Unionen av Sovjetiske Sosialistiske Republikker og Kongeriket Norges Regjering om gjensidige forbindelser innenfor fiskerinæringen av 15. oktober 1976 (Vedlegg 11).

Partene uttrykte sin hensikt om å iverksette de nødvendige prosedyrer for undertegning og ikrafttredelse av nevnte protokoll.

Partene vil opprettholde den gjeldende ordningen for å informere den andre parten om fartøy som strykes av listen.

Den russiske part informerte om strukturendringer i føderale utøvende myndighetsorganer i Russland og i det russiske lovverket angående organisering og kontroll med fisket i russisk økonomisk sone. Opplysninger om disse endringene skal overleveres til den norske part før slutten av 2005.

12.5 Kontrolltiltak for fiske i Barentshavet og Norskehavet i 2006

Partene orienterte hverandre om kontrollaktiviteten i sine farvann i 2005 med særlig vekt på omlasting og kvotekontroll.

Partene var enige om å videreføre og sørge for full implementering av følgende tiltak som ble vedtatt på den 33. sesjon:

- Rapporteringsplikt for fiske- og transportfartøy involvert i omlasting til havs. Rapportering skjer til flaggstatens kontrollorgan. Inntil elektronisk rapportering etableres skal rapportene sendes manuelt i samsvar med gjeldende regelverk:

- Fiskefartøyet skal sende melding om omlasting 24 timer før omlastingen starter
- Fartøyet som mottar fangst skal senest 1 time etter at omlastingen har funnet sted, sende rapport om omlastingen

- Meldingen skal inneholde informasjon om tid og posisjon for omlastingen og opplysninger om fartøy som har levert fangst og hvem som har mottatt fangst, samt omlastet kvantum spesifisert på art i rund vekt
- Mottaksfartøyet skal senest 24 timer før landing finner sted, også gi opplysninger om hvor fangsten skal landes
- Fiskefartøy som har til hensikt å lande i tredjeland skal ved utseiling fra de respektive lands økonomiske soner gi opplysninger om hvor fangsten skal landes.

- Forbud mot omlasting av fisk til fartøy som ikke har rett til å seile under flagget til medlemstater i NEAFC, eller flagg til stater som ikke har status som NEAFC-samarbeidsland.

- Transportfartøy som mottar fisk skal være underlagt sporingsplikt på lik linje med fiskefartøy.

Partene konstaterte at problemene med ulovlig fiske og omlasting i Barentshavet og Norskehavet ikke er løst. Partene var derfor enige om både å forbedre eksisterende tiltak mot ulovlig fiske og omlasting, og å iverksette nye tiltak:

Partene vil innen 15. mars 2006 utarbeide en omforent ordning som forutsetter at partene gir full og løpende informasjon om:

- omlasting til havs eller landing i 3. land av arter som utgjør fellesbestander i Barentshavet og Norskehavet (ICES I og II), på fartøynivå
- satellittsporingsdata i alle områder av Barentshavet og Norskehavet (ICES I og II) på fartøynivå så snart de tekniske forhold er tilrettelagt.

Partene forplikter seg til å gi den annen part fangstopplysninger om kvoteregulerte bestander, på anmodning.

Partene var enige om fra 1. februar 2006 månedlig å utveksle informasjon om kvoter av torsk og hyse nord for 62°N, på fartøynivå. Partene vil bestrebe seg på å gjøre slik informasjon løpende oppdatert på Internett i løpet av 2006 som et alternativ til månedlig utveksling.

Partene var enige om å samarbeide i NEAFC med sikte på å etablere et omforent regime for havnestatskontroll vedrørende fiskeressursene i NEAFC 's konvensjonsområde.

Partene var enige om å videreføre tidligere avtaler om kontroll med russiske landinger i norske havner og i denne sammenheng videreutvikle metodene for kontrollgjennomføring.

Partene er enige om å fortsette arbeidet med å etablere kontrollavtaler med relevante tredjeland for å få mer fullstendig informasjon om landinger i disse landene.

For å oppnå en effektiv kontroll med landinger er det ønskelig å opprette mobile grupper med inspektører fra begge land, som på bakgrunn av informasjon om mulige overtredelser av fiskerilovgivningen, skal kunne iverksette kontrolltiltak og eventuelt forfølge sakene videre. Gruppene må raskt kunne dra til landingshavn for å kunne observere landingen. Slike grupper må finansieres og ha tilgjengelig gyldig visum.

Det permanente utvalg gis i oppdrag innen 1. februar 2006 å utrede praktiske spørsmål i forbindelse med slike inspeksjoner.

Partene understreket nødvendigheten av at det ble ført kontroll med overholdelsen av vedtatte tiltak. Regelbrudd som avdekkes ved kontroll vil medføre tilstrekkelige sanksjoner.

Partene vil vurdere å forby transitt gjennom sine fiskerijurisdiksjonsområder av torsk og hyse fra Barentshavet og Norskehavet med fartøy som ikke har rett til å seile under flagget til medlemstater i NEAFC, eller flagg til stater som ikke har status som NEAFC-samarbeidsland.

Den norske part vil vurdere å etablere rapporteringsplikt ved inngang til norske fiskerijurisdiksjonsområder, for fartøy i transitt når de transporterer torsk og hyse fra Barentshavet og Norskehavet.

Partene var enige om å samarbeide om gjennomføring av inspeksjoner av fiskefartøyer i Smutthullet og det tilstøtende området i Barentshavet under inspeksjon av fartøyer med egne staters flagg. Her skal partene etter avtale gi inspektører fra en part oppholdsrett på den andre partens fartøyer for å gjennomføre inspeksjoner av fartøyer med egen stats flagg som driver fiske i Smutthullet og det tilstøtende området i Barentshavet.

Partene finner det nødvendig snarlig å gjennomføre et møte mellom norske og russiske fiskerimyndigheter og politi- og påtalemyndigheter for å klargjøre begge parters krav til bevisføring i straffesaker.

Den russiske part informerte at i tillegg til kontrollspørsmål innen fiskeri inngår også spørsmål i forbindelse med eksport og sanitær- og veterinærmessig sikkerhet for produkter av fisk og andre levende marine ressurser i Rosselkhoznadzors funksjoner. Fiskeridirektoratet sa seg villig til å bistå med å få til et samarbeid mellom Rosselkhoznadzor og Mattilsynet i Norge.

12.6 Reglene for utøvelse av fisket i havområdet ved Svalbard

Den russiske part fremførte synspunkter vedrørende fisket i området ved Svalbard, og ga uttrykk for ønske om meningsutveksling for å bringe nærmere partenes posisjoner angående dette tema.

Den norske part vil informere den russiske part om passende tidspunkt og format for en slik meningsutveksling.

12.7 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 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.

12.8 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. Partene ga Det permanente utvalg i oppdrag å utarbeide forslag til nøyaktige produktbeskrivelser for de ulike filetprodukter for å taes inn i Vedlegg 7. Den norske part redegjorde for den innarbeidede praksis i norske farvann, om at dersom det produseres andre produkter enn de beskrevne i Vedlegg 7, skal fangst estimeres og rapporteres i rund, levende vekt uten at de omforente faktorer kommer til anvendelse.

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. Det permanente utvalg kan imidlertid, uten å samle tilleggsopplysninger, fremme forslag om midlertidige omregningsfaktorer for nye produkter, dersom tilgjengelig informasjon gir grunnlag for dette.

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 i protokoll fra 32. sesjon.

12.9 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.

12.10 Opprettelse av et underutvalg under Det permanente utvalg for forvaltnings- og kontrollspørsmål på fiskerisektoren.

Partene er enige om å etablere et underutvalg under Det permanente utvalg for utarbeidelse av tiltak for å bedre kontroll og sikre anvendelse av straffetiltak i forbindelse med brudd på fiskeribestemmelsene i Barentshavet og Norskehavet.

For å løse disse oppgavene anbefales det å innlemme i underutvalget nødvendige representanter for partenes kompetente myndigheter, herunder rettshåndhevende toll- og skattemyndigheter.

13. Felles forskning på levende marine ressurser

Partene konstaterte med tilfredshet at forskningssamarbeidet mellom de to land utvikler seg på et kvalitativt nytt nivå. De viste til at det norsk-russiske havforskningssamarbeidet 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 kvoter for bærekraftig fiske.

Partene merket seg fremgangen i arbeidet med å få adgangstillatelse for norske forskningsfartøy i RØS for gjennomføring av bestandsovervåkning, og understreket enda en gang betydningen av å forenkle prosedyren for tillatelser til at forskningsfartøy fra en part skal kunne arbeide i den annen parts økonomiske sone. De har til hensikt å fortsette arbeidet for å forenkle prosedyren for utstedelse av tillatelser.

Begge lands forskere beklaget at det for fjerde år på rad ikke hadde vært mulig å gjennomføre det omsøkte norske 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 2006, jfr. Vedlegg 10.

Partene konstaterte at det er uunngåelig med et uttak av levende marine ressurser, herunder bifangst, under gjennomføringen av forskningstokt, marine ressursundersøkelser og bestandsovervåkning, innsamling av data for forvaltningsbeslutninger og andre forskningsformål.
Partene fastsatte fangstkvanta for noen 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 forsknings-samarbeidet understrekes betydningen av at hele fangsten for disse formål, inklusive bifangst, skal rapporteres på vedtatt statistikkskjema, jfr. punkt 4. Havforskningsinstituttet og PINRO vil i god tid før toktstart utveksle informasjon på fastsatt måte om antall og navn på fartøy som skal delta i disse undersøkelsene og overvåking av levende marine ressurser, tid for gjennomføring av disse og fangstkvanta, jfr. Vedlegg 10.

Det 11. norsk-russiske symposiet ble avholdt i Murmansk, Russland – i august 2005 under tittelen: "Ecosystem Dynamics and Optimal Long Term Harvest in the Barents Sea Fisheries".

Forskere, forvaltere og representanter for fiskerinæringen fra Norge og Russland deltok i dette symposiet.

Partene erkjenner at det er viktig og verdifullt å arrangere slike fora, og ga forskere fra Norge og Russland i oppdrag å begynne arbeidet med forberedelsen av neste symposium, som vil bli avholdt i Norge i 2007. Temaet for symposiet skal defineres på forskningsmøtet i mars 2006 og fremlegges for godkjennelse på 35. sesjon i Den blandete norsk-russiske fiskerikommisjon.

14. Eventuelt

14.1 Felles henvendelse til fiskerimyndigheter i landene ved Nordøst-Atlanteren

Partene var enige om at det er et viktig ledd i bekjempelsen av IUU-fiske å bedre havnestatskontrollen vedrørende landinger av fisk fanget og/eller omlastet i Barentshavet og Norskehavet med påfølgende landinger i tredjeland.

For dette formål har partene til hensikt å henvende seg til sine utenriksministre med forslag om via diplomatiske kanaler å foreta overlevering av en felles henvendelse fra Norges representant og Den russiske føderasjons representant i Den blandete norsk-russiske fiskerikommisjon til nordøstatlantiske fiskerimyndigheter i dette spørsmålet. Utkast til en slik henvendelse er gjengitt i Vedlegg 13.

14.2 30-års jubileum for Den blandete norsk-russiske fiskerikommisjon

Partene viste til at det i 2006 vil være 30 år siden Den blandete norsk-russiske fiskerikommisjon ble startet, og var enige om at jubileet skal markeres under 35. sesjon.

Den norske part orienterte om status når det gjaldt boken som er under utarbeidelse om arbeidet i kommisjonen gjennom disse 30 årene.

Partene var enige om å avholde neste ordinære sesjon i Den blandete norsk-russiske fiskerikommisjon i Norge i oktober/november 2006.

Denne protokoll er utferdiget 28. oktober 2005 i Kaliningrad 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 34. sesjon i Den blandete norsk-russiske fiskerikommisjon, Kaliningrad, 24. – 29. oktober 2005

1. Jørn Krog	Norges representant i Den blandete norsk-russiske fiskerikommisjon, departementsråd, Fiskeri- og kystdepartementet, Delegasjonsleder
2. Peter Gullestad	Norges stedfortredende representant i Den blandete norsk-russiske fiskerikommisjon, fiskeridirektør, nestleder for delegasjonen
3. Kirsti Henriksen	Avdelingsdirektør, Fiskeri- og kystdepartementet
4. Heidi M. Johansen	Seniorrådgiver, Fiskeri- og kystdepartementet
5. Ernst Inge Dahl Espeland	Rådgiver, Fiskeri- og kystdepartementet
6. Odd Gunnar Skagestad	Avdelingsdirektør, Utenriksdepartementet
7. Anne-Kristin Jørgensen	Fiskeriråd, Den norske ambassade i Moskva
8. Tom Brunsell	Avdelingsdirektør, Justis- og politidepartementet
9. Lisbeth W. Plassa	Seksjonssjef, Fiskeridirektoratet
10. Einar Ellingsen	Seksjonssjef, Fiskeridirektoratet
11. Are Strand	Rådgiver, Fiskeridirektoratet
12. Geir Osen	Flaggkommandør, Sjef Kystvakten
13. Ole Arve Misund	Forskningsdirektør, Havforskningsinstituttet
14. Harald Gjøsæter	Forskningsleder, Havforskningsinstituttet
15. Tore Haug	Forskningsleder, Havforskningsinstituttet
16. Jan Sundet	Forskningsleder, Havforskningsinstituttet
17. Ingolf Røttingen	Programkoordinator, Havforskningsinstituttet
18. Atle Vartdal	Norges Fiskarlag
19. Knut Werner Hansen	Landsstyremedlem, Norges Fiskarlag
20. Christen A. Mordal	Adm. direktør, FHL industri og eksport
21. Erlend Hanssen	Tillitsvalgt, Norsk Sjømannsforbund
22. Paul Jensen	Styreleder, Norges Kystfiskarlag
23. Inge Arne Eriksen	Rådgiver, Sametinget
24. Dag Klaastad	Tolk
25. Jan-Fredrik Borge	Tolk
26. Geir Hønneland	Forsker, Fritjof Nansens Institutt

VEDLEGG 1

II. Den russiske delegasjon til den 34. sesjon i Den blandete norsk-russiske fiskerikommisjon, Kaliningrad 24. – 28. oktober 2005

1.	Anatolij Makojedov	Den russiske føderasjons representant i Den blandete norsk-russiske fiskerikommisjon, direktør i Det russiske landbruksministeriets fiskeripolitiske avdeling, delegasjonsleder
2.	Nina Kim	Seksjonsleder, Det russiske landbruksministeriets fiskeripolitiske avdeling
3.	Anastasija Jeremkina	Ledende spesialist, Det russiske landbruksministeriets fiskeripolitiske avdeling
4.	Aleksander Fomin	Avdelingsjef i Den russiske føderasjons fiskeribyrå
5.	Marina Sominskaja	Viseseksjonsleder i Den russiske føderasjons fiskeribyrå
6.	Aleksandr Zelentsov	Representant for Den russiske føderasjons fiskeribyrå i Norge
7.	Vladimir Borisov	Laboratoriesjef, VNIRO
8.	Vasilij Sokolov	Laboratoriesjef, VNIRO
9.	Boris Prisjtsjepa	Direktør, PINRO
10.	Vladimir Sjibanov	Forskningsdirektør, PINRO
11.	Konstantin Drevetnjak	Laboratoriesjef, PINRO
12.	Jurij Lepesevitsj	Avdelingsjef, PINRO
13.	Jurij Kovaljov	Laboratoriesjef, PINRO
14.	Vladislav Svetotsjev	Laboratoriesjef, SevPINRO
15.	Sergej Baljabo	Seksjonsleder, Rosselkhoznadzor i Murmansk fylket
16.	Gennadij Antropov	Leder av råstofftjenesten i "Rosrybakkolkhozsojuz" - Unionen av russiske fiskerikollektiver
17.	Jevgenij Kolesnikov	Representant for Utenriksministeriet
18.	Anna Sjatunovskaja	Representant for Utenriksministeriet
19.	Anton Kafidov	Representant for Utenriksministeriet
20.	Vladimir Lazakovitsj	Representant for Grensevakttjenesten i Den russiske føderasjons Sikkerhetstjeneste
21.	Viktor Rozhnov	Representant for Grensevakttjenesten i Den russiske føderasjons Sikkerhetstjeneste
22.	Tatjana Grin	Representant for Naturresursministeriet
23.	Aleksander Romanov	Landbruks- og fiskeriminister i Kaliningrad fylkes regjering
24.	Vadim Sokolov	Representant for Murmansk fylkes administrasjon
25.	Vladimir Bondarenko	Visepresident i "Murmansk Trawl Fleet"
26.	Anatolij Filippov	Representant for Krabbefiskerlag i Nord
27.	Sergej Sennikov	Tolk, PINRO
28.	Jekaterina Volkovinskaja	Tolk, PINRO

VEDLEGG 2
DAGSORDEN

Dagsorden for den 34. sesjon i Den blandete norsk-russiske fiskerikommisjon, Kaliningrad, 24. – 28. oktober 2005

1. Åpning av sesjonen
2. Godkjenning av dagsorden
3. Arbeidsgrupper
4. Utveksling av fangststatistikk for 2004 og hittil i 2005
5. Regulering av fisket etter torsk og hyse i 2006
   - 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 2006
7. Spørsmål vedrørende forvaltning av norsk vårgytende sild i 2006
8. Regulering av fisket etter andre fiskeslag i 2006
   - 8.1 Blåkveite
   - 8.2 Uer
   - 8.3 Sei
9. Forvaltning av kamtsjatkakrabbe (Paralithodes camtschaticus) i Barentshavet i 2006
10. Regulering av fisket etter reker i 2006
11. Regulering av selfangsten i 2006
12. Forvaltningssamarbeid
    - 12.1 Rapport fra Det permanente utvalg for forvaltnings- og kontrollspørsmål på fiskerisektoren
    - 12.2 Regler 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 2006
    - 12.6 Reglene for utøvelse av fisket i havområdet ved Svalbard
    - 12.7 Tredjelands fiske og gjennomføring av Avtale av 15. mai 1999 mellom Norge, Den russiske føderasjon og Island om visse samarbeidsforhold på fiskeriområdet
    - 12.8 Felles omregningsfaktorer for fiskeprodukter
    - 12.9 Prosedyrer for stenging og åpning av fiskefelt

12.10 Opprettelse av et underutvalg under Det permanente utvalg for forvaltnings- og kontrollspørsmål på fiskerisektoren

13. Felles forskning på levende marine ressurser

14. Eventuelt

14.1 Henvendelse til fiskerimyndigheter i landene ved Nordøst-Atlanteren

14.2 30-årsjubileum for Den blandete norsk-russiske fiskerikommisjon

15. Avslutning av sesjonen

VEDLEGG 3

OVERSIKT OVER TOTALKVOTER OG FORDELING AV KVOTER MELLOM NORGE, RUSSLAND OG TREDJELAND (I TONN) I 2006

		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	436.000[1]	64.600	185.700	185.700	6.000	191.700	179.700
NORSK KYSTTORSK	21.000		21.000			21.000	
MURM.TORSK	21.000			21.000			21.000
SUM TORSK	478.000	64.600	206.700	206.700	6.000	212.700	200.700
SUM TORSK INKL. NOTE 1						219.700	207.700
HYSE	120.000	5.400	57.300	57.300	4.500	61.800	52.800

[1] I tillegg kan inntil 14.000 tonn, 7.000 for hver part, disponeres til forsknings- og forvaltningsformål.

VEDLEGG 4

I. FORDELING AV TREDJELANDSKVOTEN AV TORSK I 2006 (I TONN)

TOTALT	SVALBARD-OMRÅDET	NORGES ØK. SONE	RUSSLANDS ØK. SONE
64.600	18.280	26.940	19.380

II. FORDELING AV KVOTER FOR TORSK OG HYSE TIL TREDJELAND I PARTENES ØKONOMISKE SONER I 2006 (I TONN)[1]

FISKESLAG	NORGES ØK. SONE	RUSSLANDS ØK. SONE	I ALT	HERAV I DET TILSTØTENDE OMRÅDE I BARENTSHAVET	
				NORGE	RUSSLAND
TORSK	26.940	19.380	46.320	19.380	19.380
HYSE	3.240	2.160	5.400	2.160	2.160

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

VEDLEGG 5

KVOTER I 2006 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 2006

BESTAND	KVOTE	MERKNADER
Vanlig uer Sebastes marinus Snabeluer Sebastes mentella	2.000	Bifangst, maksimum 15% 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. Bifangst ved fiske av sild, maksimum 5% 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.

**I tilfelle det angitte kvantumet blir for lite til å dekke bifangst ved fiske etter andre arter, er den norske part beredt til å tildele 3.000 tonn sei ekstra etter anmodning fra den russiske part.

II. KVOTER TIL NORGE PÅ RUSSISKE BESTANDER I RUSSLANDS ØKONOMISKE SONE (I TONN) I 2005

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.

I fisket etter norsk vårgytende sild nord for 62°N er det tillatt å ha inntil 5% 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.

Den norske part opplyste at norske fartøy vil kunne bli regulert og kontrollert ved landing etter en bifangstprosent som er mindre enn 7%.

5. Uer

5.1 I fisket etter andre fiskeslag er det tillatt å ha inntil 15% 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 jurisdiksjonsområder.

7.2 Bifangst av torskeyngel skal ikke overskride 800 eksemplarer per tonn reker, av hyseyngel 2.000 eksemplarer per tonn reker, og av ueryngel 300 eksemplarer per tonn reker. Bifangst av blåkveite skal ikke overskride 300 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 forvaltnings- og kontrollpørsmål på fiskerisektoren, sist ajourført den 7. oktober 2005.

10. Kamtsjatkakrabbe (Paralithodes camtschaticus)

10.1 Uttak ved turistfangst av kamtsjatkakrabbe inngår i TAC.

10.2 Det er forbudt å drive fangst på hunnkrabber, også ved turistfangst.

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, unntatt turistfangst, der fangst ved dykking kan tillates. 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 Kommersiell fangst av kamtsjatkakrabbe skal begrenses slik at det ikke er anledning til å drive fangst i perioder med skallskifte. Fangsten tillates bare i høst-/vinterperioden.

10.6 Enkelte områder kan stenges på grunn av store bifangster 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 34TH SESSION OF THE JOINT NORWEGIAN - RUSSIAN FISHERIES COMMISSION, KALININGRAD, RUSSIA, 24 - 28 OCTOBER 2005

REPORT OF THE WORKING GROUP ON SEALS

Participants:

RUSSIA

V. SVETOCHEV	SevPINRO, Arkhangelsk
G. ANTROPOV	Rosribkolhozsojus, Moskva

NORWAY

T. HAUG	Institute of Marine Research, Tromsø
I.A. ERIKSEN	Sami Parliament, Karasjok
P. JENSEN	Norwegian Coastal Fishermens Union, Lofoten
H.M. JOHANSEN	Norwegian Ministry of Fisheries and Coastal Affairs
C.A.MORDAL	Federation of Norwegian Fishing Industry, Oslo
*A.K. JØRGENSEN	Interpreter, Norwegian Embassy, Moskva

Contents:

1. EXCHANGE OF INFORMATION AND SUMMARY OF SEAL CATCHES IN 2005

Norwegian catches were taken by four vessels in the Greenland Sea and three vessels in the southeastern Barents Sea. For logistical reasons, Russian seal vessels did not carry out hunting in the Greenland Sea in 2005. Russian catches of harp seals in the White Sea were taken by local hunters using helicopters.

The 2005 TACs given for Greenland Sea hooded seals was 5,600 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. ICES had identified the sustainable catch level (that would stabilise the hooded seal population at present level) under a precautionary apporach as 5 600 animals for 2005, however with no multiplier between 1+ animals and pups.

For the Greenland Sea harp seals, the 2005 TAC was set at 15,000 1yr+ animals or an equivalent number of pups (where one 1yr+ animal should be balanced by 2 pups). ICES had identified the sustainable catch level (that would stabilise this population at present level) as 8 200 1+ animals for 2005. The 2005 TAC set for harp seals in the Barents Sea and White Sea was as recommended by ICES (i.e., a level that would stabilise the population at present level) for 2005: 45,100 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).

Norwegian and Russian catches in 2005, including catches under permits for scientific purposes, are summarized in the table below:

Area/species	Norway	Russia	Sum
GREENLAND SEA			
Harp seals			
Pups	4680	0	4680
Older seals (1yr+)	2525	0	2525
Sum	7205	0	7205
Hooded seals			
Pups	3633[1]	0	3633
Older seals (1yr+)	193[1]	0	193
Sum	3826	0	3826
Area subtotal	11031	0	11031
BARENTS SEA / WHITE SEA			
Harp seals			
Pups	1180	14258[3]	15438
Older seals (1yr+)	9386[2]	19[3]	9405
Sum	10566	14277	24843
Area subtotal	10566	14277	24843
TOTAL CATCHES	21597	14277	35874

[1] Include 25 pups and 11 1+ animals taken under permit for scientific purposes in the Greenland Sea
[2] Include 60 animals taken under permit for scientific purposes in summer in the northern Barents Sea
[3] Include 7 200 pups and 19 adult females taken under permit for scientific purposes in the White Sea

2. EXCHANGE OF INFORMATION AND SUMMARY REPORTS OF RESEARCH ACTIVITIES IN 2005

2.1 Norwegian research

2.1.1 Estimation of pup production

From 14 March to 6 April 2002 aerial surveys were carried out in the Greenland Sea pack-ice (the West Ice), to assess the pup production of the Greenland Sea population of harp seals. The total estimate of pup production was 98 500 (SE = 16 800). This is an underestimate due to the presence of unestimated areas along transects during the photographich surveys. Adding the obtained Greenland Sea pup production estimate to recent estimates obtained using similar methods in the northwest Atlantic (in 1999) and in the Barents Sea / White Sea (in 2002), it appears that the entire North Atlantic harp seal pup production, as determined at the turn of the century, is of a magnitude of at least 1.4 million animals per year.

It is recommended that comprehensive aerial surveys needed to provide estimates of current pup production should be conducted periodically (c. every 5 year), and that efforts should be made to ensure comparability of survey results. Therefore, the 2002 surveys in the Greenland Sea (with subsequent laboratory analyses) included participation by Canadian and Russian scientific personell.

The most recent abundance estimate for harp seals in the northwest Atlantic was from 1999. For this reason, new surveys were carried out in March 2004 using an icegoing vessel ('Ann Harvey'), two helicopters and three fixed-wing aircrafts. Norwegian and Russian scientific personell participated in the field work. The survey resulted in an estimated pup production of 991 400 (SE = 58 200). Comparison with previous estimates indicates that pup production has not changed since 1999, likely due to the increased hunting of young animals which began in the mid 1990s.

In the period 11 to 29 March 2005 aerial surveys were performed in the Greenland Sea pack-ice (the West Ice), to asssess the pup production of the Greenland Sea population of hooded seals *Cystophora cristata*. Two fixed-wing twin-engined aircrafts (stationed in Constable Pynt, East-Greenland, and Akureyri, Iceland) were used for reconaissance flights and photographic surveys along transects over the whelping patches. A helicopter, operated from the applied expedition vessel (M/V"Polarsyssel"), assisted in the reconnaissance flights, and subsequently flew combined visual/video transect surveys over the whelping patches. The helicopter was also used for other purposes, such as monitoring the drift of ice and patches, age-stageing (also performed along transects over the patches) of the pups, and assessing the fidelity of pups to their natal ice pans. A total of 15 reconnaissance surveys were flown and the total area along the eastern ice edge between 67°25' and 75°00'N were covered during the survey period. The reconnaissance

surveys were usually flown at an altude of approximately 300 m. Repeated systematic east-west transects spacing10 nautical miles (sometimes 5 nautical miles apart) were flown from the eastern ice edge and usually 10-20 nautical miles (sometimes longer) over the drift ice to the west. Three hooded seal breeding patches were located and surveyed visually (Patches A and B) and photographically (all patches). The aircrafts were equipped with Leica RC 30 cameras with a motion compensation mechanism shooting AGFA Pan 400 black-and-white film. On 24 March, a total of 39 photo transects were flown at an altitude of about 200 m and 979 photos were shot in the three observed whelping patches (A, B, and C) in the area between 71° 09' – 71° 54'N and 15° 23' – 17° 54'W. Only a few whelping hooded seals and pups were observed outside the three surveyed whelping patches. Preliminary results from the aerial surveys indicate that the pup production in 2005 may be considarbly lower than in 1997 which was the most recent (and only) estimate before the 2005 survey. Surveys to determine current pup production of Northwest Atlantic hooded seals were also conducted in March 2005.

2.1.2 Ecological role of hooded seals

To enable an assessment of the ecological role of 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 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 and 2002 (winter). Results from analyses of stomach and intestinal contents from captured seals revealed that the diet was comprised of relatively few prey taxa. The squid *Gonatus fabricii* and polar cod *Boreogadus saida* were particularly important, whereas capelin *Mallotus villosus*, and sand eels *Ammodytes* spp contributed more occasionally. *G. fabricii* was the most important food item in autumn and winter, whereas the observed summer diet was more characterized 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. Samples obtained in more coastal waters indicated a more varied and fish based (polar cod, redfish *Sebasetes* sp., Greenland halibut *Reinhardtius hippoglossoides*) hooded seal diet.

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 has now been analysed along with similar material collected in the period 1992-2001. The bycatches almost eclusively contains mature females. Most probably this is a necessary feeding migration after whelping and an energy-demanding lactation period. In years with good availability of capelin, this species is the dominant harp seal prey. With low capelin availability, the seal diet is still fish based, but more variable including particularly species such as cod *Gadus morhua*, saithe *Pollachius virens* and haddock *Melanogrammus*

aeglefinus. Apparantly, the seals were fatter in years with capalin than in years without this prey item. No sampling from bycatches were conducted in 2005.

2.2 Russian research

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

During the 2005 meeting 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. Estimates from 1998, 2000, 2002 and 2003 have been used in models to assess stock status and to evaluate consequences of various catch options (on a ten year basis) for this stock.

During the 2005 season PINRO employees again executed an aerial count of harp seal pups in the White Sea. For these purposes, the "Arctica" AN-26 plane was used. The survey was made on transects using video and photo equipment, and also with IR-chamber. Data collected during this survey is currently being analysed, and results of the analysis will be presented on the next meeting of WGHARP. Preliminary analysis from similar surveys of harp seal pup production, carried out in 2004 in the White Sea, has now been finished by PINRO and SevPINRO specialists. The analysis of photos has assessed a pup number in 231,812 (SE=44,000), the analysis of all three used sensors has given 234,000 (SE=48,000).

2.2.2 Estimation of number of harp seals on the White Sea moulting grounds

In April 2005, "Arctica" AN-26 was used to attempt to assess the number of harp seals on their moulting grounds in the White Sea. The techniques applied were similar t those used for the estimation of pup numbers. Material collected are being analyzed.

2.2.3 Remote methods for the study of morphological parameters in harp seals

During earlier multispectral aerial surveys of harp seals on breeding grounds in the White Sea, it has been possible to attempt contactless, remote registration of the sizes of adult animals and pups. The method has been based on the use of computer processing and analysis of digital pictures. The approach, if proven successful, may allow for future determination of the size spectrum, and maybe also the age structure, of the stock. Some preliminary results of this work was presented at the WGHARP meeting in 2003 (Arkhangelsk). In 2005 the work was continued, using the data received at the survey of seals on the moulting grounds.

2.2.4. Sampling from commercial and scientific catches

In 2005 biological samples from pups and adult female seals were collected on whelping grounds during commercial and scientific catches in the White Sea. From 3 to 9 March, more than 1800 pups of different sexes and age stages and 19 adult females were examined. The biological

material described rates of whelping ground formations during the 2005 season, the morphological parameters of pups in each age stage, and the age structure and morphological parameters of adult females on whelping grounds. Analysis of feeding data, collected from seal pups at the «beater» stage in 1999-2003 has shown, that harp seal pups in the White Sea cubs, after the termination of milk feeding, do not eat within 2-3 weeks. Independent feeding began in April at the «beater» age stage. The first prey items for the young seals in te White Sea are crustaceans (*Gammaridae*).

2.2.5. Mortality of harp seal pups in the White Sea, June 2005

To study the reasons for and magnitude of harp seal pup mortality in the Dvina gulf of the White Sea during summer, an expedition was conducted. During the period 12 - 16 June 2005, inspection of the entire coastal line of the Dvina gulf (about 90 km shore line) was carried out. A total of 8 dead animals (at variuos age stages) were observed. The principal cause of death was the movement and disintegration of ice on gthe whelping ground. It is supposed, that the observed death rate of pups during their stay in the waters of the White Sea, corresponded with average long-term sizes.The Working Group **recommends** tha Russian scientists continue regular sampling of data from pups and adult seals during commercial catch and from animals taken as by catch in fishing gear in the future.

2.3. Joint Norwegian-Russian work

2.3.1 Abundance estimation

On several occasions the Working Group 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. During the 2004 season, both Norwegian and Russian experts participated in harp seal surveys and some hooded seal research in the Northwest Atlantic. The Working Group **recommend** the continuing exchange of scientists at abundance estimation work of seals.

2.3.2 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 is now being followed with boat-based surveys aimed to study pelagic feeding by harp seals in the Barents Sea during summer and autum, In May/June 2004, and in June/July 2005, Norwegian surveys were conducted, aimed to study the feeding habits of harp seals occurring in the open waters of the Barents Sea. Very few seals were observed along the coast of Finnmark, and no seals were seen in the open, ice-free areas. In the

nothwestern parts of the Barents Sea, however, very large numbers of seals were observed along the ice edge and 20-30 nautical miles south of this. In these areas, 33 and 55 harp seals were shot and sampled (stomachs, intestines, blubber cores) in 2004 and 2005, respectively. Additionally, samples of faeces were taken from the haul out sites on the ice. Preliminary results from the analyses indicate that krill was the main food item for the seals in both years.

2.3.3 Joint seal age estimations

Biological parameters (fertility, mortality, demography) are important input in models used for seal assessments. Data availability is, however, restricted, and it is important to eastablish routines for sampling. A substantial material of teeth (for ageing) has alredy been sampled, both by Norway and Russia, from commercial catches. This material is very useful, and some joint Norwegian-Russian age-reading experiments have been conducted on harp seal teeth. Age estimates of known age teeth (obtained from mark-recapture experiments) 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. To obtain this, and to try to standardise reading between laboratories (in Norway, Russia and other relevant countries such as Canada and Greenland), a joint workshop is planned to be arranged in Norway in 2006.

2.3.4 Joint studies of life history parameters

In the period from 1986 to 1994, Russian scientists collected biological data on hooded seals in the Greenland Sea. Of particular current interest is material which describe the trends in maturity at average age (MAM) for hooded seals, and joint Russian-Norwegian analyses is currenly in progress. The Working Group strongly **recommend** that this material be analyzed and published jointly. As an arena for carrying out of this study, Russian scientists suggest that the Norwegian experts are invited to Archangelsk.

2.3.5 Joint studies of harp seal stock identity

Tissue samples were collected from harp seal pups in the Greenland Sea (50 individuals, taken on Norwegian sealer) and in the White Sea (50 individuals, taken by Russian scientists) in 2005. The samples will be subject to genetic analyses (DNA-based) to adress the question of stock identity in the Northeast Atlantic.

3. STATUS OF STOCKS AND MANAGEMENT ADVICE FOR 2006

WGHARP met at the Department of Fisheries and Oceans (DFO), St.John's, Newfoundland,

canada, 30 August-3 September 2005 to assess the stocks of Greenland Sea harp seals, White Sea / Barents Sea harp seals and Greenland Sea hooded seals. Updated information was available for the two harp seal stocks to enable WGHARP to perfrom modelling which provided ICES with sufficient information (at the ACFM meeting in Copenhagen, Denmark, 6-11 October 2005) to give advice on status and to identify catch options that would sustain the populations at present levels within a 10 year period. A full assessment of the hooded seal stock must, however, await availability of updated abundance estimates (based on surveys conducted in March 2005) and will be performed in 2006.

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 population model that estimates the current total population size. 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. Since the previous assessment (2003), the model used has been modified based upon recommendation from WGHARP. The major difference is that the model now estimates the biological parameters adult and pup mortalities (M_{1+} and M_0) and pregnancy rates (F) rather than using them as fixed input.

The population model estimates the current total population size using historical catch data and estimates of pup production. In principle, the model can also estimate biological parameters (M_{1+}, M_0 and F), but for the populations to which the model is applied there is not enough data to provide accurate estimates of M_{1+}, M_0 and F. To compensate for the lack of data, information from other similar populations are used as input to the model in the form of a prior distribution (mean and standard deviation) for each of the parameter. The same population dynamic model was used for both of the northeast Atlantic harp seal populations, but with stock specific values of prior distributions for M_0, M_{1+} and F. The modications implemented in the model was an improvement from previously used estimation programs. In general the modified model gives higher stock estimates and catch options than the previous model. These differences are primarily due to the change in the estimate of M_{1+} (which was fixed at value which is now regarded to have been to high) and the inclusion of additional sources of uncertainty in the parameters.

The advice given by ICES in 2005 was used by this Working Group on Seals to establish management advice for 2006 to the Joint Norwegian-Russian Fisheries Commission.

3.1. Greenland Sea

The Working Group **recommends** the following opening dates for the 2006 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 2005. 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 2006.

3.1.1 Hooded seals

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

There is not sufficient data to assess the current stock status in an historical perspective. Based on a Norwegian aerial survey in 1997, the stock in 2003 was estimated to be 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).

A new aerial and vessel survey of hooded seal pup production in the Greenland Sea pack-ice was conducted in March 2005. The results will be used to estimate the 2005 hooded seal pup production, but will not be available until 2006. Preliminary results suggest, however, that pup production in 2005 may be considerably lower than observed in the previous survey (1997).

Catch estimation: 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 2001 – 2005)
- Maintenance catches (defined as the fixed annual catches that stabilizes the future 1+ population)
- Two times the maintenance catches.

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 8 years old and there are no estimates of reproductive rates for this stock. Due to this lack of data it is not possible to provide the requested options for this stock.

In the 2003 assessment, ICES recommended an approach based on Potential Biological Removals (PBR). Using this approach, ICES identified an annual catch of 5 600 hooded seals to be the level that would sustain the population at present level. However, given the current poor data availability on this stock and indications that pup production may be reduced, ICES now recommend that management of the stock should be extremely cautious.

The Working Group **recommend** that this ICES advice of cautiousness is implemented in future managenment of hooded seals in the Greenland Sea. Removals should be reduced substantially until more information about current stock status becomes available. It is important to avoid a

complete stop in the hooded seal harvest in the Greenland Sea, but the Working Group **recommend that the TAC for this stock should not be higher than 2 400 animals (irrespective of age)** in the 2006 season.

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	58 539	.104
1984	103 250	.147
1985	111 084	.199
1987	49 970	.076
1988	58 697	.184
1989	110 614	.077
1990	55 625	.077
1991	67 271	.082
2002	98 500	.179

As well as these pup estimates the model includes age at maturity and estimates of natural mortality and natality. Based on these inputs the model estimated the following 2005 abundance for Greenland Sea harp seals: 618 000 (95% C.I. 413 000-823 000) 1+ animals with a pup production of 106 000 (95% C.I. 71 000-141 000).

Based on a request from Norway, ICES gave **catch options** for three different catch scenarios:

- Current catch level (average of the catches in the period 2001 – 2005)
- 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 2015 and 2005 is used.

					10 Year Projection
Option #	Catch level	Proportion of 1+ in catches	Pup catch	1+ catch	$N_{2015,1+} / N_{2005,1+}$
1	Current	25.6% (current level)	3 303	1 138	1.51 (1.18-1.83)
2	Sustainable	25.6%	36 688	12 624	1.01 (0-61-1.41)
3	Sustainable	100%	0	31 194	1.05 (0.66-1.44)
4	2 X sust.	25.6%	73 376	25 248	0.45 (0.00-0.97)
5	2 X sust.	100%	0	62 388	0.55 (0.06-1.03)

While current catch level (option 1) will likely result in an increase in population size, ICES emphasized that a catch of 31 194 1+ animals (catch option 3), or an equivalent number of pups, in 2006 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 2006:
31 200 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 45-55% 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 28 February to 15 May for Russian coastal and vessel catches and from 23 March to 15 May for Norwegian sealing ships. 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 2006.

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. There are reports that pup mortality rates may vary substantially in the White Sea region, and that in recent years these rates have been very high. For this reason, the 2005 abundance of White Sea harp seals was estimated under the assumption that the ratio between the natural mortality of pups and

adults was 5 instead of 3.

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	325 643	.111
2000	339 710	.095
2002	330 000	.103
2003	327 000	.125

For 2000 there are two independent estimates for pup production.

As well as these pup estimates the model includes age at maturity and estimates of natural mortality and natality. Based on these inputs the model estimated the following 2005 abundance of harp seals in the White Sea: 2 065 000 (95% C.I. 1 497 000-2 633 000) 1+ animals with a pup production of 361 000 (95% C.I. 299 000-423 000).

Aeroplane surveys of White Sea harp seal pups were conducted also in March 2004 and 2005 using traditional strip transect methodology and multiple sensors. Results obtained in the 2004 surveys were negatively biased due to late and incomplete coverage, whereas the results from the more successful 2005 survey are still being analysed.

Based on a request from Norway, ICES gave **catch options** for three different catch scenarios:

- Current catch level (average of the catches in the period 2001 – 2005)
- 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 2015 and 2005 is used.

Option #	Catch level	Proportion of 1+ in catches	Pup catch	1+ catch	$N_{2015,1+}$ / $N_{2005,1+}$
1	Current	11.5% (current level)	25 945	3 371	1.35 (0.91-1.78)
2	Sustainable	11.5%	153 878	19 995	0.98 (0.57-1.39)
3	Sustainable	100%	0	78 198	1.04 (0.62-1.50)
4	2 X sust.	11.5%	307 756	39 990	0.53 (0.12-0.93)
5	2 X sust.	100%	0	156 396	0.67 (0.24-1.10)

While current catch level (option 1) will likely result in an increase in population size, ICES emphasized that a catch of 78 198 1+ animals (catch option 3), or an equivalent number of pups, in 2006 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 White Sea / Barents Sea in 2006:
78 200 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 2.5 pups.
Catches 2X sustainable levels (options 4 and 5) will result in the population declining by approximately 53-67% in the next 10 years.

3.2.2 Other species

The Working Group agreed that commercial hunt of bearded seals should be banned in 2006, as in previous years, but it **recommend** to start catch under permit for scientific purposes to investigate results of long time protection.

3.4 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. The suggested conceptual framework for applying the PA to Atlantic seal management requires that data rich and data poor stocks be treated differently when biological reference points are to be defined. Data adequate stocks should have data available for estimating abundance where a time series of at least five abundance estimates should be available spanning a period of 10-15 years with surveys separated by 2-5 years, the most recent abundance estimates should be prepared from surveys and supporting data (e.g., birth and mortality estimates) that are no more than 5 years old,

and the precision of abundance estimates should have a Coefficient of Variation about the estimate of about 30%. Stocks whose abundance estimates do not meet all these criteria are considered data poor.

Based upon these criteria, the Greenland Sea hooded seal stock should be considered data poor. Although reproductive data for the Greenland Sea harp seal stock needs to be updated, there are sufficient pup production estimates to consider this stock data adequate. There have been 5 pup production surveys since 1998 in the White Sea. The quality of the pup surveys is sufficient to consider the stock data adequate. However, as for the Greenland Sea, reproductive data for this stock is not current. Recent reproductive data are required for both of these stocks to maintain these classifications.

For a data adequate species, a framework including two precautionary and one conservation (limit) reference level are proposed (Fig. 1). All reference levels relate to the pristine population size, which is the population which would be present on average in the absence of exploitation, or a proxy of the pristine population (e.g. maximum population size historically observed, N_{max}). A conservation or lower limit reference point, N_{lim}, identifies the lowest population size which should be avoided with high probability. Between those points it is suggested that two precautionary reference points are used as decision signposts for increasingly restrictive management to be introduced when the population approaches the conservation limit. In accordance with practices in the Western Atlantic ICES recommends that the limit reference point (N_{lim}) could be either 30% of the historical accurate maximum population estimates or should be set independently using IUCNs vulnerable criteria.

The first precautionary reference level could be established at 70% (N_{70}) of $N_{max.}$ When the population is between N_{70} and N_{max}, harvest levels may be decided that may stabilise, reduce or increase the population, so long as the population remains above the N_{70} level. When a population falls below the N_{70} level, conservation objectives are required to allow the population to recover to above the precautionary (N_{70}) reference level. N_{50} is a second precautionary reference point where more strict control rules must be implemented, whereas the N_{lim} reference point is the ultimate limit point at which all harvest must be stopped.

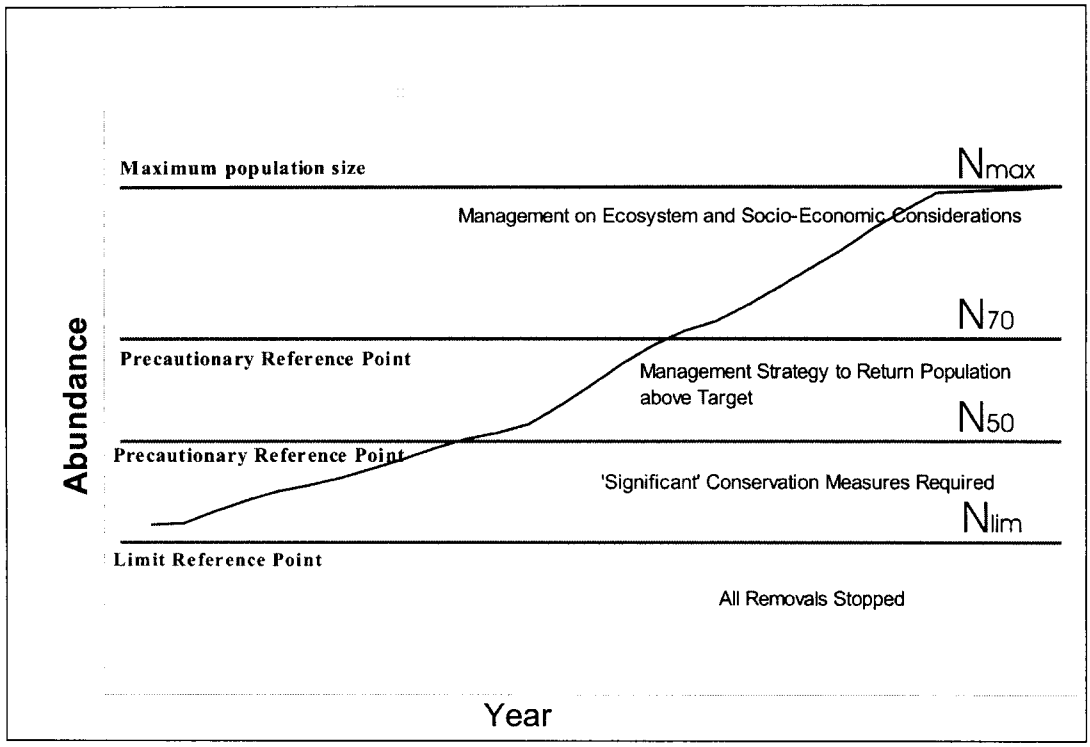

Figure 1 Reference points for a data rich stock.

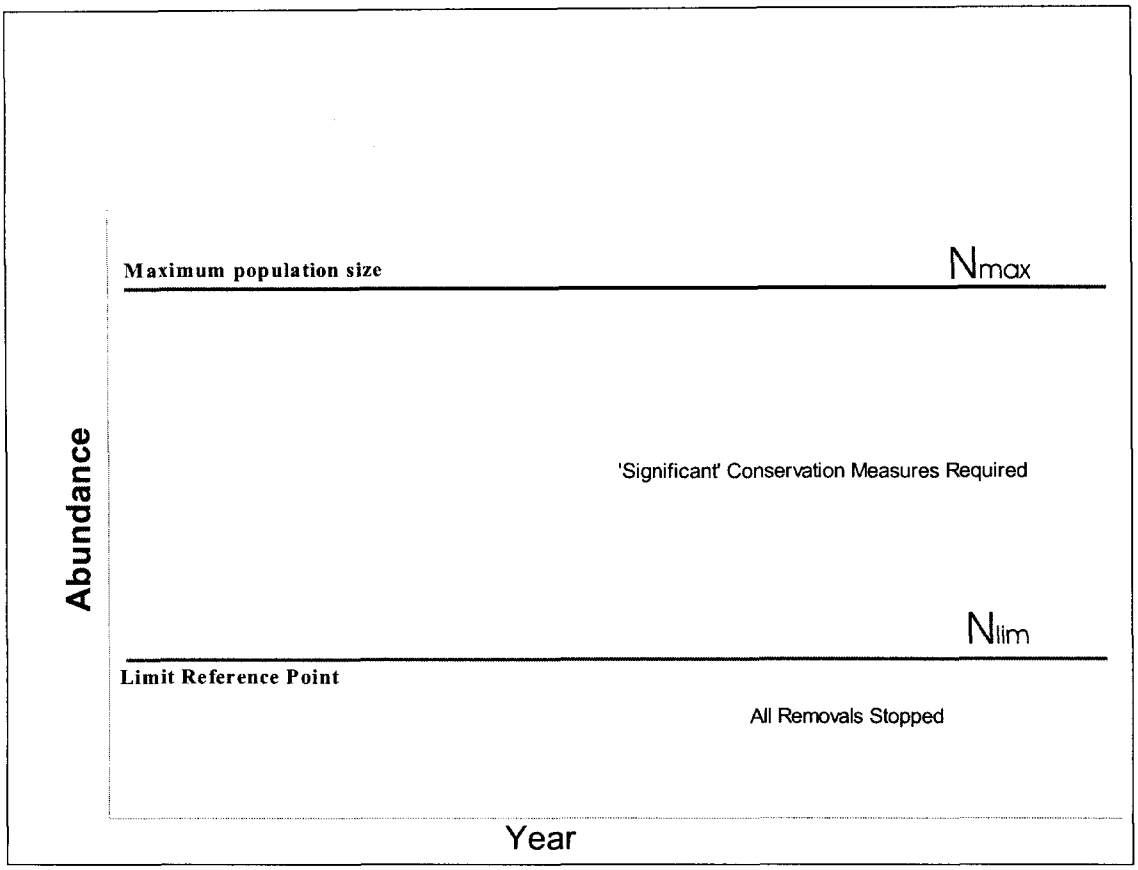

Figure 2 Reference points for a data poor species.

For data poor stocks, it is recommended that only the lower tier (below N_{lim}) be defined (Fig. 2). In this case, the four tiers effectively collapse to two (i.e., above and below N_{lim}). Below N_{lim} all harvest must be stopped, and conservative and effective management measures will at all times be required when the stock is below N_{max}.

Presently the time series only covers period with significant hunting pressure. The hunting pressure has been reduced in the last decades resulting in an increase in the populations since the 1970s. As a result ICES consider that the harp seal populations are presently at their highest historical level (for the time series since the 1940s) and the present exploitation is expected to allow a continuation of population increase. It is not presently possible to evaluate possible density dependent effects on mortality, growth or reproduction which will emerge in the event that the stocks would grow to larger sizes than have been observed historically, approaching the carrying capacity of the environment. It is therefore not possible to estimate the carrying capacity or pristine stock or proxies such as N_{max}. It is a further complication that the carrying capacity will be variable dependent on changes in the ecosystem and an estimation of pristine stock would therefore need to take such events into account. Examples of such changes could be changes in

climatic conditions, in size of prey stocks, and in diseases. A framework based on reference points relating to pristine stock as outlined above can therefore not be applied with the present knowledge about the dynamics of these populations.

In the absence of a historical time series which enables estimates of N_{max} ICES suggest as an interim solution that a risk avoidance management strategy is implemented. The stocks of harp seals in the Greenland Sea and White Sea / Barents Sea have increased continuously from historical minimum levels in the 1960s. The populations have thus demonstrated an ability to grow from the historical minimum populations in the 1960s whereas the dynamics for populations below that size is unknown. As a precautionary management approach it is therefore suggested that management is implemented such that the populations are above the historical minimum populations with high probability. Recent abundance estimates implies that present populations are above historical minimum with high probability. Maintaining the populations at or above the present level will thus be in accordance with precautionary management.

3.5 Prospects for future sealing activities

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 have 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.

It is the opinion of the Working Group that future sealing activities must be profitable. If sealing profitability increases, hunting levels are very likely to increase up to sustainable levels. 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). The Working Group feels that both countries now contribute acceptably to this in that Russian scientists estimates the abundance of White Sea harp seals annually, whereas Norway aims to estimate Greenland Sea harp and hooded seals regularly, preferably with no more than 5 years between each survey. Greenland Sea harp seals were surveyed in 2002, hooded seals in 2005.

Regulation of the seal populations should be conducted as part of an ecosystem management. Nevertheless, 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. In an ecosystem context, harp seals are most important. This is the most numerous seal species, and it

is regarded as a predator of concern in assessments of both capelin and cod/haddock in the Barents Sea. In the report from the Basic Document Working Group, necessary reasarch activities, to improve the basis for inclusion of harp seal predation in fish stock assessments and management, is identified. The Working Group notice that some of this work has already started (collection of diet data), and **recommend** that this work continues, and that necessary telemetric studies of the species are also started in 2006.

The Working Group noted that ICES is currently working to develop biological reference points for harp and hooded seals. Most likely, such reference points can be developed soon for all harp seal populations, whereas for hooded seals this must await availability of updated abundance estimates. The Working Group **recommend** that these reference points be used in the long term strategy for management of harp and hooded seals.

The Working Group appreciated Russian plans to change from helicopter-based to boat-based hunting. The boats must be designed to facilitate participation in other fisheries outside the sealing season. Increased profitability is necessary to make this change in sealing logistics and methodology feasible. This is also necessary to enable an urgent renewal of the Norwegian vessel fleet – this process is now in progress. To assure self-sustained profitability in future sealing activities, the Working Group concluded that it would be necessary to increase the profits of sealing by increasing the value of each seal. The Working Group does not see any ecological problems if only parts of the seal is used, i.e., that only pelts and blubber are taken, while the rest of the carcass is left on the ice to be recycled in the ecosystem. It is, however, preferable 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 is otherwise discarded. When seal meat is taken for human consumption, the production lines onboard the vessels must meet the usual standards for food production. The Working Group empasize that sealing is restricted to a relatively short period during spring – new sealers must, therefore, be designed in such a way that they can be used also in other fisheries.

A new (for sealing) resource tariff was imposed upon the sealing activities in Russia in 2004. As a result there were no sealing in Russia in 2004 and reduced activity in 2005. The Working Group has been very concerned about this situation, and has **recommended** that Russian management authorites secures that profitable sealing can continue in the White Sea also in the future. Due to the extreme importance of sealing for the communities around the White Sea, it now seems that the imposed resource tariff can be appropriately reduced such that sealing can be resumed at a more traditional scale in 2006. The Working Group appreciate this initiative.

4. RESEARCH PROGRAM FOR 2006+

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 be collected from commercial catches both in the southeastern Barents Sea and in the Greenland Sea in the future. In 2006, sampling will be performed from commercial vessels in the southeastern Barents Sea.

Studies of the ecology of harp and hooded seal pups in the Barents Sea and Greenland Sea will be continued as well. 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. Sampling is performed on commercial vessels – next effort will be in the southeastern Barents Sea in 2006.

4.1.2 Estimation of harp seal pup production in the Greenland Sea

Last time harp seal pup production was assessed in the Greenland Sea was in 2002. Since abundance estimates of hunted seal stocks should be obtained no less than every 5 year, Norway will conduct surveys to obtain data necessary for estimation of the abundance of harp seals of the Greenland Sea stock in 2007. The methodological approach will be designed along the same lines as the previous 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 was transported by ship to Scoresbysound during summer in 2006.

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 2006.

4.1.4 Harp seals taken as by-catches in gillnets

Provided harp seals invade the coast of North Norway also during winter in 2006, 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 2006, various physiological parameters of harp and hooded seals will be studied.

4.2.Russian investigations

4.2.1 Harp seal pup production in the White Sea in 2006

Substantial practical experience in carrying out aerial surveys of harp seal pup production in the White Sea has accumulated in Russia. In 1997 – 2005, 8 aerial photographic surveys were conducted. Russia aims to get these surveys annual. The results have been reported on a regular basis to WGHARP, and published in Russia and abroad. To carry out this work, the "Arctica AN 26" plane will be used. The plane will be based in Archangelsk, and the metdological approach will be as in previous years. In 2006, 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 2006

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 2006 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. 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 2006 moulting and feeding periods

In April - May 2006, studies of harp seal spring migrations in the White Sea and Barents Sea will be continued. In April 2006 a full-scale surveys of the harp seals on their moulting grounds in the White Sea will be attempted conducted.

4.2.4 Investigations of harp seals taken as by-catches in gillnets

In case of mass approaches of harp seal in May-June 2006 to coastal areas of the White Sea, biological samples will be secured from animals taken as bycatches in Russian gill net fisheries.

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 is now being 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, so the first survey to address

these questions took place in May/June 2004. The project is planned to run over a three-year period (2004-2006), and the next survey to address these questions will take place in June 2006. In the Norwegian area (NEZ) a research vessel ("Jan Mayen") will be used. This will enable synoptic sampling of seals and prey abundance data. A Russian vessel will be applied in REZ. If possible, 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 successsful 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 is planned to be continued with final analyses of data and joint publication of results in 2006. 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. In 2004 a joint research program (written by Drs Arne Bjørge, Mette Mauritzen and Vladislav Svetochev) that ensures a proper design on the experiment, has been developed. The program describes the background for the project, the types of equipment to be used, how the field work will be caried out, and the total costs. The program is assumed to run for 5 years, with 15 tags being deployed every spring (i.e., immediately after the moulting period). First deployment of tags will be conducted in the White Sea in 2006. It is important that both young immature seals and adults are tagged each year. If it proves difficult to obtain young seals in the White Sea, some of the tags could alternatively be deplyed on young animals during the "Jan Mayen" survey in the northern Barents Sea in June 2006.

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 the future. 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 2006. 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 Working Group **recommend** that this sort of activities are continued.

4.3.4 Seal food consumption

Important data on ringed seal feeding in the White Sea and Kara Sea areas has been collected in Russia. Realizing the importance of true seals feeding, including the harp seal, Russian researchers invite to organize a symposium, in which experts from Russia and Norway could attempt unification in the collection of feeding components of the true seals, and to discuss the questions of seal energy consumption. The Working Group **recommend** to carry out such work. Such a workshop could be held in Archangelsk, with the invitation of Norwegian experts.

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 2006:

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	2300	250
Ringed seals	70	50
Bearded seals	35	50
Greenland Sea*		
Whelping grounds		
Adult breeding harp seal females	500**	100
Harp seal pups	500**	100
Adult breeding hooded seal females	500**	100
Hooded seal pups	500**	100
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

During 2005, Russian scientists have been capturing and tagging (by satellite transmitter) one white whale in the White Sea. Difficult weather conditions and features of animal distribution in area of their capture only permitted the catching and tagging of one single animal. Information about the positioning of the tagged animal positions continues to be received. At continuation of the studies, it is necessary to increase the number of tagged whales, and to develop new techniques of white whale capturing in various areas of the White Sea. When carrying out the capture of white whales during the 2006 season it is planned to collect samples for determination of population discontinuity within the limits of the White Sea and for organism pollution levels. In 2006 it is planned to capture and sample 20 animals. The Working Group **recommends**, that the program of white whale investigations in the White Sea be continued also during the 2006 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 was 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 go into the REZ, but unfortunately they were not allowed to hunt whales. The project therefore had to be cancelled in 2002. Similar procedures were followed in 2003-2005, but with the same results. 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 2006-2009.

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. A first effort was done in 2004 when this survey was run as an ecosystem survey for the first time. New sampling were performed in 2005. Data colllected are being analysed. The Working Group **recommends** that this observer program is continued.

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 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). The Working Group appreciate this activity, and also **recommend** that studies of diet of other seal species such as ringed seals, bearded seals and grey seals are undertaken to assess their impact on stocks of commercial fishes.

5.4 Studies of ringed seal ecology in the Kara and Laptev Seas

In 2005 Russian scientists have begun a project to collect new data for an assesment of the ecological role of ringed seal in the Kara Sea. Field work are completed, and results will be analyzed. It is supposed that data will prepared for publication in 2006-2007. In 2006 Russian researchers plan to continue the ecological investigations of ringed seals in the Kara Sea, and also to prepare a program to study the ecological role of ringed seals in the Laptev Sea with initiation of the program in 2007. The Working Group **recommends** that the planned studies be executed in 2006 and 2007.

6. APPROVAL OF REPORT

The English version of the Working Group report was approved by the members on 27 October, 2005.

PROTOKOLL

FRA MØTET I DET PERMANENTE UTVALG FOR FORVALTNINGS- OG KONTROLLSPØRSMÅL PÅ FISKERISEKTOREN I MURMANSK 3. – 7. OKTOBER 2005.

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. **Fortsettelse av arbeidet med å utarbeide et utkast til dokumentet "Omforente tiltak for forbedring av regulerings- og kontrollsystemene i Barentshavet og Norskehavet".**

Partene analyserte det tidligere utarbeidede skjemaet "Omforente tiltak for forbedring av regulerings- og kontrollsystemene i Barentshavet og Norskehavet" (vedlegg 3) og kom til følgende konklusjon:

Norge og Russland er enige om at for å kunne forbedre kontrollen i Barentshavet og Norskehavet, er nedenfor nevnte punkter fra vedlegg 3 de viktigste:

Utføre kontroll som er egnet til å avdekke de mest alvorlige overtredelser:
Dette krever at partene må ha tilstedeværelse av kontrollmyndighet både der fisket foregår og eventuelt omlastes og der fisken landes. For å sikre likebehandling bør en etablere harmonisert kontrollmetodikk. Kontrollen må videre ha en frekvens som gir tilstrekkelig preventiv virkning.

For å oppnå en effektiv landingskontroll er det ønskelig å opprette mobile grupper med inspektører fra begge land, som på bakgrunn av informasjon om mulige overtredelser av fiskerilovgivningen, skal kunne iverksette kontrolltiltak og også eventuelt forfølge sakene videre. Gruppene må raskt kunne dra til landingshavn for å kunne kontrollere landingen. Slike grupper må finansieres og ha tilgjengelig gyldig visum.

For å oppnå optimal effekt av kontrollene, må en ha økt samarbeid med andre myndigheter (toll, skatt, politi/ påtalemyndighet) både nasjonalt og internasjonalt.

Sanksjoner:
Det er nødvendig at kontroll som avdekker overtredelser følges opp av tilstrekkelige sanksjoner.
I denne forbindelse er det nødvendig å ha et regelverk som gjør det mulig å kunne gjennomføre sanksjoner både administrativt og strafferettslig i forhold til overtredelser som finner sted utenfor egen økonomisk sone.

Kontrollsamarbeid i tredjeland:
På grunn av at fangster tatt i de to lands soner i stor utstrekning landes i tredjelands havner, er det nødvendig med kontrollsamarbeid også med tredjeland. Dette krever inngåelse av bilaterale kontrollavtaler som åpner for kontroll ved landinger, utveksling av inspektører som observatører og utveksling av landingsinformasjon. Videre er det behov for etablering av et regionalt (NEAFC/NAFO) system for havnestatskontroll og kontroll av omlasting, samt etablering av en felles database for informasjon i forbindelse med kontroll i land som er medlem av regional fiskeriorganisasjon. Dette forutsetter full åpenhet i forhold til utveksling av data ("transparency").

Utveksling av kontrollinformasjon:
Partene må ha full utveksling av opplysninger om kvoter på fartøynivå, satellittsporingsdata og informasjon vedrørende omlasting og annen rapportering.

Datasystem:
Partene må ha databaser som kan kommunisere informasjon automatisk og som inneholder opplysninger om alle typer data som er viktig for kontrollen. Dette vil for eksempel være opplysninger om lisenser/fisketillatelser/deltagerrettigheter, kvoter, rapportering/anløpsmeldinger, satellittsporing, fangstdagbokinformasjon, landing- og sluttseddelinformasjon og informasjon om resultater av inspeksjoner.

Økte ressurser:
Partene trenger økte ressurser for å kunne foreta analyse basert på tilgjengelig informasjon. Det trengs også mer ressurser for å øke kontrollinnsatsen både nasjonalt og internasjonalt.

Partene er enige om at følgende momenter i stor grad vanskeliggjør oppnåelse av et forbedret nivå med kontroll av fisket i Barentshavet og Norskehavet:

- Manglende ressurser, både økonomiske, personellmessige og tekniske.
- Manglende politiske beslutninger med hensyn til vedtagelse av nødvendige lover og forskrifter.
- For omstendelige og langvarige beslutningsprosesser når det gjelder kontrollspørsmål innen fiskeri.
- Manglende prioritet og innsats fra andre myndigheter i spørsmål som er av betydning for fiskerforvaltningen.

4. Godkjenning av nye retningslinjer for kontroll av sorteringsrist i torsketrål.

Partene diskuterte saken og ble enige om at de retningslinjene som ble utarbeidet under møtet mellom russiske og norske eksperter i Kirkenes 18. og 19 oktober 2004 vil bli benyttet ved kontroll (Vedlegg 4).

5. **Utveksling av informasjon om endringer i fiskerilovgivningen i Russlands økonomiske sone og i Norges økonomiske sone.**

Den norske part orienterte om hvor langt en var kommet i arbeidet med den nye Havressursloven som skal erstatte Saltvannsfiskeloven.

Den russiske part orienterte om vedtagelsen av lov av 20. desember 2004 (Føderal lov om fiske og bevaring av akvatiske biologiske ressurser), samt pågående endringer i det russiske regelverket.

6. **Diskusjon om samarbeid mellom russiske og norske kontrollmyndigheter for å styrke kontrollen med fisket og med landinger av fisk tatt i Barentshavet og Norskehavet, samt utveksling av inspektører.**

Den russiske part pekte på at det som en konsekvens av overføringer og kontrollfunksjoner fra Murmanrybvod til Rosselkhoznadzor og omforming av ARP FSB RF og PU FSB RF for Murmansk fylke, er det nødvendig å endre "Memorandum om samarbeidsordninger om kontroll mellom Det norske fiskeridirektorat, Den norske kystvakt, Murmansk regionale direktorat for vern og reproduksjon av fiskeressurser og regulering av fisket under Den russiske føderasjons statlige fiskerikomite og Den russiske føderasjons grensetjenestes arktiske regionale direktorat", datert 17. november 2000, slik at Rosselkhoznadzor blir part i Memorandumet i stedet for Murmanrybvod.

Rosselkhoznadzor presenterte data om kvoter på fartøynivå som avtalt i møtet i Det permanente utvalg (30. mai – 3. juni 2005).

Partene diskuterte muligheten for å utveksle inspektører i internasjonalt farvann mellom norske og russiske kontrollmyndigheter.

7. **Utveksling av informasjon om etablering av kontakt med tredjeland for utveksling av statistiske data om russiske og norske fartøys landinger i tredjelands havner.**

Partene orienterte hverandre om status når det gjelder kontrollsamarbeid med tredjeland vedrørende utveksling av landingsinformasjon. Partene var enige om å videreføre samarbeidet på dette området. For 2006 vil en konsentrere seg om kontakter mot Spania og Portugal.

Russland opplyste at de har forberedt kontrollavtale med Danmark som forventes å bli undertegnet i nær fremtid.

8. **Eventuelt.**

Den russiske part informerte den norske part om arbeidet med pkt. 12.4 i protokollen for den 33. sesjon i Den blandete norsk-russiske fiskerikommisjon.

9. Neste møte.

Neste møte finner sted i Norge. Tid og sted avtales senere.

Murmansk, 7. oktober 2005

For de norske representantene

Lisbeth W. Plassa

For de russiske representantene

Vasiliy Krasovskiy

VEDLEGG 1.

DELTAGERLISTE

FOR MØTET I DET PERMANENTE UTVALG FOR FORVALTNINGS- OG KONTROLLSPØRSMÅL PÅ FISKERISEKTOREN I MURMANSK 3. - 7. OKTOBER 2005.

Den norske delegasjonen:

1. Lisbeth W. Plassa, delegasjonsleder, seksjonssjef, Reguleringsseksjonen, Fiskeridirektoratet
2. Steve Olsen, Sjef Kystvaktskvadron Nord
3. Einar Ellingsen, seksjonssjef, Kontrollseksjonen, Fiskeridirektoratet
4. Stein-Åge Johnsen, seniorrådgiver, Reguleringsseksjonen, Fiskeridirektoratet
5. Hilde M. Jensen, førstekonsulent, Reguleringsseksjonen, Fiskeridirektoratet
6. Dagfinn Lilleng, inspektør, Fiskeridirektoratet, region Troms
7. Ingmund Fladaas, tolk

Den russiske delegasjonen:

1. Vasiliy Krasovskiy, delegasjonsleder, fungerende sjef, Rosselkhoznadzors direktorat, Murmansk fylke
2. Nina A. Javdoschuk, fungerende sjef, Murmanrybvod
3. Sergey Balyabo, avdelingsleder, Rosselkhoznadzors direktorat, Murmansk fylke
4. Pavel A. Latyshev, seniorspesialist, Rosselkhoznadzors direktorat, Murmansk fylke
5. Igor V. Polvalyukhin, seniorspesialist, Rosselkhoznadzors direktorat, Murmansk fylke
6. Vladimir S. Antipin, representant for Grensevaktstyrkene GMI PU FSB, Russland
7. Victor N. Rozhnov, senior statsinspektør, Grensevaktstyrkene GMI PU FSB, Murmansk
8. Stanislav F. Lisovskiy, laboratoriesjef, PINRO
9. Viktoria A. Egochina, tolk, spesialist, Rosselkhozznadzors direktorat, Murmansk fylke

VEDLEGG 2.

SAKSLISTE

FOR MØTET I DET PERMANENTE UTVALG FOR FORVALTNINGS- OG KONTROLLSPØRSMÅL PÅ FISKERISEKTOREN I MURMANSK, 3. – 7. OKTOBER 2005

1. Åpning av møtet

2. Godkjenning av dagsorden

3. Fortsettelse av arbeidet med å utarbeide et utkast til dokumentet "Omforente tiltak for forbedring av regulerings- og kontrollsystemene i Barentshavet og Norskehavet".

4. Godkjenning av nye retningslinjer for kontroll av sorteringsrist i torsketrål.

5. Utveksling av informasjon om endringer i fiskerilovgivningen i Russlands økonomiske sone og i Norges økonomiske sone.

6. Diskusjon om samarbeid mellom russiske og norske kontrollmyndigheter for å styrke kontrollen med fisket og med landinger av fisk tatt i Barentshavet og Norskehavet, samt utveksling av inspektører.

7. Utveksling av informasjon om etablering av kontakt med tredjeland for utveksling av statistiske data om russiske og norske fartøys landinger i tredjelands havner.

8. Eventuelt.

9. Neste møte.

OMFORENTE TILTAK FOR FORBEDRING AV REGULERINGS- OG KONTROLL-SYSTEMENE I BARENTSHAVET OG NORSKEHAVET.

1. MANDAT

Med referanse til pkt. 12.1. i protokoll fra den 33. sesjon i Den norsk-russiske blandete fiskerikommisjon er Det permanente utvalg gitt i oppdrag å utarbeide utkast til "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

2. STATUS OG ANALYSE AV REGULERINGS- OG KONTROLLTILTAK PÅ FISKERIOMRÅDET.

Det permanente utvalg har i hovedsak konsentrert arbeidet om kontrolltiltak.

2.1. STATUS

2.1.1. REGELVERK	RUSSISK	NORSK
2.1.1.1. Kontrollfullmakter	Rosselkhoznadzors forvaltning i Murmansk fylke. Føderal lov om fiske og vern av de marine biologiske ressurser, art. 16 og 43, Den russiske føderasjons Regjerings Forordning nr. 317, pkt. 3 av 20.05.2005: Russiske fartøy i internasjonalt farvann og i indre vassdrag. Kontroll på land av juridiske og fysiske personer som utøver fiskeriaktivitet. Adgangsrett til dokumenter, informasjon og gjenstander som har relevans for saken. Rosselkhoznadzor utfører kvotekontroll av russiske fartøy og rederier i russisk og internasjonalt farvann, av utenlandske fartøy i russisk farvann. Rosselkhoznadzor inspektører kan utplasseres om bord. Den russiske føderasjons Føderale sikkerhetstjenestes Grensedirektorat (PU FSB RF): foretar fysisk kontroll og deltar i kvotekontroll i Russlands økonomiske sone. Utøvelse av de statlige kontrollfunksjoner er pålagt Russlands Grensetjeneste innen vern av marine biologiske ressurser i Den russiske føderasjons territorialhav, økonomiske sone og på	Fiskeridirektoratet: Saltvannsfiskelovens § 45: Norske fartøy: i norske og internasjonale farvann Utenlandske fartøy: i norske farvann. Kontroll på land hos rederikontor samt hos enhver som i ervervsøyemed er i besittelse av fisk beregnet på oppbevaring, transport eller omsetning og hos de som er i besittelse av dokumenter vedrørende slik fisk. Uhindret adgang til de steder som nevnt ovenfor. Krav på relevante dokumenter, opplysninger og gjenstander. Inspektører kan plasseres om bord. Kystvakten: Kystvaktlovens § 29: Norske fartøy: i norske og internasjonale farvann. Utenlandske fartøy: i norske farvann med de begrensninger som følger av folkeretten. På land dersom det er åpenbart nødvendig. Uhindret adgang til fartøy. Krav på relevante dokumenter, opplysninger og gjenstander. Inspektører kan plasseres om bord. Salgsorganisasjonene: Saltvannsfiskelovens § 45 a: Registrering og kontroll med fangstuttak og landet fangst (kvantum og art). All fangst som omsettes skal gå gjennom salgslagene. Alle landinger skal

	dens kontinentalsokkel. Føderale lover: - "Om Russlands Føderale sikkerhetstjeneste", (art. 8); - "Om RFs økonomiske sone", art. 36; - "Om vern av naturmiljøet", art. 7; - "Om dyrelivet", art. 31; - "Om RFs kontinentalsokkel", art. 43; - RFs presidents Forordning nr. 950 av 29. august 1997; - RFs Regjerings vedtak nr. 90 av 26. januar 1998; - øvrige departementale normative og rettslige dokumenter.	veies og føres på seddel som er grunnlaget for avregning av kvoten.
2.1.1.2. Satellittsporing	Den russiske føderasjons Regjerings Forordning nr. 226 av 26.02.1999 Alle russiske fartøy som deltar i fiskeriaktivitet, uavhengig av størrelse og hvor de befinner seg. Alle utenlandske fartøy i russisk farvann uavhengig av størrelse	Saltvannsfiskelovens § 4 s) og § 45 sjuende ledd med tilhørende forskrifter: Hovedregel: Alle norske fartøy over 24 meter uansett hvor de befinner seg. I internasjonalt farvann: uansett fartøystørrelse. Norske fartøy i – EU sonen: fartøy over 18 meter (kan bli 15 meter) Utenlandske fartøy i norske farvann: over 24 meter. EU fartøy over 18 meter
2.1.1.3. Fangstdagbok/ lasteoperasjonsjournal	Føderal lov om fiske og vern av de marine biologiske ressurser, art. 16 Føderal lov om Den russiske føderasjons økonomiske sone, art. 12, Reglene for fangst av levende ressurser for russiske juridiske personer og borgere i Den russiske føderasjons indre vassdrag, territorialhav, økonomiske sone og på kontinentalsokkelen i Barentshavet. (Fiskerilovgivningen) Russiske fartøy: Alle	Saltvannsfiskelovens § 9 med tilhørende forskrift: Norske fartøy: over 13 meter Lov om Norges økonomiske sone § 4 og § 6 og forskrift om utlendingers fiske og fangst i Norges økonomiske sone § 9: Utenlandske fartøy: alle

	Utenlandske fartøy: Alle	
2.1.1.4. Dekksdagbok	Føderal lov om fiske og vern av de marine biologiske ressurser, art. 16 Fiskerilovgivningen Russiske fartøy: Alle Forevises på forlangende.	Ingen plikt til føring av dekksdagbok i norsk fiskerilovgivning. Større fiskefartøy er imidlertid pålagt å føre dekksdagbok i henhold til annen lovgivning. I henhold til saltvannsfiskelovens § 45 kan dekksdagboken kreves fremlagt ved fiskerikontroll.
2.1.1.5. Lasteromstegning	Den russiske fiskerikomiteens vedtak nr. 247 av 11.09.2000: Alle russiske fartøy med lengde over 24 m skal ha brutto lasteromstegninger om bord.	Saltvannsfiskelovens § 4 q) med forskrift om utøvelse av fiske i sjøen § 68: Fartøy over 24 meter skal ha godkjente brutto lasteromstegninger om bord. Norske fartøy: overalt Utenlandske fartøy: i Norges økonomiske sone og fiskerisonen ved Jan Mayen. Svalbardforskriftene: Fartøy over 24 meter skal ha godkjente brutto lasteromstegninger om bord.
2.1.1.6. Stuingsoversikt	Ingen aktuelle krav	Ingen krav til stuingsoversikt i fiskerilovgivningen.
2.1.1.7. Produksjonsjournal	Føderal lov om fiske og vern av de marine biologiske ressurser, art. 16 Fiskerilovgivningen.. Russiske fartøy: Fartøy som driver foredling av fisk	Ingen krav til produksjonsjournal i fiskerilovgivningen, men i praksis fører de største fartøyene slik journal.
2.1.1.8. Rapportering/ anløpsmelding fra fartøy	Russlands internasjonale fiskeriavtaler (Blandete fiskerikommisjoner), Føderal lov om Den russiske føderasjons økonomiske sone, art. 12, Føderal lov om fiske og vern av de marine biologiske ressurser, art. 16, Fiskerilovgivningen For russiske fartøy: meldinger om start og avslutning av fisket, daglig fangstrapportering, landings- og omlastningsmeldinger.	Forskrift om rapportering for norske fartøy: Fabrikktrålere, bomtrålere og fartøy som laster om til annet fartøy. Meldingstyper: melding om fiskestart, fangstmelding, omlastingsmelding, melding om havneanløp og melding om avslutning av fiske. Kan sendes elektronisk eller manuelt. Forskrift om utlendingers fiske og fangst i Norges økonomiske sone: Meldingstyper: melding om fiskestart,

	For russiske rederier: fangstmeldinger den 1. og 15. i hver måned For utenlandske fartøy: aktiv- og passivmeldinger, fangstmeldinger i.h.h.t. relevante internasjonale avtaler. For russiske og utenlandske fartøy: melding inn og ut av Russlands økonomiske sone og territorialfarvann, melding om passering av sjekkpunkt og havneanløp.	fangstmelding, omlastingsmelding, melding om havneanløp og melding om avslutning av fiske og melding om fremstilling for kontroll (kontrollpunktmelding og landingsmelding). Kan sendes elektronisk eller manuelt. Forskrift om utlendinger fiske og fangst i fiskerisonen ved Jan Mayen: Meldingstyper: melding om fiskestart, fangstmelding, omlastingsmelding, melding om havneanløp og melding om avslutning av fiske. Kan sendes elektronisk eller manuelt. Svalbardforskriftene: Norske og utenlandske fartøy: Meldingstyper: melding om fiskestart, fangstmelding, omlastingsmelding, melding om havneanløp, melding om avslutning av fiske. Kan sendes elektronisk eller manuelt. Forskrift om fremmede ikke militære fartøyers anløp og ferdsel i norsk territorialfarvann under fredsforhold Dette er en anløpsmelding som i utgangspunktet ikke har noe med ressurskontroll å gjøre. Den er iverksatt med tanke på rikets sikkerhet.
2.1.1.9. Konnossement	Føderal lov om fiske og vern av de marine biologiske ressurser, art. 16 Fiskerilovgivningen Russiske fartøy: Alle	Ingen krav til konnossement i fiskerilovgivningen, men fiskefartøyene mottar dette fra transportfartøy ved omlasting.
2.1.1.10. Landing-/ sluttseddel	Landings-/omlastnings-meldinger: Russlands internasjonale fiskeriavtaler med Norge (Den blandete norsk-russiske fiskerikommisjonen, 33. sesjon, protokollens pkt. 12.5), Føderal lov om Den russiske føderasjons	Saltvannsfiskelovens § 4 s), § 9 og § 9 a jfr, forskrift om opplysningsplikt ved landing og omsetning av fisk. Det skal utstedes landing-/sluttseddel ved alle landinger i Norge. Skal undertegnes av både fisker

	økonomiske sone, art. 12. Russiske fartøy: Alle Faktura på levert fisk/ fiskeprodukter. Føderal lov om fiske og vern av de marine biologiske ressurser, art. 16 Fiskerilovgivningen	og mottaker. Når norske fartøy lander i utlandet skal ansvarshavende på fartøyet utstede landingsseddel. Opplysningene på landings-/ sluttseddel er basis for kvoteavregning på fartøynivå.
2.1.1.11. Lisens (N)		Lov om Norges økonomiske sone § 4 og § 6 jfr. forskrift om utlendinger fiske og fangst i Norges økonomiske sone og forskrift om utlendingers fiske og fangst i fiskerisonen ved Jan Mayen: Norske fartøy: alle skal være innført i Merkeregisteret for fiskefartøy i Fiskeridirektoratet og de fleste fartøyene må i tillegg ha en spesiell tillatelse for fiske. Utenlandske fartøy: må være gitt adgang (lisens) for å kunne fiske eller bistå fiskeflåten, uten utstedelse av lisensdokument.
2.1.1.12. Fisketillatelse (R)	Russlands internasjonale fiskeriavtaler (Blandete fiskerikommisjoner), Føderal lov om Den russiske føderasjons økonomiske sone, art. 11, Føderal lov om fiske og vern av de marine biologiske ressurser, art. 34, Fiskerilovgivningen Gjelder alle russiske og utenlandske fartøy. Original av fisketillatelsen skal forefinnes om bord. For norske fartøy er det ikke påkrevet å ha original av fisketillatelsen om bord under fiske i Russlands økonomiske sone, i henhold til lisensieringsprosedyre, vedtatt av Den blandete norsk-russiske fiskerikommisjonen.	
2.1.2. DATA		

2.1.2.1. Sporingsdata	RTsM (Regionalt monitoringsenter) ligger i Murmansk. Sporingsdata kan oppbevares uten tidsbegrensninger.	Norges FMC ligger i Fiskeridirektoratet. Dataene lagres uten tidsbegrensning.
2.1.2.2. Rapportering fra fartøy	RTsM ligger i Murmansk . Data i form av daglig rapportering fra fartøy registreres elektronisk og kan oppbevares uten tidsbegrensninger.	Norges FMC ligger i Fiskeridirektoratet. Dataene legges inn manuelt, men kan sendes elektronisk. Dataene kan lagres uten tidsbegrensning.
2.1.2.3. Fangstdagbok/ lasteoperasjonsjournal	Oppbevares om bord i fartøyet i 1 år etter at boken er utskrevet. Data fra fangstdagbok, som skal være overensstemmende med de dataene som er mottatt fra fartøyet, oversendes til RTsM på daglig basis. Alle utleverte fangstdagbøker/ lasteoperasjonsjournal er registrert i en database hos Rosselkhoznadzor.	Fangstdagboken føres i original med to kopier av hver dagbokside. Alle norske konsumtrålere og de fleste reketrålere samt fartøy som fisker utenfor norske farvann sender inn ett eksemplar til Fiskeridirektoratet. Andre norske fartøy har innsendingsplikt på anmodning. Data i fangstdagboken for trålerne registreres i en database i Fiskeridirektoratet, mens fangstdagbokdata fra andre fartøygrupper behandles manuelt. Alle utleverte fangstdagbøker er registrert i en database i Fiskeridirektoratet.
2.1.2.4. Konnossement	Oppbevares om bord i ethvert russisk fartøy i to måneder fra den dato de blir utstedt. Kopi utstedes manuelt.	Innhentes bare i forbindelse med inspeksjon.
2.1.2.5. Landings- og omsetningsdata	Landingsdata innhentes fra fartøyet når det blir kontrollert	Landingsdata og omsetningsdata samles hos salgslagene og videresendes elektronisk til Fiskeridirektoratet.
2.1.2.6. Anløpsdata	Ethvert fartøy er pliktig å melde havneanløp senest 24 timer på forhånd. Meldingen inneholder opplysninger om tid og sted for havneanløp.	Disse meldingene inneholder blant annet opplysninger om type fartøy, anløpsted og tidspunkt.
2.1.2.7. Inspeksjonsdata	Inspeksjonsdata arkiveres manuelt hos Rosselkhoznadzor og PU FSB RF.	Inspeksjonsdata fra kystvaktens inspeksjoner legges inn i en database. Fiskedirektoratets inspeksjonsskjema arkiveres p.t. manuelt.
2.1.2.8. Kvoteavregningsdatabase	Databasen inneholder informasjon om redere, fisketillatelser og om kvoter på rederinivå. og tillatelser på fartøynivå. Basen inneholder data om	Database med oversikt over enkeltfartøys eierforhold, fisketillatelser og kvoter. Databasen inneholder også oversikt over landet fangst på

	det enkelte rederis restkvote og evt. overfiske til enhver tid.	fartøynivå. I løpet av 2005 vil databasen også kunne håndtere tilgjengelig informasjon slik at det enkelte fartøys restkvote og eventuelt overfiske av kvote er kjent til enhver tid.
2.1.2.9. Utveksling av informasjon og samarbeid med andre myndigheter	Rosselkhoznadzor har avtaler med PU FSB RF, kriminalpoliti og skattemyndigheter. PU FSB RF har avtaler med Rosselkhoznadzor, kriminalpoliti, toll og skattemyndigheter. Utveksling av informasjon skjer etter anmodning.	Fiskeridirektoratet har samarbeidsavtaler med Toll- og Skattedirektoratet. Informasjon utveksles på forespørsel eller ved felles kontroller.
2.1.2.10. Info fra reder	Redere gir akkumulerte fangstmeldinger den 1. og 15. i hver måned. På forlangende plikter reder å gi enhver type informasjon som angår fisket	Fiskeridirektoratet innhenter årlig regnskap fra utvalgte rederier.
2.1.2.11. Utveksling av landingsdata med tredjeland	Russland har kontrollavtale med England og Wales, Skottland og Nederland. Russland forbereder undertegning av kontrollavtale med Danmark. I henhold til bilaterale avtaler mottar Russland informasjon om landinger fra Island og Færøyene. Landingsdata sendes via telefax eller e-mail. Landingsdata innhentes på forespørsel fra Canada, via den russiske representasjon.	Norge har kontrollavtaler med følgende land: Canada, Danmark, Frankrike, Færøyene, Irland, Island, Nederland, Russland, Storbritannia, Sverige, Tyskland, Polen og Grønland. Landingsdata utveksles elektronisk.
2.1.2.12. Utveksling av data mellom Norge og Russland	Rosselkhoznadzor utveksler kontrolldata med Fiskeridirektoratet på fartøysnivå – etter forespørsel, minst 2 ganger pr. år. Det utveksles også informasjon om rederier. PU FSB RF utveksler informasjon om kontroll med Norge i henhold til "Memorandum om kontroll".	Fiskeridirektoratet har de 10 siste årene sendt sluttseddeldata elektronisk om russiske landinger til Murmanrybvod en gang pr. måned. Fiskeridirektoratet sender en gang pr. måned til Murmanrybvod kvoteopplysninger på fartøynivå. Fiskeridirektoratet sender til Murmanrybvod også bakgrunnsmateriale om åpning og stenging av felt. Kystvakten og Fiskeridirektoratet utveksler rutinemessig kontrollinformasjon med russiske myndigheter.
2.1.2.13. Andre databaser	Rosselkhoznadzor har en database med	Fiskeridirektoratet fører fiskermanntallet

	informasjon over rederier og personer som deltar i fiske. Databasen inneholder også alle fartøytyper og lasteromsvolum.	(yrkesregister over fiskere).
2.1.3. KONTROLL		Utvelgelse av kontrollobjekter både på sjø og land baseres på risikovurdering.
2.1.3.1. PÅ SJØ:	Pr. i dag har Rosselkhoznadzor ingen fiskevernfartøy. PU FSB RF utfører kontroll på sjøen med patruljefatøy og inspeksjonsfartøyet "Skate" i tillegg til bruk av av helikopter og fly.	Kystvakten har i drift 14 havgående og 7 kystnære kystvaktfartøy samt 6 helikoptre og 2 fly.
FYSISK KONTROLL		
2.1.3.1.1. Hva/ hvordan	Kontroll til havs. Inspektørgruppe kontrollerer samsvar mellom fartøytype/fangstredskaper og vilkårene i fiskeritillatelse/ lisens. Kontroll av fangst- og dekksdagbøker og produksjonsjournaler, lisenser, tillatelser, fiskeribillett, konnossementer og andre dokumenter relatert til utøvelse av fiske. Inspeksjon av alle fartøyets rom, fangstredskaper, last og alt uttak som resultat av fangstvirksomhet. Sjekkpunkt. Gjennomføring av kontroll basert på opplysninger om fangstkvantum og fiskeslag.	Ved tilstedeværelse i definerte risikoområder kontrolleres: yngel/innblanding av fisk under minstemål, bifangst, utkast, redskap satellittsporingsutstyr, fangstdagbok og lignende. Ved kontroll kontrolleres relevante dokumenter og fangst på dekk og i lasterom. Fysisk fangst og dokumenter kontrolleres opp mot det som er ført i fangstdagboken og rapportert, særlig med vekt på kvantum og art. I tillegg til kontroll på fiskefeltet gjennomføres kontroll i fastsatte kontrollpunkt.
2.1.3.1.2 Hvor ofte	Hyppigheten er avhengig av fiskeriaktiviteten. Fiskefartøy i Russlands økonomiske sone blir inspisert 2-3 ganger i året.	Hyppigheten vil avhenge av den til enhver tid foreliggende prioritering. På enkeltområder har man vedtatt målsetning om kontrollhyppighet. Havgående blir i snitt inspisert 3-4 ganger pr. år.

2.1.3.1.3. Hvem utfører kontroll	FSBs Grensedirektorats inspektører, som befinner seg om bord på kystvaktens inspeksjonsfartøy og patruljebåter, samt på fiske- og transportfartøy i egenskap av observatører.	To eller flere kvalifiserte inspektører utfører inspeksjonen sammen. Antallet inspektører er avhengig av kontrollens omfang og kompleksitet.
DOKUMENTKONTROLL		
2.1.3.1.4. Hvordan	Analyse av dokumenter relatert til fartøyets fangst- virksomhet ved å sammenligne fangstdata, spesifisert på art i løpet av toktet, med registrering av følgende punkter i inspeksjonsskjema: - fiskeslag. - fangst om bord - fangst fra årets begynnelse - fangst fra turens begynnelse	Kontroll av: - Lisens/kvoterettigheter - Rapportering (herunder satellittsporing) - Fangstdagbok - Produksjonsjournal - Frysejournal - Dekksdagbok - Slutt-/landingsseddel - Andre relevante dokumenter - Uthenting av informasjon fra elektronisk utstyr som datamaskin og navigasjonsutstyr. Kryssjekking av opplysninger.
2.1.3.1.5. Hvor ofte	Fiskefartøy i Russlands økonomiske sone blir kontrollert 2-3 ganger i året. Grundig dokumentkontroll foretas ved enhver kontroll.	Havgående fiskefartøy vil i snitt bli kontrollert 3-4 ganger årlig. Grundig dokumentkontroll foretas ved enhver kontroll.
2.1.3.1.6. Hvem utfører kontroll	PU FSB RF	To eller flere kvalifiserte inspektører utfører kontrollen sammen. Antallet inspektører er avhengig av kontrollens omfang og kompleksitet.
2.1.3.2. VED LANDING:		
FYSISK KONTROLL		
2.1.3.2.1. Hva/ hvordan	Kontroll av samsvar mellom lasten om bord og data fra fangstdokumentasjon samt kontroll med landing av fisk. Etter landing – kontroll av korrigering av fangstdagbok i samsvar med kvitteringene fra leveransen.	Kontroll av relevante dokumenter sammenholdt med den fysiske fangst, herunder kontroll med at fangsten veies korrekt. Videre kontroll med at riktig kvantum og art føres korrekt på landings-/ sluttseddel som signeres av både skipper og mottaker

2.1.3.2.2. Hvor ofte	Ved hvert anløp til russisk havn.	Ca 3 % av landingene kontrolleres
2.1.3.2.3. Hvem utfører kontroll	Rosselkhoznadzor og PU FSB RF	Fiskeridirektoratets inspektører
DOKUMENTKONTROLL		
2.1.3.2.4. Hvordan	Ved å sammenholde informasjon fra følgende kilder: fisketillatelser, fangstdagbok, dekksdagbok, produksjonsjournal, journal over daglige rapporter fra fartøy, konnossementer, for fartøy som lander fisk i Norge – sluttsedler, andre dokumenter.	Kontroll og krysskjekking av opplysninger fra relevante dokumenter som fangstdagbok, dekksdagbok og landings-/ sluttseddel.
2.1.3.2.5. Hvor ofte	Ved hvert anløp til russisk havn	Ca 3 % av landingene kontrolleres
2.1.3.2.6. Hvem utfører kontroll	Rosselkhoznadzor og PU FSB RF	Fiskeridirektoratets inspektører.
2.1.3.3. ANNET		
2.1.3.3.1. Tipstelefon	Rosselkhoznadzor har ingen slik telefon. PU FSB RF: Tlf: (8152) 487-582 Faks: (8152) 487-625	Fiskeridirektoratet har ikke en spesiell tipstelefon, men Kystvakten mottar fra tid til annen konkrete tips.
2.1.3.3.2. Kontroll utført av tredjelands myndigheter på anmodning	På grunnlag av internasjonale avtaler kan Rosselkhoznadzor innhente informasjon om kontroll av russiske fartøy og landingsinformasjon om fra russiske landinger.	Med basis i kontrollavtale med vedkommende land kan Fiskeridirektoratet be om at landinger av norske fartøy blir spesielt kontrollert, og at informasjon om kontrollen blir oversendt Fiskeridirektoratet.
2.1.3.3.3. Kontroll fra den annen parts myndigheter (Norge – Russland)	På grunnlag av "Memorandum om kontroll" kan den russiske part anmode om informasjon om kontroll av russiske fartøy	Med basis i "Memorandum om kontroll" kan Kystvakten/ Fiskeridirektoratet be om kontroll av spesielle norske fartøy og at informasjon om kontrollen blir oversendt Fiskeridirektoratet..
2.1.4. SANKSJONER		
2.1.4.1. Administrative	Føderal lov om Den russiske føderasjons økonomiske sone, art. 13, - Inndragning av adgang til å fiske etter en bestemt art , eventuelt inndragning av fisketillatelse. Den	Saltvannsfiskelovens § 7: Inndragning av fangstverdi ved fiske utover kvote Saltvannsfiskelovens § 11; Inndragning av ulovlig fangst

	RFs Lov om administrative overtredelser – bøter, inndragning av redskap og transportmidler for overtredelse av Fiskerilovgivningen Føderal lov om dyrelivet, art. 56 – plikt til å dekke tap i f.m. ulovlig fangst av marine biologiske ressurser. Art. 59: Inndragning av ulovlig fangst og redskap. Regjeringsvedtak nr. 704: Ved alvorlige overtredelser vil rederiet også kunne miste retten til å delta i fiske for resten av femårsperioden. Føderal lov om fiske og vern av de marine biologiske ressurser, art. 13, tilbaketrekking av tillatelse til å drive fiske kan skje ved beslutning av retten, uavhengig av hvor overtredelsen har funnet sted.	Lov om registrering av kjøp av råfisk i første hånd § 3, jfr. forskrift om registrering av kjøp av råfisk i første hånd § 7: Inndragning av retten til å kjøpe fisk Deltagerlovens § 11 og § 19: Inndraging av adgang til å fiske Forskrift om utlendingers fiske og fangst i Norges økonomisk sone og forskrift om utlendingers fiske og fangst i fiskerisonen ved Jan Mayen sonen: Inndragning av lisens til å fiske Administrative reaksjoner kan anvendes overfor norske fartøy, uavhengig av hvor overtredelsen har funnet sted.
2.1.4.2. Strafferettslig	Den RFs Straffeprosesslov – ved overføring av saker som gjelder overtredelse av Fiskerilovgivningen til etterforskningsorganene OBEP (økokrim) og påtalemyndigheten. Reaksjonen kan være bøter eller fengsel i inntil to år. PU FSB har rett til å reise straffesak i henhold til RF's straffelov, art. 253 og art. 256. Strafferettslige sanksjoner kan bare anvendes på overtredelser som har funnet sted i Russlands økonomiske sone.	Saltvannsfiskelovens § 53: Straff: Bøter og fengselsstraff. Ubegrenset størrelse på bøter. Fengsel inntil 2 år. For utlendinger kan ikke fengselsstraff anvendes i henhold til internasjonale avtaler. Saltvannsfiskelovens § 54: Inndragning: Fartøy, tilbehør, fangst og redskap eller verdien derav. Straffeloven: Diverse bestemmelser. Straff: Bøter og fengsel samt foretakstraff. Ubegrenset størrelse på bøter. NØS-lovens § 8: Straff: Bøter. Ubegrenset størrelse på bøter. NØS-lovens § 9: Inndragning: Fartøy, tilbehør, fangst og redskap

		eller verdien derav. Kystvaktlovens § 36: Straff: Bøter og fengsel. Ubegrenset størrelse på bøter. Fengsel inntil 2 år. Deltagerlovens §31: Straff: Bøter og fengsel. Ubegrenset størrelse på bøter. Fengsel inntil 6 måneder Strafferettslige reaksjoner kan anvendes overfor norske fartøy uavhengig av hvor overtredelsen har funnet sted.
2.1.4.3. Ansvar overfor arbeidsgiver (R)	Ved overtredelse av fiskerilovgivningen kan arbeidsgiver gi den ansatte advarsel, foreta avkorting i lønn eller avskjedige vedkommende.	

2.2. TILTAK

2.2.1. REGELVERK	RUSSISK	NORSK
2.2.1.1. Kontrollfullmakter	Ønsker implementering av tillegg til lov som skal bidra til en utvidet og mer effektiv bruk av kontrollfullmaktene. I føderal lov om fiske og vern av de marine biologiske ressurser ønsker en et eget kapittel som omhandler kontrollfullmakter og tiltak for gjennomføring av kontroll, særlig i forhold til aktivitet utenfor Russlands økonomiske sone.	OK.
2.2.1.2. Satellittsporing	OK	Ønsker sporing på fartøy også under 24 meter.
2.2.1.3. Fangstdagbok/ lasteoperasjonsjournal	Implementering av elektronisk fangstdagbok eller fangstdagbok som føres med to kopier av hver dagbokside. Implementering av standard form på lasteoperasjonsjournal for transportfartøy.	Ønsker elektronisk fangstdagbok basert på det Nord-Atlantiske Format (NEAFC) gjeldende for alle land. Fangstdagbokopplysninger fra alle soner må være tilgjengelig om bord i minst 2 år. Inntil en har fått dette, ønskes utvidet oppbevaringskrav fra 1 til 2 år. Nummererte og paginerte fangstdagbøker fra alle soner i Nord-Øst Atlanteren skal være tilgjengeling for kontrollmyndighetene om bord til enhver tid.
2.2.1.4. Dekksdagbok	OK	OK
2.2.1.5. Lasteromstegning	OK	Ønsker netto lasteromstegninger.
2.2.1.6. Stuingsoversikt	Pålegge innføring av stuingsoversikt på alle fartøy som driver foredling av fisk, i likhet med kravene i NAFO og NEAFC.	Ønsker å innføre stuingsoversikt i henhold til regelverket i NAFO og NEAFC.
2.2.1.7. Produksjonsjournal	Implementering av standard form på produksjonsjournal.	Ønsker å innføre plikt til føring av produksjonsjournal da dette er et nyttig kontrollverktøy.
2.2.1.8. Rapportering/ anløpsmelding fra fartøy	Innføre i Fiskerilovgivningen et punkt om	Når det gjelder rapportering, ønsker en å påby

	obligatoriske meldinger 24 timer på forhånd ang. landinger/ omlastinger til havs og ved landing, spesifisert på art i levende vekt	elektronisk rapportering basert på det Nord-Atlantiske Format gjeldende for alle land. Opplysningene må være tilgjengelig om bord i minst 2 år. Se forøvrig kommentarene under fangstdagbok.
2.2.1.9. Konnossement	Utvide den tid konnossementene skal oppbevares om bord til 1 år.	Gjeldende ordning for konnossement er ikke tilfredsstillende. I dag lages konnossement i mange forskjellige utgaver. Innholdet er ofte svært mangelfullt og gjør det "umulig" å spore fisk som er omlastet. For ytterligere å forbedre kontrollen bør det utarbeides et dokument som inneholder de samme opplysninger som skal gis i rapport om omlasting. Se rapporteringsordning for omlasting se 2.1.1.8 regelverk, rapportering/anløpsmelding fra fartøy. Dokumentet skal signeres av representant for fiskefartøy og for mottakerfartøy og det skal oppbevares kopi om bord i fartøyene i 2 år.
2.2.1.10. Landing-/ sluttseddel (N)		OK
2.2.1.11. Rapport etter landing (R)	Innføre i Fiskerilovgivningen et punkt om obligatoriske meldinger etter landinger/ omlastinger til havs og etter landing spesifisert på art i levende vekt	
2.2.1.12. Lisens (N)		Ønsker elektronisk utveksling av lister over lisensierte fartøy.
2.2.1.13. Fisketillatelse (R)	OK	
2.2.2. DATA	Når det gjelder data generelt, er det ønskelig å innføre et integrert system for behandling av data til analyse av den informasjon som kommer inn til de forskjellige kontrollorganene	Når det gjelder data generelt ønsker en å opprette et elektronisk system for kommunikasjon mellom databaser og for analyse av informasjon.

	(Rosselkhoznadzor, PU FSB RF, kriminalpolitiet, Murmansk regionale monitoringsenter, tollmyndighetene) fra fartøy/ redere.	
2.2.2.1. Sporingsdata	OK	Fiskeridirektoratet ønsker bedre elektronisk kartverktøy. Ønsker å opprette et elektronisk system for kommunikasjon mellom databaser og for analyse av informasjon.
2.2.2.2. Rapportering fra fartøy	Opprette et generelt system for behandling av data for analyse av informasjon.	Ønsker å opprette et elektronisk system for kommunikasjon mellom databaser og for analyse av informasjon.
2.2.2.3. Fangstdagbok	Opprette et generelt system for behandling av data for analyse av informasjon.	Ønsker å opprette et elektronisk system for kommunikasjon mellom databaser og for analyse av informasjon.
2.2.2.4. Konnossement	Det er ønskelig å utarbeide en standard form for elektronisk konnossement.	Elektronisk, standardisert skjema bør utarbeides.
2.2.2.5. Landingsdata og omsetningsdata	Opprette et generelt system for behandling av data for analyse av informasjon.	Ønsker å opprette et elektronisk system for kommunikasjon mellom databaser og for analyse av informasjon.
2.2.2.6. Anløpsdata	Opprette et generelt system for behandling av data for analyse av informasjon.	Databasen må kunne kommunisere på standard format mot Forsvarets "COSS-system" og Kystverkets "SafeSeaNet".
2.2.2.7. Inspeksjonsdata	Opprette et generelt system for behandling av data for analyse av informasjon.	Det arbeides med å etablere en felles inspeksjonsdatabase for Kystvakten og Fiskeridirektoratet.
2.2.2.8. Kvoteavregningsdatabase	OK	OK.
2.2.2.9. Utveksling av informasjon og samarbeid med andre myndigheter	Det er ønskelig å innføre et integrert system for behandling av data til analyse av den informasjon som kommer inn fra fartøy/redere.	Ønsker dataene utvekslet elektronisk slik at de kan kommunisere med andre relevante databaser Ønsker videre et utvidet samarbeid nasjonalt mellom relevante myndigheter (skatt-, toll-

		politi-/ påtalemyndigheter) og bilateralt samarbeid, Norge-Russland, mellom disse myndigheter.
2.2.2.10. Info fra reder	OK	OK
2.2.2.11. Utveksling av landingsdata fra tredjeland	Det er ønskelig å motta informasjon om landinger i tredjeland, ikke bare fra fiskerimyndighetene, men også fra andre myndigheter som deltar i kontroll av fiskeprodukter (tollmyndigheter).	Ønsker å etablere internasjonale regler om havnestatskontroll (NEAFC).
2.2.2.12. Utveksling av data mellom Norge og Russland	Den russiske part har til hensikt å etablere utveksling av kvoteinformasjon ikke bare på rederinivå, men også på fartøynivå. Rosselkhoznadzor har til hensikt å etablere en internettside hvor informasjon om kvoter på rederi- og fartøynivå legges ut og oppdateres en gang i måneden.	Ønsker at Russland iverksetter oversendelse av landingsinformasjon for norske landinger i russiske havner i henhold til "Memorandum om kontroll". Ønsker informasjon om kvoter på fartøynivå for russiske fartøy pr. måned.
2.2.2.13. Andre databaser	Det er ønskelig å ha en generell database for kontroll innen rammene av NEAFC-systemet.	Ønsker en felles database for informasjon i forbindelse med havnestatskontroll i NEAFC-regi med full "transparency".
2.2.3. KONTROLL		
2.2.3.1. PÅ SJØ:	Rosselkhoznadzor ønsker å anskaffe eget fiskevernfartøy.	
FYSISK KONTROLL		
2.2.3.1.1. Hva/ hvordan	Det er ønskelig å sørge for maksimal tilstedeværelse av PU FSBs patruljebåter på havet.	OK
2.2.3.1.2. Hvor ofte	Det er ønskelig å øke antall kontroller ved sjekkpunkt. Ønsker å øke kontrollhyppigheten slik at fiskefartøy i gjennomsnitt kontrolleres	OK med dagens ressurser, men nye kystvaktfartøy/helikopter i 2008 vil gi økt kontrollinnsats.

	fire ganger pr. år.	
2.2.3.1.3. Hvem utfører kontroll	Det er ønskelig å gjennomføre kontrolltiltak med PU FSBs patruljebåter sammen med Rosselkhoznadzors inspektører. Rosselkhoznadzor ønsker å iverksette kontroll overfor russiske fartøy som fisker utenfor Russlands økonomiske sone.	OK
DOKUMENTKONTROLL		
2.2.3.1.4. – Hva/ hvordan	OK	OK, behov for bedre kontrollverktøy er beskrevet i data 2.2.2 DATA
2.2.3.1.5. Hvor ofte	OK	OK
2.2.3.1.6. Hvem utfører kontroll	OK	OK
2.2.3.2. VED LANDING:		
FYSISK KONTROLL		
2.2.3.2.1. Hva/ hvordan	OK, når man tar i betraktning nødvendigheten av å opprette en integrert database, se 2.2.2 DATA Etablere fysisk kontroll av landinger i tredjeland.	OK, behov for bedre kontrollverktøy er beskrevet i 2.2.2 DATA
2.2.3.2.2. Hvor ofte	OK	OK, med de ressurser en har til disposisjon, men det er behov for mer ressurser for økt kontrollhyppighet og for å kunne følge opp kontrollbehovet internasjonalt.
2.2.3.2.3. Hvem utfører kontroll	OK	OK
DOKUMENTKONTROLL		
2.2.3.2.4. Hva/ hvordan	OK, når man tar i betraktning nødvendigheten av å opprette en integrert database, se 2.2.2 DATA	OK, behov for bedre kontrollverktøy er beskrevet i 2.2.2 DATA
2.2.3.2.5. Hvor ofte	OK	Behov for mer ressurser til systematisk registersjekk/ kryssjekk av registre og analyse.

2.2.3.2.6. Hvem utfører kontroll	OK	OK
2.2.3.3 ANNET		
2.2.3.3.1. Tipstelefon	Rosselkhoznadzor ønsker å opprette slik telefon.	Fiskeridirektoratet ønsker å opprette slik telefon
2.2.3.3.2 Kontroll utført av tredjelands myndigheter på anmodning	Det er ønskelig å inngå internasjonale avtaler om utveksling av informasjon med alle EU-land i hvis havner russiske fartøy lander fisk, særlig med Spania og Portugal.	Ønsker både hyppigere og mer omfattende kontroll av landinger i tredjeland. Ønsker å inngå kontrollavtaler med Spania og Portugal.
2.2.3.3.3. Kontroll fra den annen parts myndigheter (Norge-Russland)	Det er ønskelig å utføre felles kontroll av russiske fartøy til havs sammen med Kystvakten og med Fiskeridirektoratets inspektører på land.	
2.2.4. SANKSJONER		
2.2.4.1. Administrative	Skjerpede bøtesanksjoner. Ønsker å ta i bruk skjerpede sanksjoner for russiske fartøy utenfor Russlands økonomiske sone.	Det foreligger lovforslag om innføring av tvangsmulkt og tvangsgebyr.
2.2.4.2. Strafferettslig	Skjerpede sanksjoner. Utvide stedlig virkeområde for straffeloven slik at den får anvendelse utenfor Russlands økonomiske sone.	Det foreligger lovforslag om straffeansvar for andre personer om bord enn skipper. Ønsker hjemmel for inndragning mot ansvarshavende på mottaksanlegg.
2.2.4.3. Ansvar ovenfor arbeidsgiver (R)	OK	

3. OMFORENTE TILTAK FOR Å OPPNÅ ET OPTIMALT NIVÅ PÅ REGULERING OG KONTROLL MED FISKET.

3.1 Opplisting av partenes forslag til tiltak fra analysen under pkt. 2.

Regelverk:

- Russland ønsker et tillegg til lov som skal bidra til en utvidet og mer effektiv bruk av kontrollfullmaktene.
- Russland ønsker et eget kapittel i føderal lov om fiske og vern av marine biologiske ressurser med kontrollfullmakter og tiltak særlig rettet mot aktivitet utenfor Russlands økonomiske sone.
- Norge ønsker sporing for fartøy under 24 meter.
- Russland og Norge ønsker elektronisk fangstdagbok.
- Russland ønsker fangstdagbok som føres med to kopier.
- Norge ønsker nummererte og paginerte fangstdagbøker gjeldende i hele NEAFC-området samt oppbevaring av disse om bord i 2 år.
- Norge ønsker netto lasteromstegninger.
- Russland og Norge ønsker å innføre krav om stuingsoversikt i henhold til regelverket i NEAFC og NAFO.
- Norge ønsker produksjonsjournal, Russland standard produksjonsjournal.
- Norge ønsker elektronisk rapportering.
- Russland ønsker konnossement oppbevart om bord i ett år.
- Norge ønsker et dokument som inneholder samme opplysninger som omlastingsrapporten.
- Russland ønsker å få rapporteringsregler om landing/omlasting inn i fiskerilovgivningen.
- Norge ønsker elektronisk utveksling av lister over lisensierte fartøy.

Data:

- Russland og Norge ønsker å opprette et elektronisk system for kommunikasjon mellom databaser og analyse av informasjon.
- Norge ønsker bedre elektronisk kartverktøy for sporingsopplysninger.
- Russland og Norge ønsker databaser som kommuniserer når det gjelder for eksempel landingsopplysninger, kvoteopplysninger, rettighetsopplysninger og opplysninger om inspeksjoner.
- Norge ønsker et standard elektronisk dokument i stedet for konnossement.
- Russland ønsker elektronisk konnossement.
- Norge ønsker intensivert samarbeid med andre etater nasjonalt og bilateralt Norge-Russland på områdene toll, skatt, politi og påtale.
- Russland ønsker informasjon om landinger i tredjeland, ikke bare fra fiskerimyndigheter men også fra andre myndigheter.
- Norge ønsker å etablere internasjonale regler om havnestatskontroll.
- Russland og Norge ønsker å utveksle månedlig kvoteinformasjon på fartøynivå.
- Russland og Norge ønsker etablert en database i NEAFC-sekretariatet i forbindelse med havnestatskontroll i NEAFC-regi med full "transparency".

Kontroll:

- På russisk side ønsker Rosselkhoznadzor eget inspeksjonsfartøy.
- Russland ønsker større tilstedeværelse på havet og å øke antall kontroller generelt og spesielt i kontrollpunkt.
- Russland ønsker at Rosselkhoznadzors og Grensestyrkenes inspektører samarbeider ved kontroller på havet.
- Fra russisk side ønsker Rosselkhoznadzor å iverksette kontroll overfor russiske fartøy som fisker utenfor russisk økonomiske sone.
- Russland ønsker å etablere fysiske kontroller av landinger i tredjeland.
- Norge ønsker tipstelefon.
- På russisk side ønsker Rosselkhoznadzor tipstelefon.
- Norge ønsker mer ressurser til kryssjekking av informasjon og analyse.
- Russland og Norge ønsker flere kontrollavtaler med tredjeland.
- Norge ønsker hyppigere og mer omfattende kontroller nasjonalt og i tredjeland.
- Fra russisk side ønsker Rosselkhoznadzor å kontrollere russiske fartøy på sjøen i farvann utenfor Russlands økonomisk sone sammen med den norske kystvakten. Videre ønsker Rosselkhoznadzor å kontrollere russiske fartøy i norske og utenlandske havner sammen med inspektører fra det norske Fiskeridirektoratet.

Sanksjoner:

- Russland ønsker å ta i bruk skjerpede administrative sanksjoner ved overtredelse av russisk regelverk utenfor Russlands økonomiske sone
- Russland ønsker å utvide det stedlige virkeområdet for straffeloven slik at den får anvendelse utenfor Russlands økonomiske sone.

3.2. Nærmere beskrivelse av de viktigste forslag til tiltak.

Norge og Russland er enige om at for å kunne forbedre kontrollen i Barentshavet og Norskehavet, er nedenfor nevnte punkter fra listen over omforente tiltak de viktigste:

Utføre kontroll som er egnet til å avdekke de mest alvorlige overtredelser:
Dette krever at partene må ha tilstedeværelse av kontrollmyndighet både der fisket foregår og eventuelt omlastes og der fisken landes. For å sikre likebehandling bør en etablere harmonisert kontrollmetodikk. Kontrollen må videre ha en frekvens som gir tilstrekkelig preventiv virkning.

For å oppnå en effektiv landingskontroll er det ønskelig å opprette mobile grupper med inspektører fra begge land, som på bakgrunn av informasjon om mulige overtredelser av fiskerilovgivningen, skal kunne iverksette kontrolltiltak og også eventuelt forfølge sakene videre. Gruppene må raskt kunne dra til landingshavn for å kunne kontrollere landingen. En slik gruppe må finansiering og ha tilgjengelig gyldig visum.

For å oppnå optimal effekt av kontrollene må en ha økt samarbeid med andre myndigheter (toll, skatt, politi/ påtalemyndighet) både nasjonalt og internasjonalt.

Sanksjoner:
Det er nødvendig at kontroll som avdekker overtredelser følges opp av tilstrekkelige sanksjoner.
I denne forbindelse er det nødvendig å ha et regelverk som gjør det mulig å kunne gjennomføre sanksjoner både administrativt og strafferettslig i forhold til overtredelser som finner sted utenfor egen økonomisk sone.

Kontrollsamarbeid i tredjeland:
På grunn av at fangster tatt i de to lands soner i stor utstrekning landes i tredjelands havner, er det nødvendig med kontrollsamarbeid også med tredjeland. Dette krever inngåelse av bilaterale kontrollavtaler som åpner for kontroll ved landinger, utveksling av inspektører som observatører og utveksling av landingsinformasjon. Videre er det behov for etablering av et regionalt (NEAFC/NAFO) system for havnestatskontroll og kontroll av omlasting, samt etablering av en felles database for informasjon i forbindelse med kontroll i land som er medlem av regional fiskeriorganisasjon. Dette forutsetter full åpenhet i forhold til utveksling av data ("transparency").

Utveksling av kontrollinformasjon:
Partene må ha full utveksling av opplysninger om kvoter på fartøynivå, satellittsporingsdata og informasjon vedrørende omlasting og annen rapportering.

Datasystem:
Partene må ha databaser som kan kommunisere informasjon automatisk og som inneholder opplysninger om alle typer data som er viktig for kontrollen. Dette vil for eksempel være opplysninger om lisenser/fisketillatelser/deltagerrettigheter, kvoter, rapportering/anløpsmeldinger, satellittsporing, fangstdagbokinformasjon, landing- og sluttseddelinformasjon og informasjon om resultater av inspeksjoner.

Økte ressurser:
Partene trenger økte ressurser for å kunne foreta analyse basert på tilgjengelig informasjon. Det trengs også mer ressurser for å øke kontrollinnsatsen både nasjonalt og internasjonalt.

4. FAKTORER SOM KAN VANSKELIGGJØRE OPPNÅELSE AV ET SLIKT NIVÅ, SAMT FORSLAG OM MULIGE MÅTER Å FJERNE DEM PÅ

Partene er enige om at følgende momenter i stor grad vanskeliggjør oppnåelse av et forbedret nivå med kontroll av fisket i Barentshavet og Norskehavet:

- Manglende ressurser, både økonomiske, personellmessige og tekniske.
- Manglende politiske beslutninger med hensyn vedtagelse av nødvendige lover og forskrifter.
- For omstendelige og langvarige beslutningsprosesser når det gjelder kontrollspørsmål innen fiskeri både i forhold til faglige og politiske spørsmål.
- Manglende prioritet og innsats fra andre myndigheter i spørsmål som er av betydning for fiskerforvaltningen.

VEDLEGG 4

PROTOKOLL

FRA MØTE OM FORSLAG TIL ENDRING AV FELLES INSTRUKS FOR KONTROLL AV SORTERINGSRISTSYSTEMER I KIRKENES 18. OG 19. OKTOBER 2004.

Viser til punkt 4 i protokoll fra møte i det permanente utvalg for forvaltnings- og kontrollspørsmål på fiskerisektoren i Murmansk, 27. september til 01. oktober 2004. Det ble bestemt at norske og russiske eksperter skulle møtes i Kirkenes i uke 43 og foreslå endringer til de gjeldende felles norsk – russiske retningslinjer for kontroll av sorteringsristsystemene "Sort-X", "Sort-V".

Møtedeltakerne var som følger:

For den russiske part: Stanislav Lisovskij, laboratoriesjef, PINRO

For den norske part: Dagfinn Lilleng, fagkonsulent, Utviklingsseksjonen, Ressursavdelingen, Fiskeridirektoratet.

Ingmund Fladaas, tolk.

Partene har avholdt møte og er blitt enige om at det vedlagte forslag til felles norsk – russiske retningslinjer for kontroll av sorteringsristsystemene "Sort-X", "Sort-V" (modifisert), "Enkeltrist" og "Fleksirist" skal fremlegges for Det permanente utvalg som så vil presentere det for Kommisjonens 33. sesjon.

Kirkenes, 19. oktober 2004

For den russiske part

Stanislav Lisovskiy

For den norske part

Dagfinn Lilleng

Appendix 10

JOINT NORWEGIAN – RUSSIAN SCIENTIFIC RESEARCH PROGRAM ON LIVING MARINE RESOURCES IN 2006

Contents

1. Planning and coordination of investigations and submitting of results

This program contains the investigations to be carried out in 2006 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 Norway on 20-24 March 2006, to discuss joint research programmes, results from surveys and investigations in 2005/2006 and to coordinate survey plans for the rest of 2006. 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.

By October 2005, 3 reports have been issued in the Joint IMR-PINRO report series.

A preliminary program for the planned surveys and cooperation for 2006 is presented below.

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

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 in 2006.
- shrimp research as recommended by the ICES/NAFO working group – with the objective to give recommendations that include the conservation of biodiversity
- by-catch of juvenile fish in the shrimp fishery

Norwegian investigations

Nation:	Norway	Survey title:	Herring spawning area
Organisation:	IMR, University of Bergen		
Time period:	16.02 – 02.03	Vessel:	R/V "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 2006		

Nation:	Norway	Survey title:	Young pelagic Greenland halibut
Organisation:	IMR		
Time period:	31.07 – 04.09	Vessel:	Hired commercial fishing vessel
Target species:	Greenland halibut *Sebastes mentella*	Secondary species:	*S. marinus*
Area:	Barents sea, north and east of Spitsbergen		
Purpose:	Distribution of young Greenland halibut		
Reported to:	Internal IMR survey report, ICES AFWG 2006		

Nation:	Norway	Survey title:	Tagging experiment Greenland halibut
Organisation:	IMR		
Time period:	04.09 – 02.10	Vessel:	Hired long-liner
Target species:	Greenland halibut	Secondary species:	
Area:	68°N - 80°N		
Purpose:	Tagging survey and fishing experiments		
Reported to:	Internal IMR survey report, ICES AFWG 2006		

Nation:	Norway	Survey title:	Adult pelagic Greenland halibut
Organisation:	IMR		
Time period:	31.07 – 04.09	Vessel:	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:	Trawl survey with fixed trawl stations		
Reported to:	Internal IMR survey report, ICES AFWG 2006		

Nation:	Norway	Survey title:	Cod spawning stock
Organisation:	IMR		
Time period:	17.03 – 08.04	Vessel:	R/v Johan Hjort
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 2006		

Nation:	Norway	Survey title:	Herring larvae
Organisation:	IMR		
Time period:	23.03 – 12.04	Vessel:	R/v 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 2006		

Nation:	Norway	Survey title:	Norwegian Sea survey
Organisation:	IMR		
Time period:	25.04 – 31.05	Vessel:	R/v 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 2006, ICES PGSPFN 2006		

Nation:	Norway	Survey title:	Greenland halibut, trawl CPUE

Organisation:	IMR		
Time period:	16.05 – 23.05	Vessel:	hired commercial trawler
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 2007 and PINRO		

Nation:	Norway	Survey title:	Bottom trawl survey Greenland halibut
Organisation:	IMR		
Time period:	01.08 – 24.08	Vessel:	hired commercial vessel
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 2007		

Nation:	Norway	Survey title:	Fjord and coastal ecosystem survey
Organisation:	IMR		
Time period:	10.10 – 10.11 10.10 – 09.11	Vessel:	R/V "Johan Hjort" R/V "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 2007, AFWG 2007		

Nation:	Norway	Survey title:	Herring wintering area
Organisation:	IMR		
Time period:	10.11 – 30.11	Vessel:	Hired commercial fishing vessel
Target species:	Herring	Secondary species:	
Area:	Vestfjorden and shelf areas outside Lofoten-Vesterålen		
Purpose:	Acoustic abundance estimation and distribution of herring		
Reported to:	Internal IMR survey report, WGNPBW 2007		

Nation:	Norway	Survey title:	Tagging of herring
Organisation:	IMR		
Time period:	15.03 – 15.04	Vessel:	Hired vessel
Target species:	Herring	Secondary species:	Other pelagic fish
Area:	Vestfjorden and shelf areas outside Lofoten-Vesterålen		
Purpose:	Tagging of herring		
Reported to:	Internal IMR report, WGNPBW 2007		

Russian investigations

Nation:	Russian	Survey title:	Greenland halibut, CPUE
Organisation:	PINRO		
Time period:	01.01-30.03 01.04-30.06	Vessel:	2 trawlers 2 trawlers
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfishes, redfish
Area:	Exclusive Economic Zone of Norway between 70°00'-73°30'N		
Purpose:	Investigation into the stock status, year-to-year dynamics of catch per unit effort, comparative fishing efficiency "long-line – trawl", mass tagging. Determination of density of Greenland halibut distribution under natural conditions with the use of video-acoustic complexes.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2006 and 2007		

Nation:	Russian	Survey title:	Greenland halibut, CPUE
Organisation:	PINRO		
Time period:	01.01-31.03 01.04-30.06	Vessel:	2 trawlers 2 trawlers
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfishes, redfish
Area:	Area adjacent to Spitsbergen between 73°30' – 78°00'N		
Purpose:	Investigation into the stock status, year-to-year dynamics of catch per unit effort, comparative fishing efficiency "long-line – trawl", mass tagging. Determination of density of Greenland halibut distribution under natural conditions with the use of video-acoustic complexes.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2006 and 2007		

Nation:	Russian	Survey title:	Greenland halibut, CPUE
Organisation:	PINRO		
Time period:	01.01-31.03 01.04-30.06	Vessel:	1 long-liner 1 long-liner
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfishes, redfish
Area:	NEZ and area adjacent to Spitsbergen between 70°00' – 78°00'N		
Purpose:	Investigation into the stock status, year-to-year dynamics of catch per unit effort, comparative fishing efficiency "long-line – trawl"		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2006 and 2007		

Nation:	Russian	Survey title:	Cod, haddock, CPUE
Organisation:	PINRO		
Time period:	01.01-31.03 01.04-30.06	Vessel:	1 long-liner 1 long-liner
Target species:	Cod, haddock	Secondary species:	Catfishes, skates, tusk
Area:	NEZ and area adjacent to Spitsbergen between 70°00' – 78°00'N		
Purpose:	Study of fish resources for long-line fishery, morphophysiological characteristics and structure of concentrations		
Reported to:	Survey report for internal use; ICES AFWG in 2006 and 2007		

Nation:	Russian	Survey title:	Cod, haddock, CPUE
Organisation:	PINRO, VNIRO		

Time period:	01.01-31.03 01.04-30.06	Vessel:	1 long-liner 2 long-liners
Target species:	Cod, haddock	Secondary species:	Catfishes, skates, tusk
Area:	Exclusive Economic Zone of Russian Federation and "Grey zone"		
Purpose:	Study of fish resources for long-line fishery, morphophysiological characteristics and structure of concentrations		
Reported to:	Survey report for internal use; ICES AFWG in 2006 and 2007		

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO		
Time period:	10.01-10.04	Vessel:	5 trawlers
Target species:	Cod, haddock	Secondary species:	Catfishes, skates, tusk
Area:	Exclusive Economic Zone of RF and "Grey zone", inland sea waters and territorial waters of the Russian Federation		
Purpose:	Collection of data on distribution and biological status during wintering and spawning, study of trophic links "predator – prey", intra-species structure using genetic methods, quantitative estimation of by-catch of undersized fish.		
Reported to:	Survey report for internal use; ICES AFWG in 2006 and 2007		

Nation:	Russian	Survey title:	Improvement of TAS method, update of catchability coefficients of survey trawl
Organization:	PINRO		
Time period:	01.06-30.11	Vessel:	1 trawler
Target species:	Cod, haddock, Greenland halibut	Secondary species:	catfishes, redfish, long rough dab, saithe and others
Area:	Area adjacent to the Spitsbergen, "Grey zone", Exclusive Economic Zone of the Russian Federation		
Purpose:	Autonomous underwater video acoustic computer equipment is used for underwater video recording of demersal fish and estimation of catchability coefficient of the survey trawl		
Reported to:	For internal use by PINRO and IMR ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO		
Time period:	15.01-31.03	Vessel:	5 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, long rough dab, saithe, redfish, Greenland halibut
Area:	Exclusive Economic Zone of Norway, "Grey zone", "Loophole" areas and area adjacent to Spitsbergen		
Purpose:	Collection of data on distribution and biological status during wintering and spawning, species composition in catches, study of trophic links "predator – prey" and other ecological relations.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2006 and 2007		

Nation:	Russian	Survey title:	Distribution and migration of spawning and post-spawning herring
Organisation:	PINRO		

Time period:	01.02-31.03	Vessel:	1 trawler
Target species:	herring	Secondary species:	Other pelagic species
Area:	The Norwegian Sea		
Purpose:	Study of herring distribution, collection of biological data for the stock assessment		
Reported to:	PINRO survey report for internal use; ICES WG NPBW in 2005		

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO, VNIRO		
Time period:	01.04-30.06	Vessel:	5 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, plaice, long rough dab, saithe, redfish
Area:	Exclusive Economic Zone of Russia, "Grey zone", inland sea waters and territorial waters of the Russian Federation		
Purpose:	Collection of data on distribution and biological status during wintering and spawning, species composition in catches, study of trophic links "predator – prey".		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO		
Time period:	01.04-30.06	Vessel:	5 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, long rough dab, saithe, redfish, Greenland halibut
Area:	Exclusive Economic Zone of Norway, "Grey zone", "Loophole" area and area adjacent to Spitsbergen		
Purpose:	Collection of data on distribution and biological status during feeding migration, species composition in catches, study of trophic links "predator – prey" and genetic structure of cod population		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2006		

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO		
Time period:	01.05-31.10	Vessel:	1 trawler
Target species:	Cod, haddock	Secondary species:	Other demersal fish species
Area:	"Grey zone" area and area adjacent to Spitsbergen		
Purpose:	Develop and ground technical regulation measures for trawl fisheries for cod and haddock.		
Reported to:	PINRO survey report for internal use. ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russian	Survey title:	Redfish *Sebastes mentella*
Organisation:	PINRO		
Time period:	01.04-31.05	Vessel:	1 trawler
Target species:	Redfish *Sebastes mentella*	Secondary species:	Other demersal fish species
Area:	Exclusive Economic Zone of Norway and area adjacent to Spitsbergen		
Purpose:	Assessment of redfish abundance and biomass, oceanography		

Reported to:	PINRO survey report for internal use; ICES AFWG in 2006 and 2007 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***

Nation:	Russian	Survey title:	Shrimp and demersal fishes
Organisation:	PINRO		
Time period:	01.04-31.05	Vessel:	1 trawler
Target species:	Shrimp and demersal fishes	Secondary species:	Other demersal fishes
Area:	"Grey zone", Exclusive Economic Zone and inland sea waters and territorial waters of the Russian Federation		
Purpose:	Assessment of shrimp abundance and distribution		
Reported to:	PINRO survey report for internal use; Joint ICES/NAFO WG on shrimp in 2006 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russian	Survey title:	Survey for haddock, saithe and other demersal species
Organisation:	PINRO		
Time period:	01.04-30.06	Vessel:	2 trawlers
Target species:	Haddock, saithe, cod	Secondary species:	Other demersal fishes
Area:	"Grey zone", Exclusive Economic Zone, territorial waters of Russia, territorial waters and inland sea waters of Russia (from Varangerfjord to Svjatoj Nos)		
Purpose:	Stock assessment of haddock, saithe, cod; collection of biological, genetic data on spawning cod. Testing of methods for assessment of juveniles of saithe and other demersal fishes in Murman fjords.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russian	Survey title:	Cod, haddock and saithe
Organisation:	PINRO		
Time period:	01.08-30.09	Vessel:	1 trawler
Target species:	Haddock, saithe, cod	Secondary species:	Catfishes, flatfishes, lump-sucker.
Area:	"Grey zone", Exclusive Economic Zone, territorial waters of Russia, territorial waters and inland sea waters of Russia (from Varangerfjord to Svjatoj Nos)		
Purpose:	Testing of methods for assessment of juveniles of saithe and other demersal fishes in Murman fjords.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		
Nation:	Russian	Survey title:	International survey for herring in the Barents and Norwegian Seas
Organisation:	PINRO		
Time period:	01.06-31.07	Vessel:	1 trawler

Target species:	Herring, mackerel	Secondary species:	Other pelagic species
Area:	The Norwegian and Barents Seas, Exclusive Economic Zone of Russia, "Grey zone", and territorial waters and inland sea waters of Russia.		
Purpose:	Acoustic survey for the stock		
Reported to:	PINRO survey report for internal use; ICES WG NPBW in 2006; ICES WG on Planning of Ecosystem Pelagic Surveys in Northeast Atlantic in 2006 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russian	Survey title:	Greenland halibut, CPUE
Organisation:	PINRO		
Time period:	01.07-30.09 01.10-30.12	Vessel:	2 trawlers 2 trawlers
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfishes, redfish
Area:	Exclusive Economic Zone of Norway between 70°00'-73°30'N		
Purpose:	Investigation into the stock status, year-to-year dynamics of catch per unit effort, comparative fishing efficiency "long-line – trawl", mass tagging. Estimation of density of Greenland halibut distribution under natural conditions with the use of video-acoustic complexes.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Greenland halibut, CPUE
Organisation:	PINRO		
Time period:	01.07-30.09 01.10-30.12	Vessel:	2 trawlers 2 trawlers
Target species:	Greenland halibut	Secondary species:	Cod, haddock, catfishes, redfish
Area:	Area adjacent to Spitsbergen between 73°30' – 78°00'N		
Purpose:	Investigation into the stock status, year-to-year dynamics of catch per unit effort, comparative fishing efficiency "long-line – trawl", mass tagging. Estimation of density of Greenland halibut distribution under natural conditions with the use of video-acoustic complexes.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Greenland halibut, CPUE
Organisation:	PINRO		
Time period:	01.07-30.09	Vessel:	1 trawler
Target species:	Greenland halibut	Secondary species:	Catfish, plaice, long rough dab, saithe, redfish
Area:	Exclusive Economic Zone of Russia and "Grey zone"		
Purpose:	Investigation into the stock status, catch per unit effort for the stock assessment, tagging.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Greenland halibut, CPUE
Organisation:	PINRO		
Time period:	01.07-30.09 01.10-30.12	Vessel:	1 long-liner 1 long-liner

Target species:	Greenland halibut	Secondary species:	Cod, catfishes, redfish, tusk, skates
Area:	Exclusive Economic Zone of Norway and area adjacent to Spitsbergen between 70°00' – 78°00'N		
Purpose:	Investigation into the stock status, year-to-year dynamics of catch per unit effort, comparative fishing efficiency "long-line – trawl"		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Cod, haddock, CPUE
Organisation:	PINRO		
Time period:	01.07-30.09 01.10-31.12	Vessel:	1 long-liner 1 long-liner
Target species:	Cod, haddock	Secondary species:	Catfish, skates, tusk
Area:	Exclusive Economic Zone of Russia and "Grey zone"		
Purpose:	Study of fish resources for long-line fishery, morphophysiological characteristics and structure of concentrations		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Cod, haddock, CPUE
Organisation:	PINRO		
Time period:	01.07-30.09 01.10-31.12	Vessel:	1 long-liner 1 long-liner
Target species:	Cod, haddock	Secondary species:	Catfishes, skates, tusk
Area:	Exclusive Economic Zone of Norway and area adjacent to Spitsbergen between 70°00'-78°00'N		
Purpose:	Study of resources for long-line fishery, morphophysiological characteristics and structure of concentrations		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO		
Time period:	01.07-30.09	Vessel:	5 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, long rough dab, saithe, redfish, Greenland halibut
Area:	Exclusive Economic Zone of Norway, "Grey zone", "Loophole" area and area adjacent to Spitsbergen		
Purpose:	Collection of data on distribution, abundance, morphological and biological status during feeding, study of trophic links "predator – prey", the effect of hydrometeorological conditions on fish behaviour		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO		
Time period:	03.07-03.10	Vessel:	5 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, plaice, long rough dab, saithe, redfish
Area:	Exclusive Economic Zone of Russia and "Grey zone", inland sea waters and territorial waters of the Russian Federation		

Purpose:	Collection of data on distribution and biological status during feeding, study of trophic links "predator – prey", morphological and physiological characteristics, cod tagging
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO		
Time period:	01.08-31.08	Vessel:	1 trawler
Target species:	Cod	Secondary species:	Other demersal fishes
Area:	Inland sea waters and territorial waters of the Russian Federation: Coastal areas from Varangerfjord to Svjatoj Nos		
Purpose:	Collection of data on distribution and biological status during feeding, study of trophic links "predator – prey", morphological and physiological characteristics, cod tagging		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russian	Survey title:	Shrimp and demersal fishes
Organisation:	PINRO		
Time period:	01.08-31.08	Vessel:	1 trawler
Target species:	Shrimp and demersal fishes	Secondary species:	
Area:	Area adjacent to Spitsbergen		
Purpose:	Assessment of shrimp abundance and distribution. Quantitative estimation of by-catches of gadoids.		
Reported to:	PINRO survey report for internal use; Joint ICES/NAFO WG on shrimp in 2006 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russian	Survey title:	Distribution and migration of feeding concentrations of herring
Organisation:	PINRO		
Time period:	01.08-30.09	Vessel:	1 trawler
Target species:	Herring	Secondary species:	Blue whiting, mackerel
Area:	The Barents and Norwegian Seas		
Purpose:	Mapping of distribution of herring feeding concentrations		
Reported to:	PINRO survey report for internal use; ICES WGNPBW in 2006 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO, VNIRO		
Time period:	30.09-30.12	Vessel:	5 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, plaice, long rough dab, saithe, redfish
Area:	Exclusive Economic Zone of Russia and "Grey zone", inland sea waters and territorial waters of the Russian Federation		
Purpose:	Collection of data on distribution and biological status during wintering and feeding		

	migrations, study of trophic links "predator – prey", intra-species structure with the use of genetic methods
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007

Nation:	Russian	Survey title:	Cod, haddock
Organisation:	PINRO		
Time period:	01.10-31.12	Vessel:	5 trawlers
Target species:	Cod, haddock	Secondary species:	Catfish, long rough dab, saithe, redfish, Greenland halibut
Area:	Exclusive Economic Zone of Norway, "Grey zone", "Loophole" area and area adjacent to Spitsbergen		
Purpose:	Collection of data on distribution and biological status during wintering and spawning migrations, study of trophic links "predator – prey". Evaluation of individual readiness for wintering and spawning.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Multispecies survey for demersal fishes
Organisation:	PINRO		
Time period:	15.10-30.12 15.10-30.12	Vessel:	1 trawler 1 trawler
Target species:	Cod, haddock, Greenland halibut	Secondary species:	Catfishes, redfish, long rough dab, plaice, saithe, grenadier
Area:	Exclusive Economic Zone of Norway, Exclusive Economic Zone of Russia and area adjacent to Spitsbergen, inland sea waters and territorial waters of the Russian Federation		
Purpose:	Stock assessment of cod, haddock, Greenland halibut and other demersal fishes; study of "predator-prey" relationships; oceanography		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007		

Nation:	Russian	Survey title:	Complex aerial surveys within the research on distribution and biomass assessment of feeding mackerel
Organisation:	PINRO		
Time period:	01.06-31.08	Aircraft: Vessel:	Airborne laboratory AN-26 "Arktika" 1 research vessel
Target species:	Mackerel	Secondary species:	Herring, juvenile blue whiting, marine mammals, seabirds, chlorophyll, zooplankton, oceanographic parameters at the sea surface
Area:	The Norwegian Sea		
Purpose:	Distribution and approaches to assess biomass of feeding mackerel; abundance, distribution and species composition of marine mammals and seabirds; environmental parameters at the sea surface including identification of areas with high biological productivity		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2006 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russian	Survey title:	Distribution of fishable concentrations of capelin
Organisation:	PINRO		
Time period:	01.11-31.12	Vessel:	1 trawler

Target species:	Capelin	Secondary species:	Polar cod
Area:	Exclusive Economic Zone of Norway, Exclusive Economic Zone of Russia and area adjacent to Spitsbergen		
Purpose:	Distribution of capelin fishable concentrations. Study of migration routes and rates and conditions of formation of concentrations in dependence on biological status of the object and abiotic environmental factors. Oceanography.		
Reported to:	PINRO survey report for internal use; ICES AFWG in 2007 ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Joint investigations

Nation:	Norway/Russia	Survey title:	Joint Winter Survey
Organisation:	PINRO/IMR		
Time period:	11.02 – 09.03 10.02 – 15.03 February (14 days) 01.01-28.02 01.01-31.03 01.02-31.03	Vessel:	R/V G.O. Sars R/V Johan Hjort Chartered Norwegian vessel(s) 1 Russian trawler 1 Russian trawler 1 Russian trawler
Target species:	Cod, Haddock, capelin, herring	Secondary species:	Redfish *Sebastes mentella*, *S. marinus*, Greenland halibut, catfishes
Area:	Exclusive Economic Zone of Russia and Exclusive Economic Zone of Norway, inland sea waters and territorial waters of the Russian Federation		
Purpose:	Distribution and stock assessment, collection of biological samples. Multi-species interactions with focus on cod diet, oceanography and plankton		
Reported to:	Joint IMR/PINRO Report Series and ICES AFWG in 2006 ***Russian vessels will participate in the survey if additional catch volumes for scientific research are allocated from national quotas***		

Nation:	Norway/Russia	Survey title:	Survey of blue whiting spawning areas
Organisation:	PINRO/IMR		
Time period:	15.03 – 17.04 01.03-31.05	Vessel:	R/V G.O. Sars 1 Russian trawler
Target species:	Cod, Haddock, capelin, herring	Secondary species:	Other pelagic fishes
Area:	To the west of British Islands		
Purpose:	Estimation of abundance and distribution of spawning blue whiting, oceanography, plankton, survey of haddock on the Rockall Bank, argentine on the Outer-Bailey Bank and Bill Bailies Bank, methods for acoustic survey		
Reported to:	Joint IMR/PINRO survey report for internal use; ICES WGNPBW in 2006		

Nation:	Norway/Russia	Survey title:	Joint survey of capelin larvae and herring juveniles
Organisation:	PINRO/IMR		
Time period:	23.05 – 14.06 15.05 – 30.05	Vessel:	R/V Johan Hjort 1 Russian trawler
Target species:	Capelin, herring	Secondary species:	Blue whiting
Area:	Norwegian coastal waters, Southern Barents Sea (including NEZ and REZ), inland sea waters and territorial waters of the Russian Federation.		

Purpose:	Abundance and distribution of capelin larvae and herring juveniles, oceanography, plankton
Reported to:	Joint IMR/PINRO Report Series; ICES WGNPBW in 2006 ***Russian vessels will participate in the survey if additional catch volumes for scientific research are allocated from national quotas***

Nation:	Norway/Russia	Survey title:	Joint survey for feeding mackerel in the Norwegian Sea
Organisation:	PINRO/IMR		
Time period:	15.07-06.08 01.06-31.08	Vessel:	3 vessels chartered by IMR 1 Russian trawler 1-2 vessels with PINRO observers Airborne laboratory AN-26, "Arktika"
Target species:	mackerel	Secondary species:	Other pelagic fishes, marine mammals, seabirds, chlorophyll, zooplankton,
Area:	The Norwegian Sea		
Purpose:	Distribution and approaches to assess biomass of feeding mackerel; abundance, distribution and species composition of marine mammals and seabirds; a complex of oceanographic and hydrobiological data, joint experimental and calibration works.		
Reported to:	Survey report for IMR and PINRO; ICES WG; NEAFC meeting ***Russian vessels will participate in the survey if additional catch volumes for scientific research are allocated from national quotas***		

Nation:	Norway/Russia	Survey title:	Joint ecosystem survey, autumn
Organisation:	PINRO/IMR		
Time period:	16.08 – 31.09 12.08 – 31.09 to be decided 01.08-31.10 01.08-31.10	Vessel:	R/V "G.O Sars" R/V "Johan Hjort" R/V "Jan Mayen" 1 Russian trawler 1 Russian trawler
Target species:	Greenland halibut, redfishes, shrimp, herring, capelin, 0-group of different species	Secondary species:	Other pelagic and demersal species, benthic organisms, sea mammals and birds
Area:	The Norwegian Sea, Exclusive Economic Zone of Russia, "Grey zone", Exclusive Economic Zone of Norway, Loophole" area and area adjacent to Spitsbergen and territorial waters of the Russian Federation		
Purpose:	Abundance and distribution of Greenland halibut (including juveniles north and east of Spitsbergen), redfish *Sebastes mentella, Sebastes marinus,* shrimp, herring, capelin, polar cod, 0-group of different species. Oceanography, plankton, marine mammals, seabirds, species interactions, sampling for determining pollution levels.		
Reported to:	Joint IMR/PINRO Report Series; ICES WGNPBW in 2007; ACFM in autumn 2006 ***Russian vessels will participate in the survey if additional catch volumes for scientific research are allocated from national quotas***		

Nation:	Norway/Russia	Survey title:	Complex aerial surveys within the frames of annual Russian-Norwegian research on 0-group and pelagic fishes.
Organisation:	PINRO/IMR		
Time period:	01.08-31.10	Aircraft:	Airborne laboratory AN-26 "Arktika"
Target	Capelin, polar cod	Secondary	Marine mammals, seabirds, chlorophyll,

species:	species: zooplankton
Area:	Exclusive Economic Zone of Russia, "Grey zone", Exclusive Economic Zone of Norway, Loophole" area and area adjacent to Spitsbergen
Purpose:	Investigation of distribution of capelin and polar cod, marine mammals and seabirds; estimation of oceanographic parameters at the sea surface; localization of areas of high biological productivity
Reported to:	Survey report for internal use; joint IMR/PINRO Report Series ***Russian vessels will participate in the survey if additional catch volumes for scientific research are allocated from national quotas***

3. Research program on Greenland Halibut

The parties discussed and approved the Report on the 3-year (2002-2004) joint Russian-Norwegian programme on research into Greenland halibut.

During the 3-year programme of joint Russian-Norwegian investigations the scientists have collected and analysed large amount of biological data on Greenland halibut applying both traditional and new methods (underwater video, DST-tags, genetic investigations, "vertical" long-lines for research on distribution in the water column etc.).

Achieved results significantly increased our knowledge on distribution, biology, halibut behaviour at different stages of life cycle and stock dynamics.

At the same time, in the work to undertake the given tasks the new challenges that still need to be met were revealed. In particular, the true accuracy of ageing, biological differences between males and females etc. are among them and stock assessment with traditional mathematic methods used in ICES explicitly depends on these issues.

Taking into account the importance the accuracy of Greenland halibut stock estimation for deciding on rational exploitation of this species, there is a need to continue investigations in the framework of new joint programme on improvement of methods for assessment of Greenland halibut stock and development of optimal long-term strategy for harvesting of this stock. The new programmes may include the following studies:

- improve the methods of ageing;
- improve methods of survey and aggregation of data from different surveys;
- make quantitative estimation of Greenland halibut stock who distribute in pelagic layers;
- investigate sexual dimorphism and effect of fisheries on population structure;
- improve methods of stock assessment;
- develop optimal long-term harvesting strategy.

To collect data for the issues above both parties will conduct research within the frames of the joint project and in accordance with national programs.

4. Red king crab (*Paralithodes camtschaticus*)

During investigations in the frames of 3-year joint Russian-Norwegian research programme the estimates of stock status, structure and dynamics were carried out as well as different activities to research interactions between introduced species and native fauna were started and methods for investigation and management of the crab harvesting were improved. The results of investigations according to the joint research programme 2002-2004 were discussed at the workshop that was held in Tromsø 20-22 of June 2005. The report on results of this workshop was presented at the 34th session of the Commission in 2005.

However, not all tasks given in the first 3-year programme were met. Therefore, at the 33rd session of the Commission the Parties agreed to initiate a new 3-year research programme on red king crab. The program will focus on the following items:

- Investigate the effects of the red king crab on native fauna;
- improvement of methods for the estimation of size and structure of the stock;
- investigation of the crab environment and its preferable environmental conditions;
- methods for reducing by-catches in other fisheries;
- suggest proposals for management measures for the crab stocks.

Norwegian investigations

Nation:	Norway	Survey title:	Red king crab survey
Organisation:	IMR		
Time period:	15.08 – 03.09	Vessel:	R/V "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		

Nation:	Norway	Survey title:	Behaviour of king crab in trawl
Organisation:	IMR		
Time period:	02.05 – 15.05	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:	Red king crab survey
Organisation:	IMR		
Time period:	10 days in October	Vessel:	R/V "Johan Hjort"
Target species:	Red king crab	Secondary species:	
Area:	Off the coast of Finnmark		
Purpose:	Abundance estimation and ecological investigations		
Reported to:	Internal IMR survey report. PINRO		

Nation:	Norway	Survey title:	Red king crab trial fishing
Organisation:	IMR		
Time period:	15.09 – 31.12	Vessel:	Hired vessels
Target species:	Red king crab	Secondary species:	
Area:	Fjords in Finnmark		
Purpose:	Methodological investigations		
Reported to:	Internal IMR survey report. PINRO		

Russian investigations:

Nation:	Russia	Survey	Red king crab trawl survey

		title:	
Organisation:	PINRO		
Time period:	01.04-31.05	Vessel:	1 trawler
Target species:	Red king crab	Secondary species:	
Area:	Exclusive Economic Zone, inland sea waters and territorial waters of the Russian Federation		
Purpose:	Study of Red king crab during spawning. Larvae, juveniles, tagging, benthos		
Reported to:	Internal PINRO report. IMR		

Nation:	Russia	Survey title:	Red king crab trawl survey
Organisation:	PINRO		
Time period:	01.08-30.09	Vessel:	1 trawler
Target species:	Red king crab	Secondary species:	
Area:	Exclusive Economic Zone, inland sea waters and territorial waters of the Russian Federation		
Purpose:	Study of Red king crab during spawning. Larvae, juveniles, tagging, benthos		
Reported to:	Internal PINRO report. IMR		

Nation:	Russia	Survey title:	Red king crab trawl survey
Organisation:	VNIRO		
Time period:	01.09-31.10	Vessel:	2 vessels
Target species:	Red king crab	Secondary species:	
Area:	Exclusive Economic Zone, inland sea waters and territorial waters of the Russian Federation		
Purpose:	Study of Red king crab. Stock assessment. Trap survey.		
Reported to:	Internal VNIRO report, PINRO, IMR		

Nation:	Russia	Survey title:	Testing of autonomous underwater video-computer recorder
Organisation:	PINRO, VNIRO		
Time period:	01.01-31.12	Vessel:	1 vessel
Target species:	Red king crab	Secondary species:	Other demersal fish species
Area:	The Barents Sea		
Purpose:	The use of autonomous underwater video-computer recorder to conduct underwater video filming of demersal fishes and crustaceans with registration of video filming in the computer for further analysis according to the joint project in 2006-2009.		
Reported to:	Internal PINRO report. VNIRO. IMR		

Nation:	Russia	Survey title:	Red king crab
Organisation:	PINRO		
Time period:	01.08-30.09	Vessel:	1 trawler
Target species:	Red king crab	Secondary species:	Cod, haddock and other demersal fish species
Area:	Exclusive Economic Zone, inland sea waters and territorial waters of the Russian Federation		
Purpose:	Investigation of means for minimisation of red king crab by-catches un fisheries for cod and haddock. Recommendation on improvement of other trawls design		

Reported to:	Internal PINRO report.

Nation:	Russia	Survey title:	SCUBA-diving survey of red king crab
Organisation:	PINRO, VNIRO		
Time period:	01.03-30.04 01.07-31.08 01.09-31.10	Vessel:	2 vessels SCUBA-divers
Target species:	Red king crab	Secondary species:	
Area:	Inland sea waters and territorial waters of the Russian Federation		
Purpose:	Assessment of red king crab stock in the area of SCUBA-diving survey		
Reported to:	Internal PINRO, VNIRO report.		

Nation:	Russia	Survey title:	Aquaculture of red king crab
Organisation:	PINRO, VNIRO		
Time period:	01.01-15.12	Vessel:	2 vessels
Target species:	Red king crab	Secondary species:	
Area:	Exclusive Economic Zone, inland sea waters and territorial waters of the Russian Federation		
Purpose:	Collection of material for experimental works on the crab males rearing until optimal filling of the legs. Development of biotechniques for aquaculture of red king crab		
Reported to:	Internal PINRO report. IMR		

Nation:	Russia	Survey title:	Collection of biological and fisheries data on red king crab
Organisation:	PINRO		
Time period:	01.01 – 28.02 01.09 – 31.12	Vessel:	10 vessels 10 vessels
Target species:	Red king crab	Secondary species:	
Area:	Exclusive Economic Zone, inland sea waters and territorial waters of the Russian Federation		
Purpose:	Collection of data on catch per unit effort, study of biology, abundance dynamics, migration, feeding, trophic links with local species and distribution of the crab		
Reported to:	Internal PINRO report. VNIRO. IMR		

Nation:	Russia	Survey title:	Benthos survey
Organisation:	PINRO		
Time period:	June – August	Vessel:	1 trawler
Target species:	Macrozoobenthos	Secondary species:	Macrozoobenthos
Area:	Exclusive Economic Zone, inland sea waters and territorial waters of the Russian Federation		
Purpose:	The Barents Sea including NEZ and REZ, Spitsbergen area, inland sea waters and territorial waters of the Russian Federation		
Reported to:	Internal PINRO report. IMR		

5. Fishing technology and selectivity of fishing gears

Research activity in these fields is carried out with the aim to develop:

- fishing gears that are more species and size selective and that have less negative impact on fish that escape the gear, and have less negative ecosystem effects in general.
- Improved survey gears and methodology

Norwegian investigations:

Nation:	Norway	Survey title:	Selection shrimp trawl
Organisation:	IMR		
Time period:	23.05 – 30.05	Vessel:	Hired vessel
Target species:	Shrimp	Secondary species:	Groundfish species
Area:	Barents sea		
Purpose:	Selective properties of shrimp trawl		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Self-spreading bottom trawl gear
Organisation:	IMR		
Time period:	08.05 – 16.05	Vessel:	Hired Vessel
Target species:	Demersal species	Secondary species:	
Area:	Finnmark coast		
Purpose:	Bottom trawl technology development		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Trawl methodology
Organisation:	IMR		
Time period:	27.02 – 19.03	Vessel:	Hired vessel
Target species:		Secondary species:	
Area:	Barents Sea		
Purpose:	Changes in trawl efficiency		
Reported to:	Internal IMR survey report		

Nation:	Norway	Survey title:	Trawl calibration
Organisation:	IMR		
Time period:	31.01 – 10.02	Vessel:	r/v G.O.Sars r/v Johan Hjort
Target species:		Secondary species:	
Area:	Barents Sea		
Purpose:	Calibration of survey trawl		
Reported to:	Internal IMR survey report		

Russian investigations:

Nation:	Russia	Survey title:	Selectivity of trawl and long-liner

Organisation:	PINRO		
Time period:	01.05-30.11	Vessel:	1 long-liner 1 trawler
Target species:	Greenland halibut	Secondary species:	Other demersal fish species
Area:	Exclusive Economic Zone of Norway and area adjacent to Spitsbergen		
Purpose:	Comparative fishing "trawl - long-liner"		
Reported to:	Internal IMR survey report; ICES AFWG in 2007		

Nation:	Russia	Survey title:	Selectivity of trawl
Organisation:	PINRO		
Time period:	01.05-30.06 01.07-31.12	Vessel:	1 trawler 1 trawler
Target species:	Cod, haddock, Greenland halibut	Secondary species:	Other demersal fishes
Area:	Exclusive Economic Zone of Russia		
Purpose:	Elaboration and grounds for the use of current and new regulatory measures in the trawl fishery for demersal fish species. Evaluation of the results of their application.		
Reported to:	PINRO survey report for internal use.		

Nation:	Russia	Survey title:	Selectivity of trawl
Organisation:	PINRO		
Time period:	01.03-30.06 01.07-31.12	Vessel:	2 trawlers
Target species:	Cod, haddock, Greenland halibut	Secondary species:	Other demersal fishes
Area:	The Barents Sea, Spitsbergen		
Purpose:	Elaboration and grounds for the use of current and new regulatory measures in the trawl fishery for demersal fish species. Evaluation of the results of their application.		
Reported to:	PINRO survey report for internal use. ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quota***		

6. Optimal harvesting of commercial species in the Barents Sea ecosystem

The project will be carried out according to the mandate from the Joint Norwegian-Russian Fisheries Commission. Details of the work are given in the report from the Basic Document Working Group. The work involves several projects and researchers that may work independently of each other. In many cases, the same data will be used in different sub-projects. In the end, the different sub-projects will be synthesized to give an overall picture of the ecosystem and what we might expect of the long-term yield from each stock taking into account its interaction with other stocks and with the environment. The work plan consists of two steps:

- In step 1 (2005 - 2007) the possible long-term yield of cod will be evaluated using existing data and models
- In step 2 (2008 - 2014) the long-term yield of the main commercial species will be evaluated taking into account species interdependence using a joint multispecies model

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 both institutes plan to discuss and exchange results from investigations during the meeting of scientists in March 2006.

The investigations of both countries are based on material collected during the surveys in the Barents Sea (see chapter 2 of this appendix).

8. Research program of the stock structure of Northeast arctic cod

Research were conducted in this research program during the period 2002-2004. This included field works, genetic analysis and exchange of personnel and collected samples.

The research program on stock structure should continue in 2006 in order to reach a general agreement on the interpretations of the results obtained from the research program. Discussion on this should take place during the joint IMR/PINRO March meeting and a joint report should be submitted to the 35th session of the Joint Russian/Norwegian Fisheries Commission in 2006.

9. Investigations on age and growth of fish

The Parties will continue the cooperation on establishing an international historic database on growth in length and weight of fish as well as catch statistics archived at PINRO and IMR. The exchange of age reading specialists and material will continue in 2006 according to the established routines. Meeting between specialists in age reading of cod, haddock, Greenland halibut will meet in Murmansk in summer 2006. Exact timing of the meeting will be decided by correspondence.

10. Marine mammals

The effect of marine mammals, including the White Sea population of harp seals, on biological resources of the Barents and Norwegian Seas is considerable. Besides, harp, hooded and grey seals and minke whales are hunted. There is, therefore a need for joint research on marine mammals, including boat based as well as airborne surveys. The joint Russian-Norwegian research should be aimed at assessments of distribution and abundance of the most important species, and their trophic linkages with other resources.

Norwegian activities in 2006 include sampling of biological material from harp seals during commercial sealing in the southeastern Barents Sea. Abundance estimation surveys of grey seals will also be conducted at the Norwegian coast. Furthermore, studies of biology and ecology of harp seals in open waters of the Barents Sea during summer. Monitoring of minke whale diet will be conducted in the REZ part of the Barents Sea if permitted by Russian authorities. Surveys to estimate abundance of minke whale will be carried out in the eastern Barents Sea, whereas satellite tags will be deployed on Minke whales in the Barents Sea.

In 2006, the Russian Party will continue annual multispectral aerial surveys of harp seals of the White Sea population on their whelping and moulting grounds as well as during their feeding migrations, using the Russian airborne laboratory AN-26 "Arktika". Besides, complex airborne surveys are planned during investigations of white whale as well as joint surveys on the ecology of minke whales and other whales and seals.

Telemetric investigations of harp seals will be carried out in the White Sea in a joint Norwegian-Russian project if funding is obtained. In another joint Norwegian-Russian project, various aspects of biology, ecology and behaviour of white whales will be studied in the White Sea and Barents Sea.

Norwegian investigations:

Nation:	Norway	Survey title:	Monitoring of biological parameters in harp seals

Organisation:	IMR		
Time period:	25.03 – 01.05	Vessel:	1 sealer
Target species:	Harp seal	Secondary species:	
Area:	Southeastern Barents Sea		
Purpose:	Collection of biological material from harp seals during commercial sealing		
Reported to:	ICES Harp- and Hooded seals WG, NAMMCO		

Nation:	Norway	Survey title:	Abundance estimation Grey seals
Organisation:	IMR		
Time period:	10.11-10.12	Vessel:	1 coast guard vessel
Target species:	Grey seals	Secondary species:	
Area:	Norwegian coast		
Purpose:	Abundance estimation Grey seals		
Reported to:	NAMMCO		

Nation:	Norway	Survey title:	Sighting survey Minke whale
Organisation:	IMR		
Time period:	26.06 – 06.08	Vessel:	2 coast guard vessels
Target species:	Minke whale	Secondary species:	
Area:	Eastern Barents Sea		
Purpose:	Sighting survey Minke whale		
Reported to:	IWC, NAMMCO		

Nation:	Norway	Survey title:	Telemetric tagging of Minke whales
Organisation:	IMR		
Time period:	28.08 – 17.09	Vessel:	1 coast guard vessel
Target species:	Minke whales	Secondary species:	
Area:	Barents Sea		
Purpose:	Telemetric tagging of Minke whales		
Reported to:	IWC, NAMMCO		

Joint investigations:

Nation:	Russia / Norway	Survey title:	Scientific whaling
Organisation:	PINRO, IMR		
Time period:	01.05-31.07	Vessel:	2 charted Norwegian whalers
Target species:	Minke whale	Secondary species:	
Area:	Murman coast, the Barents and White Seas including inland sea waters and territorial waters of the Russian Federation		
Purpose:	Study of biology and ecology of Minke whales.		
Reported to:	Survey report for internal use at IMR, PINRO; ICES, NAMMCO, IWC		

Nation:	Russia/Norway	Survey title:	Harp seal survey
Organisation:	PINRO, IMR		

Time period:	01.06-30.06	Vessel:	one Russian vessel, R/v Jan Mayen
Target species:	Harp seal	Secondary species:	
Area:	The Barents and White Seas including inland sea waters and territorial waters of the Russian Federation		
Purpose:	Ecological studies of harp seals		
Reported to:	Survey report for internal use at IMR; PINRO; ICES, NAMMCO		

Nation:	Russia/Norway	Survey title:	Marine mammals survey
Organisation:	PINRO, IMR		
Time period:	01.08-30.10	Vessel:	2 research vessels from Norway, 2 research vessels from Russia, Airborne laboratory AN-26 "Arktika"
Target species:	Pelagic fishes, 0-group, marine mammals	Secondary species:	Seabirds, oceanographic and hydrobiological parameters at the sea surface, ice conditions
Area:	The Barents Sea		
Purpose:	Investigation of the effect of marine mammals and seabirds as well as oceanographic conditions including ice conditions on the main commercial fish species		
Reported to:	Survey report for internal use at IMR and PINRO; Joint Russian-Norwegian Fisheries Commission ***Russian vessels will participate in the survey if additional catch volumes for scientific research are allocated from national quotas***		

Nation:	Russia/Norway	Survey title:	Harp seal tagging in the White Sea
Organisation:	PINRO, IMR		
Time period:	01.04-31.05	Vessel:	1 helicopter
Target species:	Harp seal	Secondary species:	
Area:	The White Sea coast		
Purpose:	Study of the harp seal biology and ecology, using satellite telemetry		
Reported to:	Survey report for internal use at IMR, PINRO; ICES; ***Russian vessels will participate in the survey if additional catch volumes for scientific research are allocated from national quotas***		

Russian investigations:

Nation:	Russia	Survey title:	Multispectral aerial survey of whelping moulting grounds of harp seal in the White Sea
Organisation:	PINRO		
Time period:	01.03-30.04	Vessel:	Airborne laboratory AN-26 "Arktika"
Target species:	Harp seal	Secondary species:	White whale and other species
Area:	The White Sea		
Purpose:	Estimation of abundance and distribution of seals on whelping and moulting grounds		
Reported to:	Survey report for internal use at IMR, PINRO; ICES; NAMMCO, IWC ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russia	Survey title:	Investigation of reproduction biology and ecology of harp seal in the Barents Sea
Organisation:	PINRO		
Time period:	01.02-31.03	Vessel:	Coastal hunting
Target species:	Harp seal	Secondary species:	
Area:	The White Sea		
Purpose:	Investigation of biology and ecology of harp seal		
Reported to:	Survey report for internal use at IMR, PINRO; ICES; NAMMCO, IWC		

Nation:	Russia	Survey title:	Multispectral aerial survey of distribution and abundance estimation of white whale and other marine mammals
Organisation:	PINRO		
Time period:	01.06-31.08	Vessel:	Airborne laboratory AN-26 "Arktika"
Target species:	White whale, minke whale	Secondary species:	Harp seal, dolphins
Area:	The Barents and White Seas		
Purpose:	Estimation of abundance and distribution of marine mammals in the Barents and White Sea		
Reported to:	Survey report for internal use at IMR, PINRO; ICES; NAMMCO, IWC ***survey will be conducted by the Russian party if additional catch volumes for scientific research are allocated from its national quotas***		

Nation:	Russia	Survey title:	Biological samples, tagging and visual observations on the populations of marine mammals
Organisation:	PINRO,		
Time period:	01.03-31.08	Vessel:	Coastal expeditions (boats and coastal hunting)
Target species:	Harp seal, ringed seal, white whale	Secondary species:	Bearded seal, walrus, grey seal and bay seal
Area:	Coast of the Barents and White Seas		
Purpose:	Investigations of abundance, feeding, distribution, sex and age composition of marine mammals in the coastal area of the Barents and White Seas		
Reported to:	Survey report for internal use at IMR, PINRO,; ICES; NAMMCO, IWC		

Nation:	Russia	Survey title:	Capture of alive white whale (for tagging)
Organisation:	PINRO		
Time period:	01.06-31.07	Vessel:	Coastal expedition
Target species:	White whale	Secondary species:	Bearded seal, walrus, grey seal and bay seal
Area:	the White Seas coast		
Purpose:	Investigations of biology and ecology of white whale.		
Reported to:	Survey report for internal use at IMR, PINRO, ICES; NAMMCO, IWC		

11. Investigations on survey methodology

In 2006, investigations in the field of survey methods and comparison of techniques and standard methods will continue. A workshop on survey methodology will take place in Bergen in August 2006.

12. Russian-Norwegian Fisheries Science Symposia

The 11th Russian-Norwegian Fisheries Science Symposium "Ecosystem Dynamics and Optimal Long Term Harvest in the Barents Sea Fisheries" was held 15-17 of August 2005 in Murmansk, Russia. The issues discussed at the symposium reflect the tendencies of modern development of fisheries science. The need for ecosystem approach to the exploitation management of marine bioresources is getting universal understanding. For the Barents Sea it is especially important since this region is in the zone of active interaction between water masses of different origin, which leads to high dynamic nature of ecosystem under conditions of climate variations.

More than 50 representatives from science, industry and management bodies from both countries as well as Chair of the ACFM (ICES) Dr. Poul Degnbol participated in the Symposium.

At the three consecutive Theme Sessions of the Symposium: "Dynamics of the Barents Sea ecosystem", "Optimal long-term management strategies of commercial stocks in the Barents Sea" and "Retrospective analyses of assessments and management advice for the Barents Sea fish stocks" during two days Russian and Norwegian specialists made and discussed 20 oral presentations and 12 posters, most of which were prepared jointly by Russian and Norwegian scientists.

The results of discussions showed that concept of ecosystem approach to harvest management needs a further development, and so far, there is no explicit advice on the practical implementation of this concept in management of harvesting in the Barents Sea.

At the same time, there is a common understanding of the approach to solve a number of problems. First of all, it concerns basic principles for improvement of existing rules for management of bioresources in the Barents Sea based on ecosystem approach. Here we have to follow gradualness and successiveness of the decision making process. During discussions the participants have managed to achieve a common opinion that the objectives of harvest strategy should be set by managers of fishing industry and fishermen, while the role of researchers is primarily to provide advice on realisation of these objectives and analyse possible consequences of different management decisions.

The theme for the next symposium to be held in 2007 will be discussed at the meeting of scientists in March 2006.

13. Establishing conversion factors

During the meeting of the "Norwegian-Russian Permanent Committee for Management and Control Issues in the Fisheries Sector" in 2002-2003, joint Russian-Norwegian experimental and control investigations for estimation and comparison of data on conversion factors for haddock were conducted. The results of these investigations revealed that conversion factor that are applied for fish products from haddock are controversial. Probably, it is caused by that fact that applied conversion factor are outdated or they were calculated for other seasons and fishing areas, which means that there is a need to differentiate conversion factors by areas and seasons of fishing activities to provide fair control of the actual catch.

To establish true conversion factors for products from raw fish there is a need to carry out additional experimental and control investigations in fishing mode taking into account areas, fishing seasons, biological condition of fish and analysis of technological process of production.

Joint investigations:

Nation:	Norway/Russia	Survey title:	Haddock conversion factors
Organisation:	PINRO,		
Time period:	To be decided by	Vessel:	One trawler

	correspondence		
Primary species:	Haddock	Secondary species:	Other demersal species
Area:	To be decided by correspondence		
Purpose:	Establish conversion factors for haddock		
Reported to:	Permanent Committee, PINRO, IMR, Norwegian Directorate of Fisheries		

14. Joint 3-years program on benthic living animals

In order to strengthen the ecosystem approach in the management of the Barents Sea living marine resources, it is important to cooperate on and exchange knowledge on benthic living species in the Barents Sea.
A 3-year joint program between the two Parties is therefore established through the period 2006 – 2008.

The main goals for this program is to study and share knowledge on biodiversity in benthic fish and invertebrate communities, and to monitor long term changes that may be related to antropogenic or climatic effects.

Details about the research issues and execution of the program will be discussed and agreed upon at the scientist meeting between PINRO and IMR in March 2006.

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

The catch volumes shall satisfy the need for solving all tasks described in "Joint Norwegian – Russian Scientific Research Program on Living Marine Resources in 2006" including surveillance activities to provide recommendations on area closures / reopening as well as other decisions on management of fishing activities on living marine resources in ICES Subarea I and II.

To solve these tasks the following catch quantities are decided for each party for 2006:

- 7 000 tonnes of Northeast Arctic cod
- 4 500 tonnes of Greenland halibut
- 4 000 tonnes of other groundfish species including by-catches

The Norwegian Party expressed its concern that both parties will be able to conduct the investigations outlined in the Joint Norwegian-Russian scientific research Program, and hope that both parties will be given the resources necessary to fulfil the objectives of the Program.

Both Parties will make all efforts to fulfil the Program completely.

All catches taken for research and management purposes should be recorded in the catch statistics separately.

Innkalling til Hosle IL styremøte 21. november 2005

Innkalles Medlemmer hovedstyre, daglig leder, ledere gruppene

Tid 1900-2200 for Hovedstyrets medlemmer (Hold av til 2230, i fall vi trenger litt mer tid)
2000-2200 for ledere av gruppene (Hold av til 2230, i fall vi trenger litt mer tid)

Sted: Hosle IL klubbhus

1 **Agenda dette møtet og referat fra forrige møte**

2 **Status og planer gruppene.** Ved ledere grupper.
Aktiviteter nå, medlemmer og økonomi. Planer for 2006

3 **Status og planer Hovedstyret.** Ved hovedstyret
Aktiviteter nå, medlemmer og økonomi. Planer for 2006

4 **Budsjett. Status og videre prosess.** Ved Vidar.

5 **Eventuelt**
-Plan for utgivelse av neste nummer av Hosleposten

Kommende møter. Møtene starter kl 1900 og holdes på klubbhuset
-21.11 Hovedstyremøte med gruppene. OBS med gruppene

Store arrangementer i Hosle regi:
-19.-20.11 Julemarked
-10.12 Jubileumsturnering Bandy Øvrevoll 50 år
-Håndballens dag

Report of the Basic Document Working Group (BDWG)

to The Joint Norwegian-Russian Fisheries Commission,

October 2005.

on

Harvest Control Rules for Management of Fisheries on Cod and Haddock – and Optimal Long Term Optimal Harvest in the Barents Sea Ecosystem

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Content:

Executive Summary

This is a report made by the Russian-Norwegian "Basic Document Working Group" (BDWG). There was not a particular meeting of the BDWG in 2005 and the current report has been made by correspondence. Harvest control rules for Northeast Arctic (NEA) Cod and Haddock, and work made in accordance to the working plan to provide a scientific assessment of optimal long-term yield of the most important commercial species in the Barents Sea, were discussed.

Northeast Arctic Cod

During 2005, the International Council for the Exploration of the Seas (ICES) has evaluated the harvest control rule for NEA cod amended by the Joint Norwegian-Russian Fishery Commission (The Commission) on the 33rd session in 2004. ICES states that the harvest control rule is consistent with the precautionary approach.

Northeast Arctic Haddock

ICES has not yet evaluated whether the harvest control rule for NEA Haddock is consistent with the precautionary approach. In accordance with the working plan the work on data revision for the stock is going on now and a special ICES Study Group on evaluation of the HCR and biological reference points for NEA haddock has been initiated. It is planned that the SG should take place in March 2006, and the results of the evaluation will be presented to ACFM in May 2006. The results of the HCR evaluation will be submitted to The Commission on its session in 2006. Until then, the traditional TAC advice based on F_{pa} is the current scientific advice for the stock.

Scientific assessment of optimal long term yield

A brief report on the research programme for estimation of long-term yield of marine organisms in the Barents Sea taking into account species interactions and effect of ecosystem factors is presented in section 4.

1. Introduction

According to point 12.2 in the protocol of the 30th session of the Commission it was agreement on the necessity to develop a "Basic document regarding the main principles and criteria for long term, sustainable management of living marine resources in the Barents- and Norwegian Seas" - and that this document should be regarded as a normative basis for a long term strategy for sustainable management of the most important joint fish stocks of the two nations. To develop this "Basic document" a working group of scientists from Russia and Norway was appointed.

The Basic Document Working Group (BDWG) submitted their report to the meeting of the 31st session of the Commission. The report formed a basis for discussions on the harvest control rule for cod and haddock which was decided at that meeting. The Parties agreed that the BDWG during the following year should illustrate how these decision rules would work. The working group prepared a progress report on the evaluation of the harvest control rule to the meeting of the 32nd session of the Commission.

At the 32nd session, the Commission confirmed that the joint stocks of NEA cod and haddock should be managed in accordance with the management strategies formulated at the 31st session of the Commission. In addition, the Commission agreed that BDWG should continue their evaluation of the management strategies.

In 2004 ICES evaluated the harvest control rule for Northeast Arctic cod and regarded the rule to be consistent with the precautionary approach, provided adequate measures to ensure rebuilding of the stock in cases when SSB falls below B_{pa}. Later in 2004 the BDWG met to discuss ICES' statements and proposed a number of possible options to amend the HCR for NEA cod for rebuilding situations. The BDWG-2004 report was submitted to the meeting of the 33rd session of the Commission.

At the 33rd session, the harvest control rule for Northeast Arctic cod was amended by including pre-agreed measures for a rebuilding situation. ICES was requested to consider if this amendment is satisfactory with regard to the precautionary approach.

Since the 33rd session of the Commission, BDWG has made intersessional work on preparation of evaluation of the harvest control rule for Northeast Arctic cod in ICES and to prepare this report. The report contains also a description of progress in the work on evaluation of the NEA haddock harvest control rule and in the work on scientific estimation of long term optimal yield from the important fish stocks in the Barents Sea.

2. Harvest control rule for NEA cod

2.1 ICES' evaluation of the harvest control rule for NEA cod

At its May 2005 meeting, ICES' advisory committee on fishery management (ACFM) has evaluated the harvest control rule for NEA cod.

The evaluation of the rule by ICES is given as Appendix A of this document. Based on this evaluation, ACFM gives the following comments in the annual report on NEA cod:

"Management plan evaluations

The decision rules proposed by the Commission in 2004 (JRNC-2004-rule) were evaluated using simulations that took account of variations in biological properties such as recruitment, weight, and maturity, as well as uncertainty in assessments. The results of that evaluation are presented in Section 1.4.3.1. A management plan based on these rules would be in agreement with the precautionary approach, provided that the SSB is above B_{lim}*, and that the assessment uncertainty, assessment error and implementation error are not greater than those calculated from historic data and used in the evaluation."*

Based on the results of the evaluation using simulation model ICES states that for situations when SSB is below B_{lim}, the model may not capture the stock dynamic and ICES may therefore advise on a zero TAC in these situations.

The harvest control rule for NEA cod evaluated by ICES and found to be in accordance with the precautionary approach is shown in Figure 1. ICES states that although the rule allows for fishing when SSB is below B_{lim}, ICES may advice no fishing (F=0) in such situations.

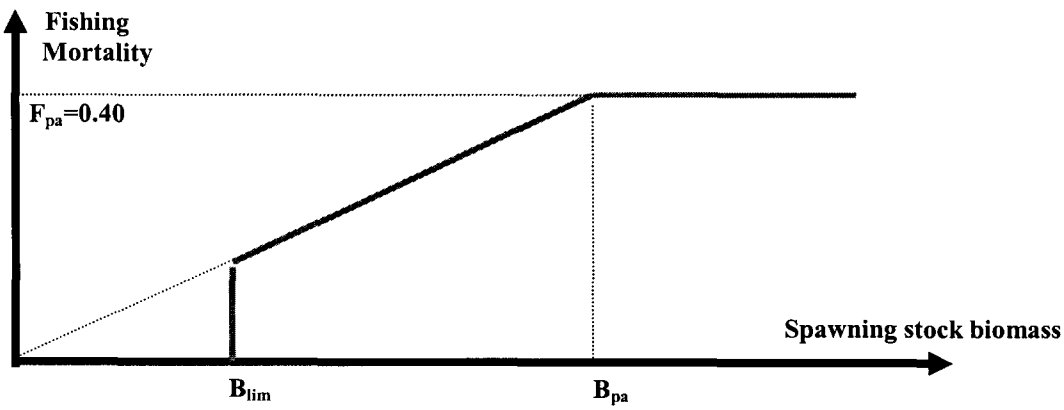

Figure 1 *Graphical representation of the ICES interpretation of the harvest control rule for cod to be consistent with the Precautionary Approach. For details, see Appendix A.*

The ICES also pointed out that the conclusions on the NEA cod harvest control rule *"are based on a risk level of 5%. They will hold also for higher risk levels. The risk level to use should be decided by managers. If a risk level lower than 5% is preferred, the harvest control rule should be evaluated against that level."*

2.2 Comments from the BDWG

The BDWG notes that during the process of testing the rule suggested by the Commission in 2004, it was noted that the definition of 'operational years' was inappropriate. The rule actually tested by ICES corresponds to the following wording in the Commission text: .. 'the operational years (current year and 3 years of prediction).....' .

3. Harvest control rule for Northeast Arctic Haddock

The work of IMR and PINRO on revising historical data, revision of biological reference points, development of models and carrying out simulation runs in order to evaluate harvest control rule for NEA haddock is continued. This work is going in accordance with the plan adopted by the Commission in 2004.

Revised historical data on Northeast Arctic haddock will be presented at an ICES Study Group in March 2006, dedicated to this stock only. The reference points will be revised by this Study Group to prepare the evaluation of the suggested harvest control rule and alternative harvest control rules. The evaluation itself will be performed by the Arctic Fisheries Working Group in 2006. It is planned that the results will be presented to the attention of ACFM in May 2006 and to be submitted to The Commission on its session in 2006. (Update this if meeting date is agreed upon at ICES ASC).

ICES answer to the special request
The special request on comments upon aspects of the agreed experimental harvest rule for the North-East Arctic haddock stock and providing the catch options according to the experimental harvest control rule was sent to ICES after 33rd session of The Commission.

Answering to request the ICES states following:

"For Northeast Arctic haddock, ICES is requested to comment on aspects of the agreed harvest control rule in relation to the recruitment dynamics for the haddock stock. ICES has not yet evaluated the harvest control rule for that stock, but is prepared to provide such evaluation in 2006. This will be done using simulation studies similar to those provided for cod, taking into account the particularities of the dynamics of that stock. In particular, recruitment for this haddock stock has been sporadic, with the exception of recruitment for recent years which has been more stable. ICES observed that stocks exhibiting sporadic recruitment may need different measures to protect large year classes as they recruit to the fishery. Additionally, the retrospective pattern of this stock shows that the Northeast Arctic haddock assessment tends to overestimate stock size (and underestimate fishing mortality) to a significant degree in some years. These factors would need to be investigated through simulations mimicking the recruitment dynamics of this haddock stock, taking into account the assessment and implementation errors and biases."

In accordance with the request, ICES provided catch options for 2006 using the experimental harvest control rule but pointed out that because the evaluation of the rule is not finished, the traditional TAC recommendation based on F_{pa} was the current scientific advice for this stock.

4 Optimal long-term harvest in the Barents Sea Ecosystem

The work of IMR and PINRO on the joint Program for estimation of optimal long-term harvest in the Barents Sea Ecosystem adopted at the 33rd session of the Commission is started. The plan of work in 2005-2007 was made according to the Program. This plan includes estimation of long-term yield of NEA cod taking into account the effect of ecosystem factors. The objectives, tasks, expected results; methods of work and necessary data are defined for each of ten sub-projects. The leaders of sub-projects were appointed both at PINRO and at IMR. The joint plan of work on the project for the first three years (2005-2007) was discussed and adopted at the meeting of scientists from PINRO and IMR that was held in Archangelsk in March 2005. IMR designed a special website to publish information related to the work on this project. PINRO is accomplishing the design of a similar website. The work on these sub-projects is included in the national research plans of both institutions.

The estimation of maximum long-term yield of cod is performed with the single species model CodSim applying the PROST computer program. The results of this work were presented at the 11th Joint Russian-Norwegian Symposium that was held in Murmansk in August 2005. Based on the CodSim model the scientists have started to work on the design of the EcoCod model that by applying regression equations will incorporate the effects of ecosystem factors on cod stock dynamics. Based on a multispecies approach the scientists conducted work on improvement of the Bifrost and STOCOBAR models to evaluate harvest strategies for cod in the Barents Sea. Preliminary results of this work were also presented at the symposium in Murmansk.

With the framework of the joint project, IMR, with participants of scientists from PINRO, held a workshop in May on cod skipping spawning. In this workshop, the specialists exchanged viewpoints and results of research on year-to-year variations of development of cod gonads. Under conditions of insufficient capelin availability as prey species, the number of cod that skip spawning increases. During a joint meeting in April/May in Murmansk issues related to plankton investigations and the feeding of pelagic fish were discussed, with the aim of unifying laboratory and field methods. A meeting on the Norwegian side in Tromsø in October will address issues related to data on marine mammals and how knowledge of marine mammals can be incorporated into the multispecies models. During a joint meeting in Bergen in November the Russian model STOCOBAR will be implemented at IMR, and results from sub-projects will be made operational in the multispecies models, to the extent possible at present.

The annual report on joint work will be presented by the co-ordinators of the project in PINRO and IMR at the meeting of scientists in March 2006.

Appendix A: ACFM's evaluation of the harvest control rule for NEA cod

1.4 Assessment and Advice

1.4.1 Special requests

1.4.1.1 Long-term Management Advice on NEA cod and haddock (Norway)

The Joint Norwegian-Russian Fisheries Commission has requested ICES to:

"The harvest control rule for North-East Arctic Cod was evaluated by ICES in spring 2004. ICES regarded the harvest control rule to be consistent with the Precautionary Approach, provided adequate measures to ensure rebuilding of the stock in cases when SSB falls below B_{pa}.

At the meeting of the Joint Norwegian-Russian Fisheries Commission in October 2004, the harvest control rule was amended by including such pre-agreed measures for a rebuilding situation. ICES is requested to consider if this amendment is satisfactory with regard to the Precautionary Approach.

ICES is further requested to give advice on levels of catch and effort for 2006 consistent with the agreed amended harvest control rule for North-East Arctic Cod.

Finally we request assessment of the North-East Haddock stock, and comments upon aspects of the agreed experimental harvest control rule in relation to the recruitment situation for this stock, and catch options according to the experimental harvest control rule and to an exploitation equal to F_{pa} level."

ICES comments

The evaluation of the amended harvest control rule is provided below. The advice on levels of catch and effort for 2006 consistent with the amended harvest control rule for North East Arctic cod and haddock is provided in Sections 1.5.1 and 1.5.3, respectively.

The amended harvest control rule (HCR) is as follows:

"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 utilization 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):

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 based 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 procedure for establishing TAC should be based on a fishing mortality that is linearly reduced from F_{pa} at B_{pa}, to F= 0 at SSB equal to zero. At SSB-levels below B_{pa} in any of the operational years (current year, a year before and 3 years of prediction) there should be no limitations on the year-to-year variations in TAC.

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

For Northeast Arctic cod, ICES evaluated the above decision rules through simulation studies, for details see the Technical Annex below. These studies indicate that a management plan based on these rules is in agreement with the Precautionary Approach, provided that SSB is above $\mathbf{B}_{lim}$ and that the assessment uncertainty and implementation error are not greater than those calculated from historical data. The decision rules seem to be effective in situations when SSB is close to $\mathbf{B}_{lim}$. The decision rules allow for fishing below $\mathbf{B}_{lim}$ and ICES may advise no fishing (F=0) in such situations.

For Northeast haddock, ICES is requested to comment on "*aspects of the agreed harvest control rule in relation to the recruitment dynamics for the haddock stock*". ICES has not yet evaluated the harvest control rule for that stock, but is prepared to provide such evaluation in 2006. This will be done using simulation studies similar to those provided for cod, taking into account the particularities of the dynamics of that stock. In particular, recruitment for this haddock stock has been sporadic, with the exception of recruitment for recent years which has been more stable. ICES observed that stocks exhibiting sporadic recruitment may need different measures to protect large year classes as they recruit to the fishery. Additionally, the retrospective pattern of this stock shows that the Northeast Arctic haddock assessment tends to overestimate stock size (and underestimate fishing mortality) to a significant degree in some years. These factors would need to be investigated through simulations mimicking the recruitment dynamics of this haddock stock, taking into account the assessment and implementation errors and biases.

The calculated catches and SSBs on the basis of the harvest control rule as amended are given in Sections 1.5.1 and 1.5.3.

Technical Annex to the response

For North-East Arctic cod, ICES evaluated the decision rules as amended at the meeting of the Joint Norwegian-Russian Fisheries Commission in October 2004.

In mathematical terms, the rule can be described in the following way:

Let y denote the year for which the quota is to be set. Let the term "3-year rule (F1, x)" denote applying the 3-year average rule described above with $\mathbf{F}_{5\text{-}10}$=F1 and an x % limit on year-to-year changes in TAC. The limit on increase of TAC from year to year could be set different from the limit on decrease from year to year, but such asymmetric rules were not tested. It is assumed that SSB(y) is not affected by F(y), which is in line with the current settings used by AFWG (the proportion of F and M before spawning is set to 0).

If SSB(y) > $\mathbf{B}_{pa}$ then

if SSB(y-1) > $\mathbf{B}_{pa}$ and SSB(y+1) > $\mathbf{B}_{pa}$ and SSB(y+2) > $\mathbf{B}_{pa}$

F(y) set by 3-year rule (0.40, 10%)

else

F(y) set by 3-year rule (0.40, unconstrained)

else

F(y) set by 3-year rule (0.40 SSB(y) / $\mathbf{B}_{pa}$, unconstrained).

SSB(y+1) and SSB(y+2) in this calculation is derived using F=0.40 in years y and y+1.

The evaluation of HCRs for NEA cod has been done using simulation models. Important issues for the evaluation of harvest control rules are the choice of population model, inclusion of uncertainty in population model, the choice of initial values for simulations, the formulation of harvest control rules for use in the evaluation (constant F rules, how to reduce F when SSB<$\mathbf{B}_{pa}$, limit on year-to-year variation in catch, etc.), and performance measures for harvest control rules (yield, stock size, F, probability of SSB<$\mathbf{B}_{lim}$, annual variation in catches, etc.). This year's evaluation of the HCR takes into account the comments made by ICES in 2004 on the need to take assessment and implementation error and bias into consideration in the evaluation of harvest control rules.

Thus, in this evaluation, the assessment and implementation error and bias were modelled explicitly as percentages of stock overestimation and level of over-fishing. In particular, the simulations took into account the retrospective error observed historically (stock bias in the range of -9% to 30% depending upon ages, with CV ranging from 20% to 62%). The implementation error was based on the differences between the catch and quota for the 1987–2003 period (12% bias with a CV of 18%).

To evaluate the effect of the assessment and implementation errors, two situations were tested through long-term simulations using a fishing mortality of 0.4, i.e. without invoking HCR:

1) assuming a low natural mortality on ages 3 and 4 (M=0.2, Run 1)

2) assuming a high natural mortality on ages 3 and 4 (M=0.7 and 0.4, respectively, for Run 2).

Table 1.4.1.1 Results of long-term simulations

Run No.	Realised F	Catch	TSB	SSB	Recruits	% years SSB<B_{lim}	% years SSB<B_{pa}	Average year-to-year % change in TAC
1	0.61	921	3155	761	689	0.0	3.8	17
2	0.56	490	1895	452	689	0.1	48.5	22

In both runs, the realised F (when assessment and implementation errors have been taken into account) is around 0.6, but the total stock and the spawning stock are at a much higher level in Run 1, and consequently the catches taken are also much higher in this simulation. SSB falls below B_{lim} in 0.0 and 0.1% of the years for Runs 1 and 2, respectively. The proportion of years the SSB is below B_{pa} is also low for Run 1, while for Run 2 this happens in almost half of the years.

In addition, the performance of the amended rule was tested in a situation where stock rebuilding is needed. This testing of the JNRC-2004-rule was done using medium-term simulations of the NEA cod stock with initial levels below B_{pa}. Two situations were simulated: one where the recruitment cycle was near its maximum during the years immediately following the start of the simulation (labelled "high recruitment" in tables), and one where the cycle was near its minimum (labelled "low recruitment"). In both cases an increased natural mortality on the youngest age groups (M_3=0.7, M_4=0.4) was assumed.

To study the performance of the rule in a stock recovery situation, simulations were started in 1985, when the total stock size was 957 000 tonnes and the SSB was 193 000 t, i.e. below B_{lim}. The year 1985 was chosen because it was a year with a fairly low stock size, as well as a year when the stock was not dominated by a single year class. However, since the performance of the rule might be different in a situation where weak or strong year classes enter the stock in the beginning of the period, the runs made covered both these situations. Technically, because a cyclical recruitment function was applied, this was done by shifting the period of the cycle so that the start of the period either corresponded to a maximum or a minimum of the recruitment cycle.

The natural mortality for the two youngest age groups was set to 0.7 and 0.4, respectively, reflecting high cannibalism. This might seem unrealistic in a situation where the stock is at a low level or the recruitment level is low. However, this can be regarded as a worst-case scenario. The fishing pattern was set equal to the 1985 pattern. Uncertainty in initial stock size and future stock assessments was included in the same way as in the long-term simulations described above. In each case, 2000 simulations were performed.

The results of the simulations are given in the following tables.

Mean SSB (1000 tonnes) in 1986–1990 for different runs

Run no.	Mean SSB 1986	Mean SSB 1987	Mean SSB 1988	Mean SSB 1989	Mean SSB 1990
Low recruitment	173730	181096	453602	411426	485809
High recruitment	173357	176586	441973	446824	640728

Probability of SSB> B_{pa} in 1986–1990 for different runs

Run no.	P(SSB > B_{pa}) 1986	P(SSB > B_{pa}) 1987	P(SSB > B_{pa}) 1988	P(SSB > B_{pa}) 1989	P(SSB > B_{pa}) 1990
Low recruitment	0.00	0.00	0.44	0.19	0.58
High recruitment	0.00	0.00	0.35	0.40	0.94

Probability of SSB> B_{lim} in 1986–1990 for different runs

Model	P(SSB > B_{lim}) 1986	P(SSB > B_{lim}) 1987	P(SSB > B_{lim}) 1988	P(SSB > B_{lim}) 1989	P(SSB > B_{lim}) 1990
Low recruitment	0.00	0.01	1.00	1.00	1.00
High recruitment	0.00	0.00	1.00	1.00	1.00

Mean catches (1000 tonnes) in 1986–1990 for different runs

Model	Mean catch 1986	Mean catch 1987	Mean catch 1988	Mean catch 1989	Mean catch 1990
Low recruitment	119938	171849	356674	350897	372113
High recruitment	129442	185734	401360	417611	426942

Mean realized F values in 1986–1990 for different runs

Model	Mean F 1986	Mean F 1987	Mean F 1988	Mean F 1989	Mean F 1990
Low recruitment	0.39	0.38	0.67	0.62	0.60
High recruitment	0.43	0.42	0.69	0.61	0.57

For both situations (low and high recruitment), the probability of SSB being above $\mathbf{B}_{lim}$ is very low for the first two years. However, from the third year and onwards, both situations translate into a 100% probability of this happening. The probability for the SSB to be above $\mathbf{B}_{pa}$ is zero during the first two years, but then increases during the next three years. They are higher for the high-recruitment run, but vary somewhat with the varying strength of the incoming year classes

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These results are indicative of the trajectory of the stock in response to the application of the HCR, but the actual trajectory and time of response will depend on how far SSB is below $\mathbf{B}_{lim}$ and of the initial stock structure. However, in this region the model may not capture the stock dynamic and ICES may therefore advise on a zero TAC in these situations when SSB is below $\mathbf{B}_{lim}$.

It should be noted that the conclusions drawn here are based on a risk level of 5%. They will hold also for higher risk levels. The risk level to use should be decided by managers. If a risk level lower than 5% is preferred, the harvest control rule should be evaluated against that level.

REPORT
of the 3-year (2002-2004) Joint Russian-Norwegian Research Program on Greenland halibut

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Introduction

Since 1990's stock management of the main commercial fish species in the North Atlantic has been based on the principle of the ecosystem approach. For many of the important stocks, safe biological limits such as spawning stock biomass and fishing mortality reference points have been estimated based on which a strategy of rational exploitation can be developed. As for the Greenland halibut, such reference points have not been estimated yet. To solve this problem, Russian and Norwegian scientists have implemented the joint research program initiated pursuant to the decision of the 30th Session of the Mixed Russian-Norwegian Fisheries Commission (2001). The program is sufficiently versatile to include both revision of data already accumulated and collection of new information on the Greenland halibut ecology and fishery. Results from the research conducted within the frames of this program can serve a basis for development of the long-term strategy for rational management of the Northeast Arctic Greenland halibut stock.

The content of the program and progress in the implementation of its individual parts have been discussed at a number of meetings between Russian and Norwegian experts. Some of results from the research were presented at different international fora (Appendix 1).

Amount of the biological material collected in 2002-2005 is given in Tables 1 and 2.

The report outlines the main results achieved during the implementation of the program and presents a draft of the program of the future investigations.

1. Life cycle, reproductive biology, migration and trophic relations of the Greenland halibut

The stock structure of Greenland halibut in the North Atlantic has for long been uncertain, without known genetic structure (Vis et al. 1997; Igland and Nævdal, 2001) and with tag-recaptures indicating that some mixing may occur across the Norwegian Sea (Sigurdson, 1981; Boje et al, in prep.). It is therefore an important finding for the joint program, that a new comprehensive genetic analysis do find statistically significant difference of genetic structure of Greenland halibut between regions (Knutsen *et al*, in prep.). The analyses find no genetic difference between specimens sampled from the Halten Bank to north of the Spitsbergen archipelago, but these samples were significantly different from specimens sampled at Faroe Island, Greenland and in Canadian waters. If these findings are correct, we may thus be more

confident that the Northeast Arctic Greenland halibut stock (NEAGH) is a self-contained unit with limited exchange with other areas.

Spawning of the Northeast Arctic Greenland halibut occurs in autumn and winter. The main spawning grounds are located in the deep waters (500-800 m) of the continental slope between 70° and 75°N (Figure 1) (Albert et al., 2001; Nedreaas, Smirnov, 2004).

Distribution and density of the spawning concentrations are variable and depend chiefly on the number of spawners, structure of the mature part of the population as well as on oceanographic conditions in every specific year. The majority of the first maturing Greenland halibut individuals approach the area of reproduction from the north and, if the conditions are favourable, spawn mostly in its northern part (Subarea IIb), while large repeat spawners prefer more southerly areas (Subarea IIa) (Smirnov, in prep).

According to the classification of fish by the type of egg laying Greenland halibut belongs to pelagophilic species. For a lack of adipose capsule, the spawned eggs due to their hydrostatic stability stay in the near bottom water layers and are in the full power of currents. Pre-larvae hatching in March-April also lead a bathypelagic way of living (Smirnov, in prep.), which allow them avoiding adverse effect of environmental factors being the most unfavourable at this time of year at the sea surface. Only with the beginning of warming of the surface layers and development of zooplankton, Greenland halibut larvae having reached 17 mm and more in length, rise to the upper layers of the water column.

During egg and larvae drift, the first settling of individuals from newly appeared yearclasses takes place. Direction of ichthyoplankton drift and posterior distribution of juveniles is much dependent on localization of the parental stock (Ådlandsvik et al., 2004). Water circulation in the spawning areas of Greenland halibut is characterized by the fact that southern parts of the main spawning grounds located between 70° and 73°N are situated in the zone separating the Norwegian and North Cape Currents. The Norwegian Current carries its waters along the continental slope towards Spitsbergen stretching its effect over the areas north of 73°N. The North Cape Current flows to the Barents Sea. Therefore, the more females of Greenland halibut spawn south of 73°N, the higher the probability of mass juveniles penetration to the Barents Sea shelf. Prerequisites for the drift of juveniles to the southern Barents Sea are increased abundance of the spawning stock, high percentage of older age groups in the spawning stock and lowered water temperature in the area of the continental slope.

Ichthyoplankton research and data from international surveys for 0-group of commercial species indicated that until the end of 1980's (in particular in 1979, 1980, 1983 and especially in 1987) a recurrent drift of large number of juvenile Greenland halibut to the eastern Barents Sea was observed. In 1990's, because of low abundance of spawners against the background of high water temperature on the spawning grounds, the northern component of the drift was predominant (to Subarea IIb) (Smirnov, in prep.).

At the end of summer – beginning of autumn, juvenile Greenland halibut being 7 cm long start to switch to the bottom way of living. During the long (8-10 months) period of drift, juveniles cover great distances and their settling to the bottom occurs over a wide area in zones the most distant from the spawning grounds and being the margins of the population area.

In the Barents Sea and adjacent waters, a few main areas where bottom juveniles of Greenland halibut are concentrated were identified.

The Norwegian Current going to the West Spitsbergen Current brings juveniles to the fjords of the West and North Spitsbergen and further to the northeast along the continental slope. With the branches of the current via straits between the Spitsbergen and Franz Josef Land juveniles are brought to the northern areas of the Barents Sea shelf. The Northern Branch of the North Cape Current transports juveniles to the northern part of the Hope Island Deep and adjacent areas of the Central Bank and Hope Island area. The Main Branch of the North Cape Current and further the Murman Current deliver ichthyoplankton to the slopes of Central Basin (Nizovtsev, 1989).

The first 3-4 years of life Greenland halibut spend close to the areas of settling, as a rule in shallow waters at the depth of 100-300 m concentrating at the sites with complex bottom topography covered by soft sediments, mainly in the large bottom depressions where to Atlantic waters penetrate (Smirnov et al., 2000). During trawl surveys in 1996-2004, the densest concentrations of bottom juveniles of Greenland halibut were found in the areas with depths more than 200 m from the Erik Eriksen Strait (between the King Carl Land and Northeastern Land) to the Franz-Victoria Trough (between the Franz Josef Land and Victoria Land) (Høines and Smirnov, 2002).

With growth and maturation, the Greenland halibut gradually shift towards spawning grounds and inhabit greater depths (Figure 2).

Greenland halibut males reach maturity faster than females. At age 4-6, they mainly leave dwelling areas of juveniles. Females stay there and also in a large area that separates nursery grounds from spawning grounds 2-4 years longer (Smirnov, in prep). This is the cause for differences in the sex composition of concentrations in the reproduction areas where considerable domination of males is observed and in the margins of the distribution area where percentage of females is increased (Smirnov, in prep.).

Having reached maturity and spawned for the first time, individuals start seasonal migration between the areas of reproduction and feeding (Nizovtsev, 1989).

The most active migrants reaching the southern Norway and Murman coast are the largest individuals among which females are predominant. Analysis of tagging results and literature data indicates that the longest distances are covered usually by fish of 60 cm long and more (Nizovtsev, 1989; Smirnov, in prep.).

From the above it is seen that Greenland halibut is distributed over a vast area of the Barents Sea and adjacent waters, however, by the main role of different areas played in maintaining vitality of the population they can be differentiated as follows. The Norwegian Sea (Subarea IIa) is the main area of spawning and feeding of individuals from older age groups. The Bear Island – Spitbergen area (Subarea IIb) is the main area for feeding of juveniles and spawning of the first maturing individuals. The Barents Sea (Subarea I) is the feeding area for both juveniles (northern and central parts) and adults (central and southern parts).

Food composition of Greenland halibut in the Barents Sea comprises more than 40 prey species, however the diet is dominated by fish (mostly capelin and polar cod) as well as cephalopods, northern shrimp and (since 1990's) wastes from fishery (Dolgov, 2005a). With growth, a decrease of percentage of small food items (shrimp, capelin) and increase of large fish (cod, haddock) and waste proportion in the diet is observed.

A comparison of food composition showed a considerable intra-species similarity of the Greenland halibut diet both between separate size groups and between sexes. The degree of

similarity of Greenland halibut diet with other fish species was the highest with thorny skate and cod, which however usually dwelled in the areas where Greenland halibut occurred in minor amount (Dolgov and Smirnov, in prep).

At the average level of the Greenland halibut stock of nearly 120 thousand tonnes (AFWG 2005), total consumption of food by its population make up about 174 thousand tonnes (Dolgov, 2005a). The consumed biomass of commercial species (cod, haddock, redfish, herring, shrimp, long rough dab and polar cod) is totally estimated to be about 38%.

The Greenland halibut is weakly susceptible to the press of predation (Dolgov and Smirnov, in prep.). Its juveniles were found in the stomachs of only three species – Greenland shark, cod and Greenland halibut itself. Potentially it can be consumed by grey seal, narwhal and killer whale. Cod annually consume from 0.1 to 5.5 thousand tones (1.0 thousand tones on the average) of juvenile Greenland halibut (Dolgov, 2005b), while Greenland halibut itself consume from 90 to 750 tonnes (280 tonnes on the average).

Thus, peculiarities of Greenland halibut distribution and feeding at different stages of the life cycle allow to infer that the Greenland halibut is a species that has an insignificant effect on other commercial species in the Barents Sea. At the same time, the effect of predation on the recruitment to the fishable stock of Greenland halibut is also negligible.

2. Accuracy of age reading and its effect on the Greenland halibut stock assessment

Thorough examinations of the current ageing method routinely used by Norwegian age-readers, showed that the age estimates were seriously biased (Albert *et al.*, 2005). It was concluded that the production ageing method is not a scientifically sound method and that it results in underestimation of true age for older individuals. A refined ageing method has been developed and partly verified. Figure 3 shows the difference between the two ageing methods. The refined method produces growth estimates that are in accordance with data from tag-recaptures and modal progression analyses, and is also in accordance with recent radiocarbon analyses of Greenland halibut otoliths from Canadian waters (Treble *et al*, 2005).

A rough comparison of the two methods was made for the Norwegian Greenland halibut survey in 2003. For females the estimated mean age was 6.7 and 11.6 years for the production ageing and the refined ageing method respectively. For males the corresponding figures were 4.7 and 8.3 years. If these results are correct, this means that the age-structured assessments are based on erroneous data. The effect of underestimation of age for older individuals is overestimation of growth and increase of uncertainty in fishing mortality estimates.

The Russian scientists, based on the historical experience, literature data as well as on current experiments on joint (together with IMR specialists) age reading (Figure 4) and comparison of results of age reading done by Russian scientists by scales and otoliths, believes that situation with reliability of age determination results is not so dramatic as the Norwegian colleagues argued.

3. Catchability of scientific trawl and comparative selectivity of trawl and longline

In order to estimate Greenland halibut stock size from bottom trawl surveys, it is necessary to know how the number of specimens caught relates to the number that is present above the area swept by the trawl. The catchability, the fraction of individuals caught to those present, depends on behavioral processes like herding, escapement, and vertical distribution, and varies generally with fish length. For Greenland halibut specimens occurring close to the seabed, catchability of

the survey trawl was studied by video recordings and by use of auxiliary bags beneath the trawl. In addition, the vertical distribution of Greenland halibut was studied by use of vertical longlines.

a) Video

At the first stage of works on the estimation of catchability, the Greenland halibut behaviour in the vicinity of the bottom trawl was investigated. Totally 31 video recordings of overall duration of 28.9 hours were used that gave images of 2216 individuals of Greenland halibut.

Elements of the Greenland halibut behaviour during fishing (speed, orientation, percentage of individuals swimming, lying on the ground and escaping under the groundrope in different parts of the fished area) were estimated. These data were used to simulate the Greenland halibut behaviour when fishing and a factor of concentration was calculated (FC is a factor by which density in the trawl mouth is higher than the natural density): FC=3.2.

In the result of the investigations with the use of video equipment a catchability coefficient of bottom trawl was determined to be q=0.3. It was found that artificial light of the video system reduces catches by approximately 19%. Taking this into account, the catchability coefficient can be considered to be q=0.35.

Video recordings of Greenland halibut were also made on eight trawl stations in the Spitsbergen archipelago waters in August 2002 (Albert *et al*, 2003). The recordings were made down to 600 m depth using artificial light. A method for calculating actual fish length from the video image was established and the recordings were analysed with respect to length dependent behaviour, escapement and spatial pattern. From all eight videos, 127 Greenland halibut were recorded as either caught or lost under the ground-gear. The percentage of fish denoted as caught was 72. For 30 cm and larger individuals the proportion caught (catchability) was 70% and independent of length (Figure 5). For smaller individuals catchability was significantly lower (χ^2, df=1, $p<0.05$), estimated to 40%. Studies on the effect of artificial light shows that this may severely influence the catchability estimate (Albert *et al*, in prep.) and further studies were therefore made with auxiliary bags instead of video recordings.

b) Auxiliary bags

In August 2005 a series of experiments were made with auxiliary bags mounted beneath the trawl to catch individuals that otherwise would have escaped under the groundgear or between the groundgear and the groundrope. The auxiliary bags covered the whole area behind the rockhopper groundgear and were equipped with a separate groundgear. Figure 6 shows that approximately 12% of the total catch with Alfredo 5 trawl were taken with the auxiliary bags. For Campelen trawl, the corresponding figure was 4%, but this was based on only four successful hauls. Percentage of catch that were taken with the auxiliary bags was the highest for intermediate sized fish (40-60 cm) (Karlsen and Albert, 2005).

c) Vertical longlines

In stock assessment perspectives, the Greenland halibut is considered to be a demersal species. However, recent results from experiments with vertical longlines at the Continental Slope show that individuals occur frequently in large parts of the water column (Vollen and Albert, in prep.).

Greenland halibut were found in the water column through the year, and over all bottom depths investigated (450-900 m). Individuals were also found over larger depths were the species is not numerous at the bottom (Figure 7).

Greenland halibut were caught in all depths, up to an upper depth limit. This limit was independent of bottom depth and varied between seasons (400-500 m depth in March and August, to approximately 250 m in November). Individuals were caught as high as 600 m off bottom or at 200 m depth.

The sex composition differed between vertical and bottom longline catches. Males were predominant in the pelagic, whereas females were predominant on the bottom. In November, during or close to the spawning period, only males were caught pelagically. When accounting for differences in sex composition, the length frequency distribution of pelagic catches differed only slightly from bottom longline catches, pelagic individuals being somewhat smaller.

The pelagic behaviour of Greenland halibut may influence the annual bottom trawl surveys, as parts of the population is out of the gear's range. To achieve a better understanding of this problem, the pelagic occurrence of the Greenland halibut need to be quantified.

d) Comparative fishing trawl-longline

The investigations showed that catch rate (by weight) by longline at depths down to 550 m was 2.0-2.5 times lower compared to those taken by trawl at the same fishing depths. At depths more than 600 m catch rate by trawl and longline did not differ (Lisovsky et al., in prep.).

Catches by longline were dominated by females. Catches of females by longline exceeded those by trawl 3.7-1.2 times, and the mean ratio constituted 2.5 (Figure 8).

Therefore, judging by the provisional results, the catchability coefficient of trawl in relation to females cannot be higher than 0.4.

Mean length of males and females in catches by both gears did not differ.

Because of the limited scope of investigations, comparative data on fishing «trawl-longline» were obtained only for autumn.

Thus, for the reported period, materials were collected to develop a method of longline-trawl survey for Greenland halibut allowing to improve the stock estimate.

4. Greenland halibut distribution and stock dynamics from survey data

Our results clearly show that the vast majority of adult Northeast Arctic Greenland halibut throughout the year are distributed along the continental slope between the Norwegian mainland and the Spitsbergen archipelago, while further eastwards in the Barents Sea its distribution remains severely limited. Juveniles were mainly found north and east of the Spitsbergen archipelago to White Island and Franz Josef's Land, thus firmly establishing these areas as nursery grounds for the species. Spawning grounds were confirmed located largely on the upper slope areas north and south of Bear Island.

Data from Russian and Norwegian surveys in the northern Barents Sea (north and east of the Spitsbergen archipelago and in the area of the Franz Josef Land), which have become joint surveys since 2000, showed that a considerable proportion of juveniles (28-56%) settled in the area of the EEZ RF (Table 3).

Russian stratified surveys for Greenland halibut having been conducted since 1984 cover the area of about 140 thousand square miles from the Novaya Zemlya in the east to the continental slope (depth of 900 m) in the west. Despite the fact that these surveys are carried out during pre-spawning and spawning period (October-December) when Greenland halibut migrate to the west and concentrate on the continental slope, from 11 to 43% (about 20% on the average) of the Greenland halibut fishable stock (fish longer 30 cm) abundance were distributed in the ICES Subarea I (east of 30°E) (Figure 9) (Smirnov, 2002).

In August-September 2004 and 2005 Russian and Norwegian reseach vessels covered most of the Barents Sea and Spitsbergen area by Campelen-1800 trawl, and in the same period Norwegian vessels covered the deeper areas from 62 – 80 N by Alfredo-5 trawl. In total this was a coverage, which included most of the distribution area of the Northeast Arctic Greenland halibut stock (Fig. 10). In 2005 also a coverage using the Alfredo-5 trawl in the whole Barent Sea, also included the deeper slope area and the EEZ RF, was conducted by Norwegian vessels. Patterns of distribution and abundance from these coverages are given in Thangstad *et al.* (in prep). The swept area estimates from all these surveys shows that approx. 89 –94 % of the biomass is found in the NEEZ and the fishery protected zone around the Spitsbergen archipelago (Table 4). In terms of numbers the percentage in these zones was 62-82.

Commenting on distribution of Greenland halibut in EEZs it should be emphasized that estimated proportions are imprecise because they are based on the survey data, which always have some uncertainty, and that they will also vary in dependence on environmental conditions and stock dynamics.

Most of the surveys (Figure 11) indicated an increase or at the least stabilization of the Greenland halibut abundance in the area of investigations during recent years.

Thus, due to peculiarities of distribution, drift of eggs and larvae as well as active migration, the Greenland halibut at different stages of its life and annual cycles forms concentrations in all economic zones of the Barents Sea (Nedreaas, Smirnov, 2004), that indicates the Greenland halibut to be a transboundary stock.

5. Preparation of a new joint scientific program on improving of stock assessment methods and evaluation of optimal long-term harvest strategy for North-East Arctic Greenland halibut.

During implementation of the 3-year Program of joint Russian-Norwegian research a large body of biological information on Greenland halibut was analyzed with the use of both traditional and advanced methods (underwater video filming, DST-tags, genetic studies etc.)

The results obtained permitted to extend and deepen the knowledge on distribution, biology, behaviour of Greenland halibut at different stages of its life cycle as well as on its stock dynamics.

At the same time, during the research new problems are revealed, which have not been solved until the present. They include, in particular, age reading, pelagic distribution and biological differences between males and females, which are all crucial problems for the quality of the

stock assessment by traditional methods applied by ICES and the use of it for management purposes.

To decrease the uncertainty and to get stock estimates that adequately reflect its state with the aim of rational fishery it is necessary to pursue the joint research and to develop a new Program.

Proposals on the program structure:

- Improvement of a method of age reading
- Improvement of survey methodology and methods of combination of data from different surveys
- Quantification of pelagically occurring Greenland halibut
- Studying of sexual dimorphism and influence of fishery on the population structure
- Improvement of stock assessment methods
- Evaluation of optimal long-term harvest strategy.

Scientists of both countries believe that in order to initiate a new program it should be approved by the Mixed Russian-Norwegian Commission.

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Appendix 1

Meetings of scientists held in the framework of 3-year (2002-2004) research programme on Greenland halibut

1. 13 – 15 of March 2002 (Svanhovd)
   discussion of the programme content.

2. 4 – 5 of June 2002 (Tromsø)
   schedule of work and distribution of responsibility for realisation of components of the programme.

3. 18 – 20 of March 2003 (Murmansk)
   - amount of available data;
   - underwater observations;
   - diet;
   - applying of GIS for research of distribution.

4. 16 – 19 of June 2003 (Copenhagen)
   - migration of G. halibut.

5. 25 – 27 of May 2004 (Murmansk)
   - distribution of G. halibut during its life cycle;
   - seasonal variations in distribution;
   - occurrence of G. halibut in pelagial;
   - G. halibut behaviour in front of the trawl;
   - new approaches for improvement of accuracy in ageing;
   - genetic investigations.

6. 15-17 of March 2005 (Arkhangelsk)
   - last investigations results;
   - report structure discussion.

7. 03-07 October 2005 (Murmansk)
   - report preparation.

Some of the results from joint research programme were presented at:

- International Flatfish Symposium (Isle of Man, December 2002);
- 10th Russian-Norwegian Symposium (Bergen, 2003);
- Symposium on deep-water fish (New Zealand, 2003);
- 3rd international symposium on otolith studies (Australia, 2004)
- ICES ASC, 2004
- 6th International Symposium on Flatfish Ecology (Kyoto, Japan, 2005)

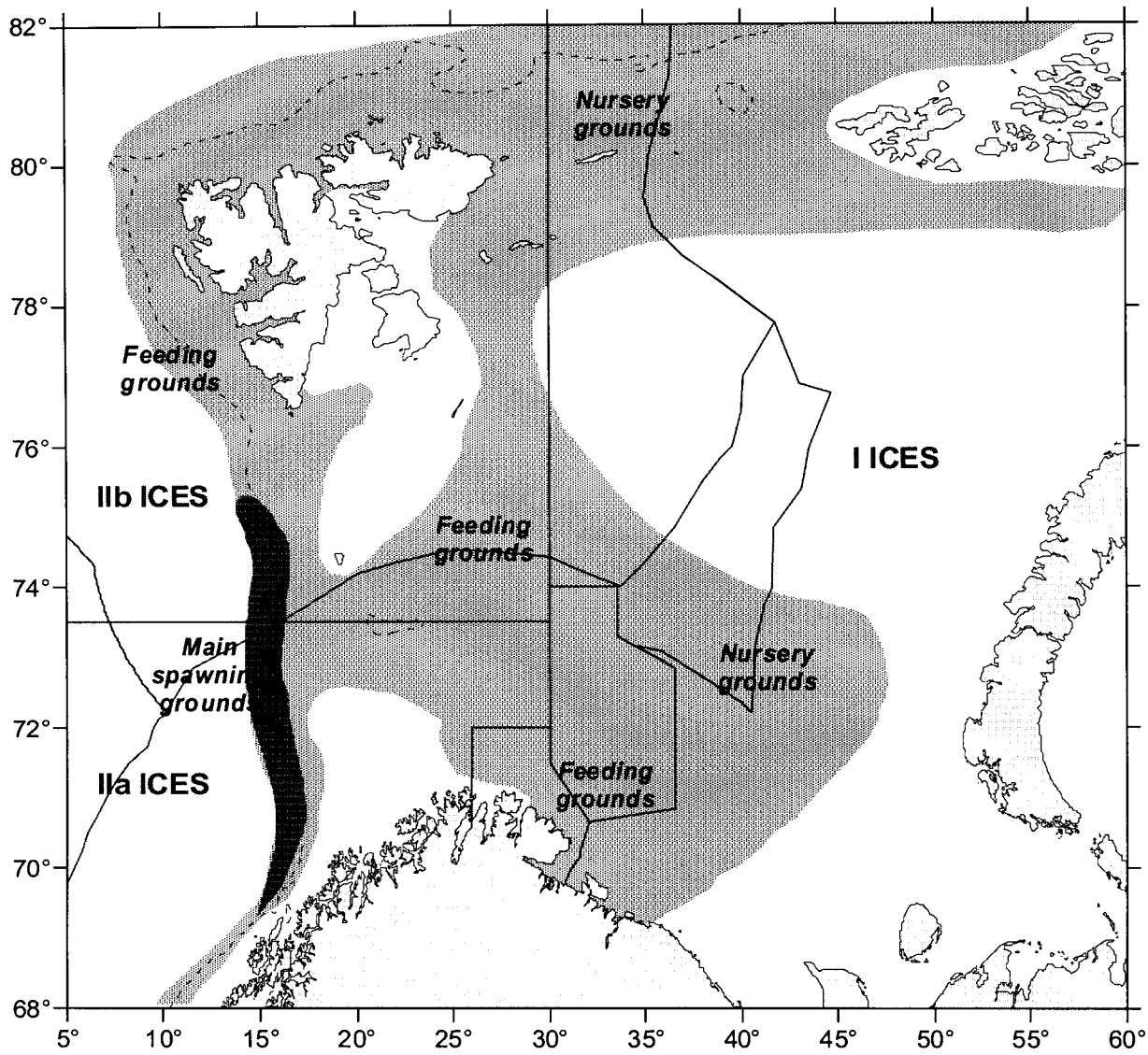


Figure 1. Map of Greenland halibut distribution in the Barents Sea (after Nedreaas & Smirnov 2004)

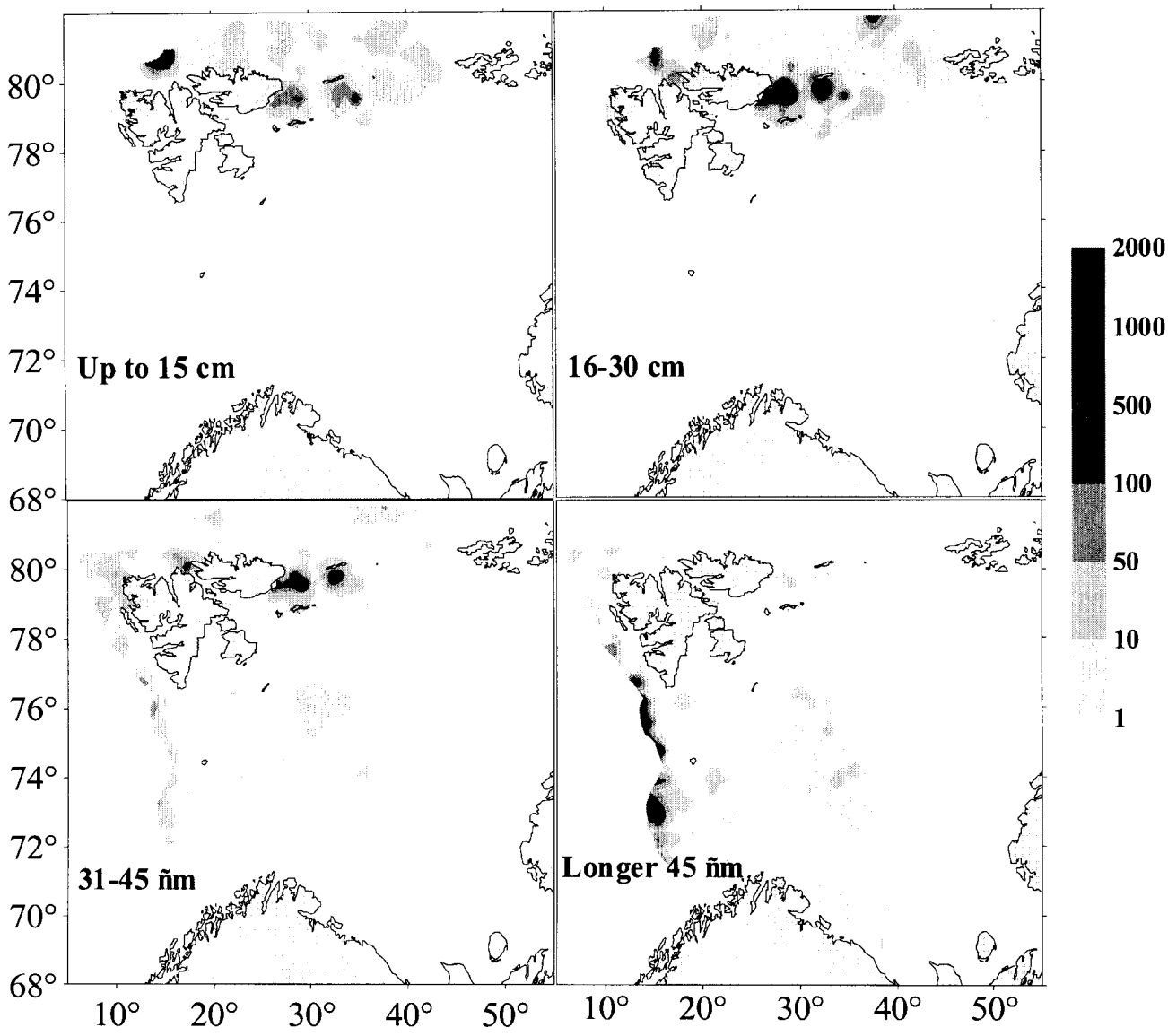


Figure 2. Distribution of catches of Greenland halibut by length in September-December from Russian trawl surveys, individuals/1-hour tow (data combined for 1999-2004)

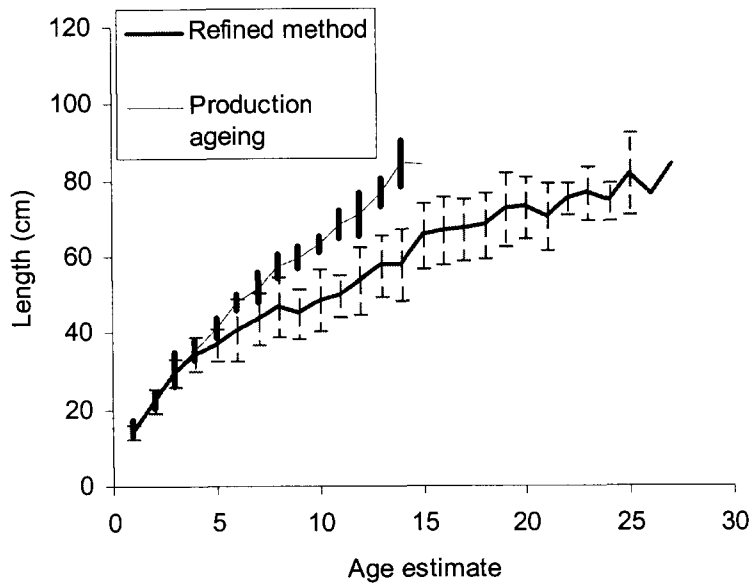


Fig. 3. Mean length at age (± SD) based on the production ageing method (blue) and the refined method (red) respectively.

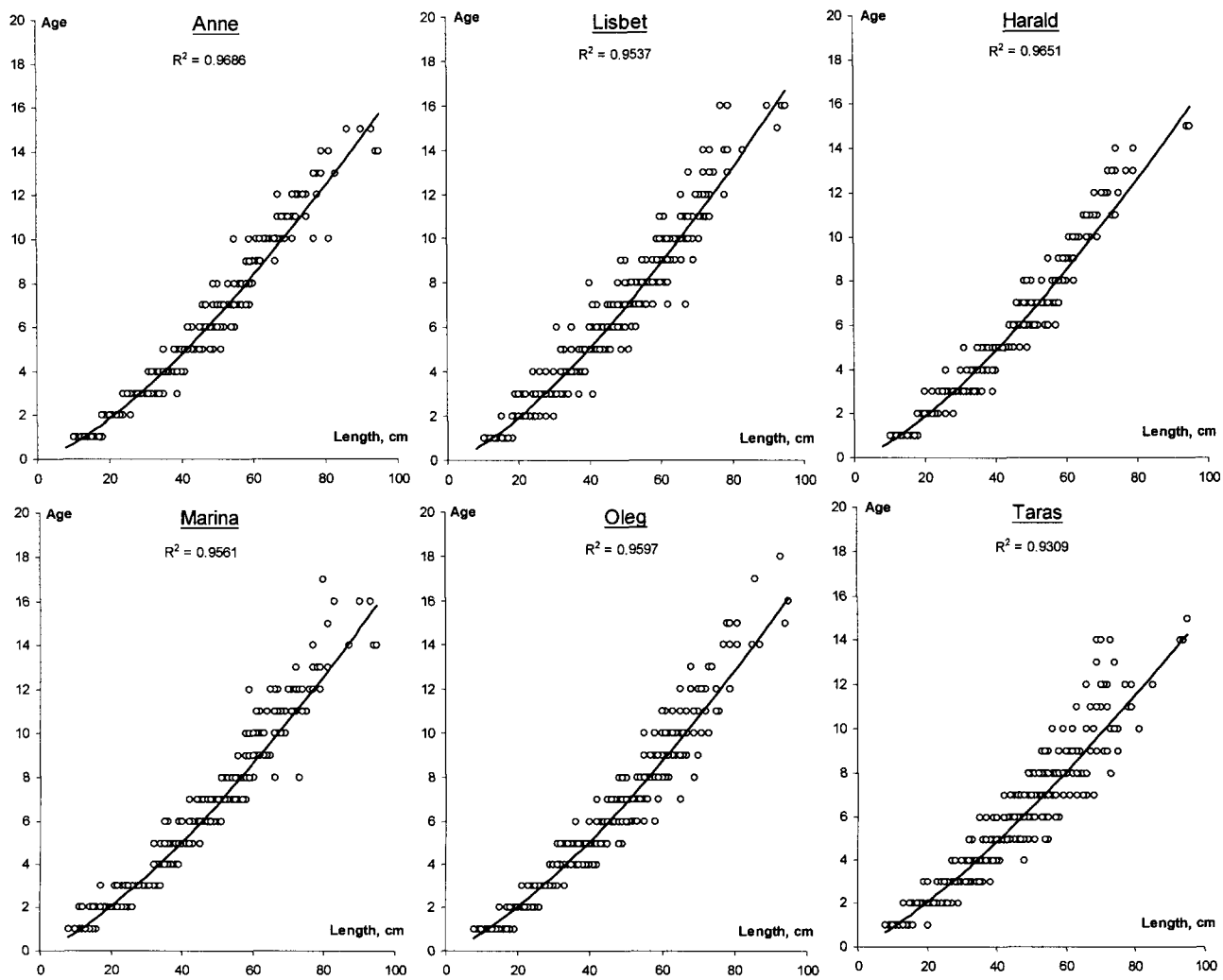


Fig. 4. Length-age curves based on results of different age readers

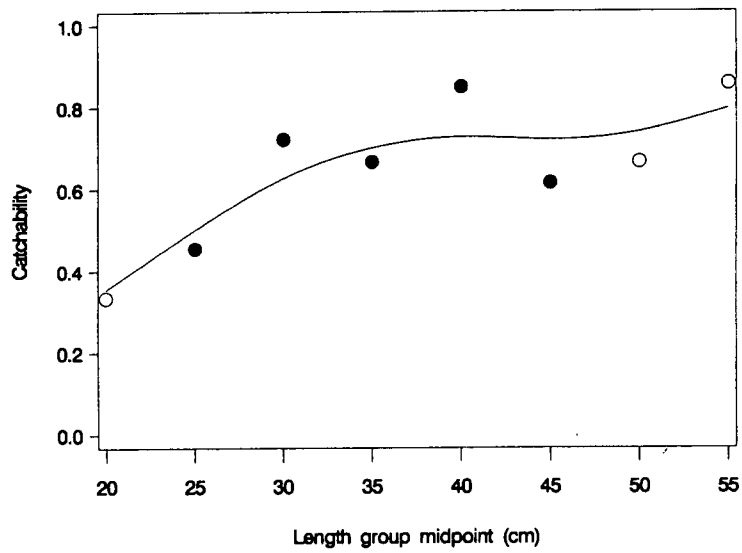


Figure 5. Catchability by size of Greenland halibut in trawl estimated from video recordings. Symbol size indicates number of observations; the leftmost and the two rightmost values were based on less than ten observations. The first and last groups are plusgroups and the line is fitted using a cubic function.

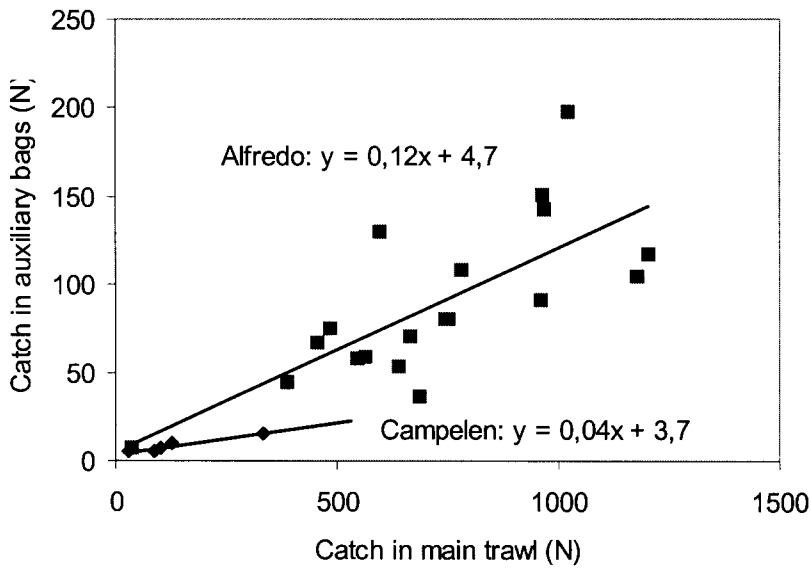


Figure 6. Results from experiments with auxiliary bags beneath the sampling trawl.

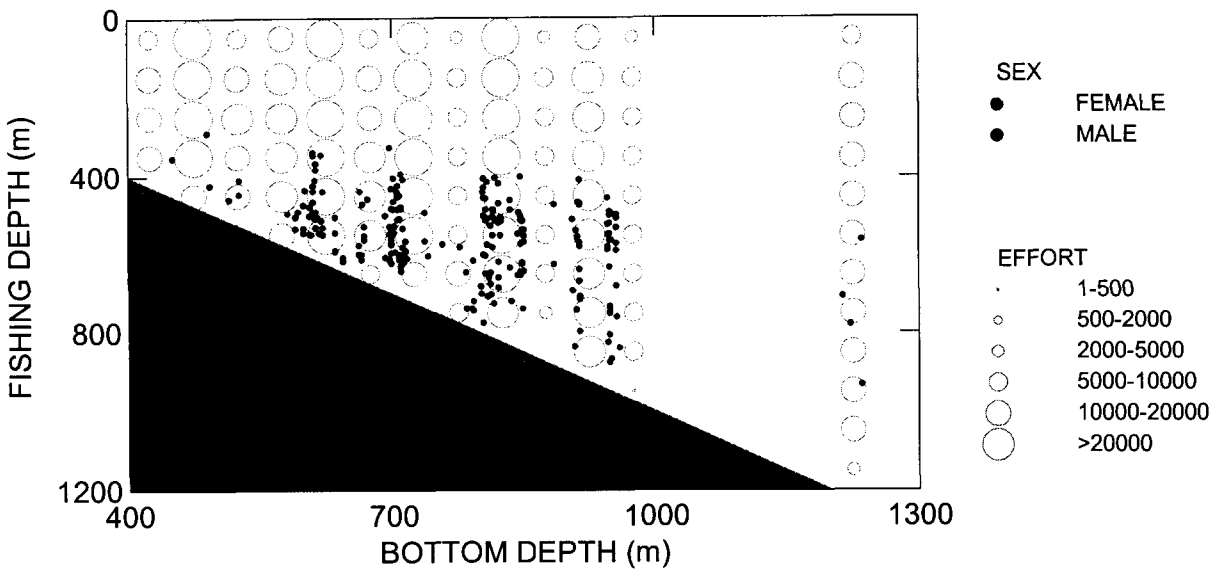
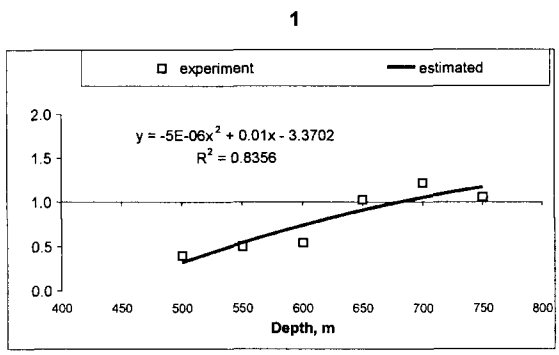
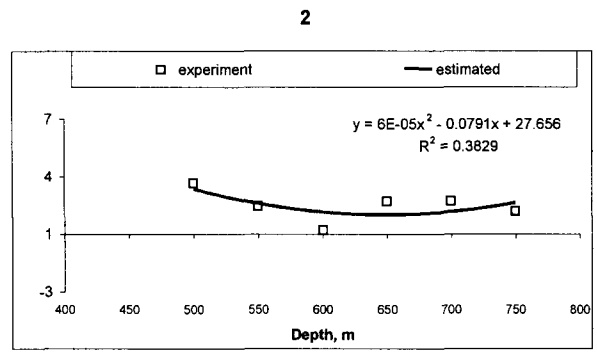


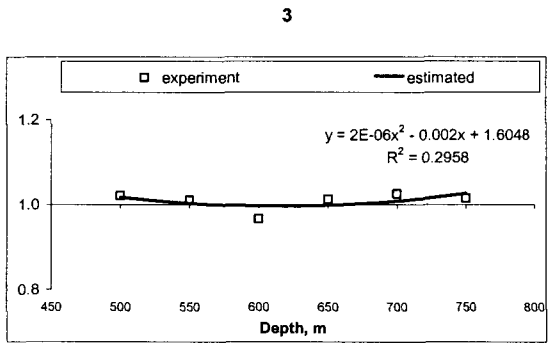
Figure 7. Individual catches from August 2003-2005 by fishing depth and bottom depth, together with overall Effort in every 100 m fishing depth interval and 50 m bottom depth interval; Effort = # 100 hooks * setting time (hours) until saturation (15 hours).



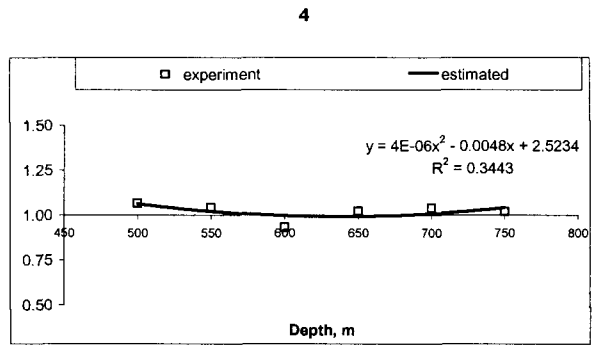
Relative catch by longline and trawl



Female ratio in catches by longline and trawl



Ratio of mean length of males in catches by longline and trawl



Ratio of mean length of females in catches by longline and trawl

Fig. 8. Dependence of ratio of catches (1), percentage of females (2), mean length of males (3) and females (4) in catches by longline/trawl on fishing depth.

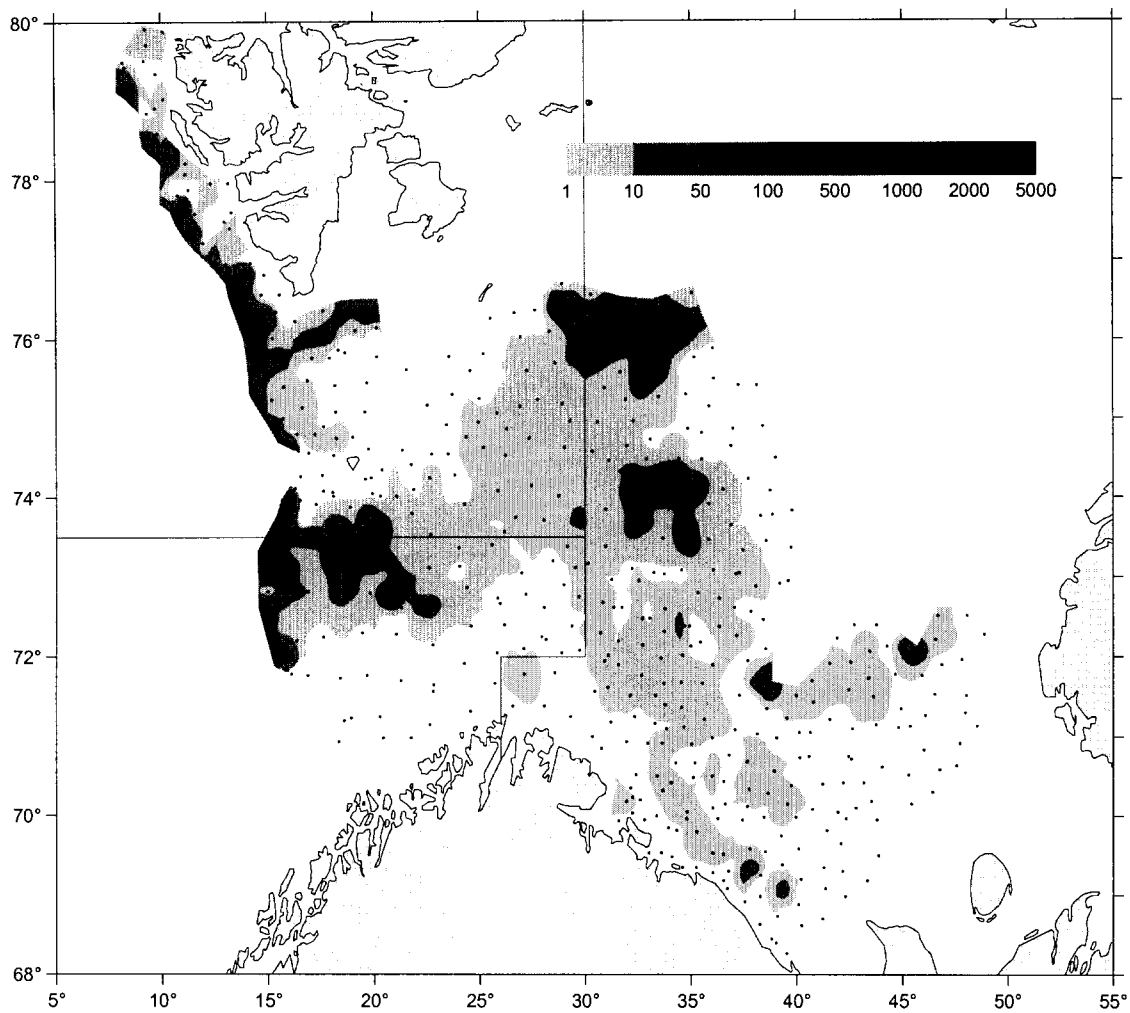


Fig. 9. Distribution of Greenland halibut in October-December from the data of Russian survey 2003, spec./1 hour trawling

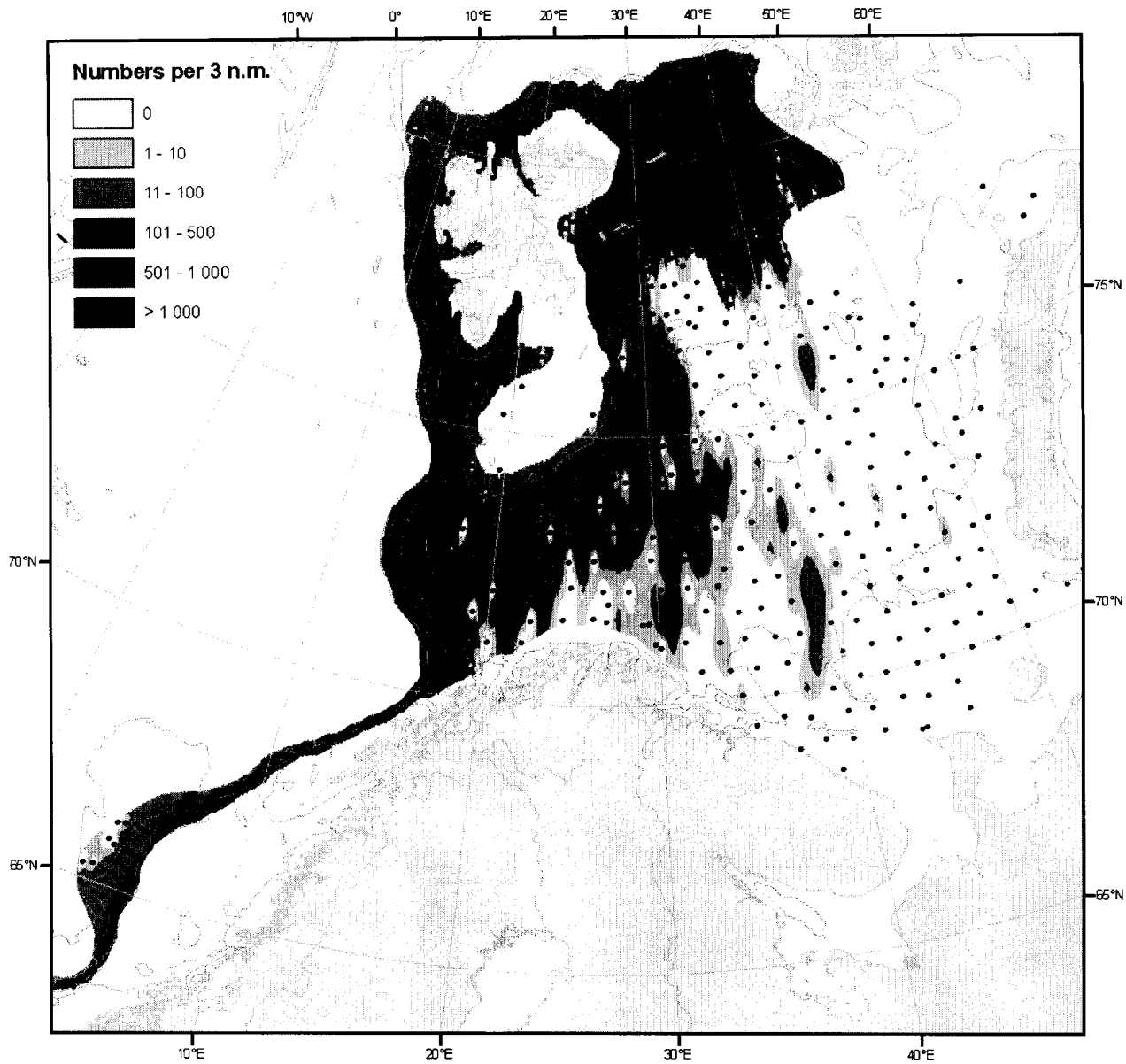


Fig. 10. Total density distribution of Greenland halibut from Russian-Norwegian bottom trawl surveys, August-October 2004. Dots denote sampling stations.

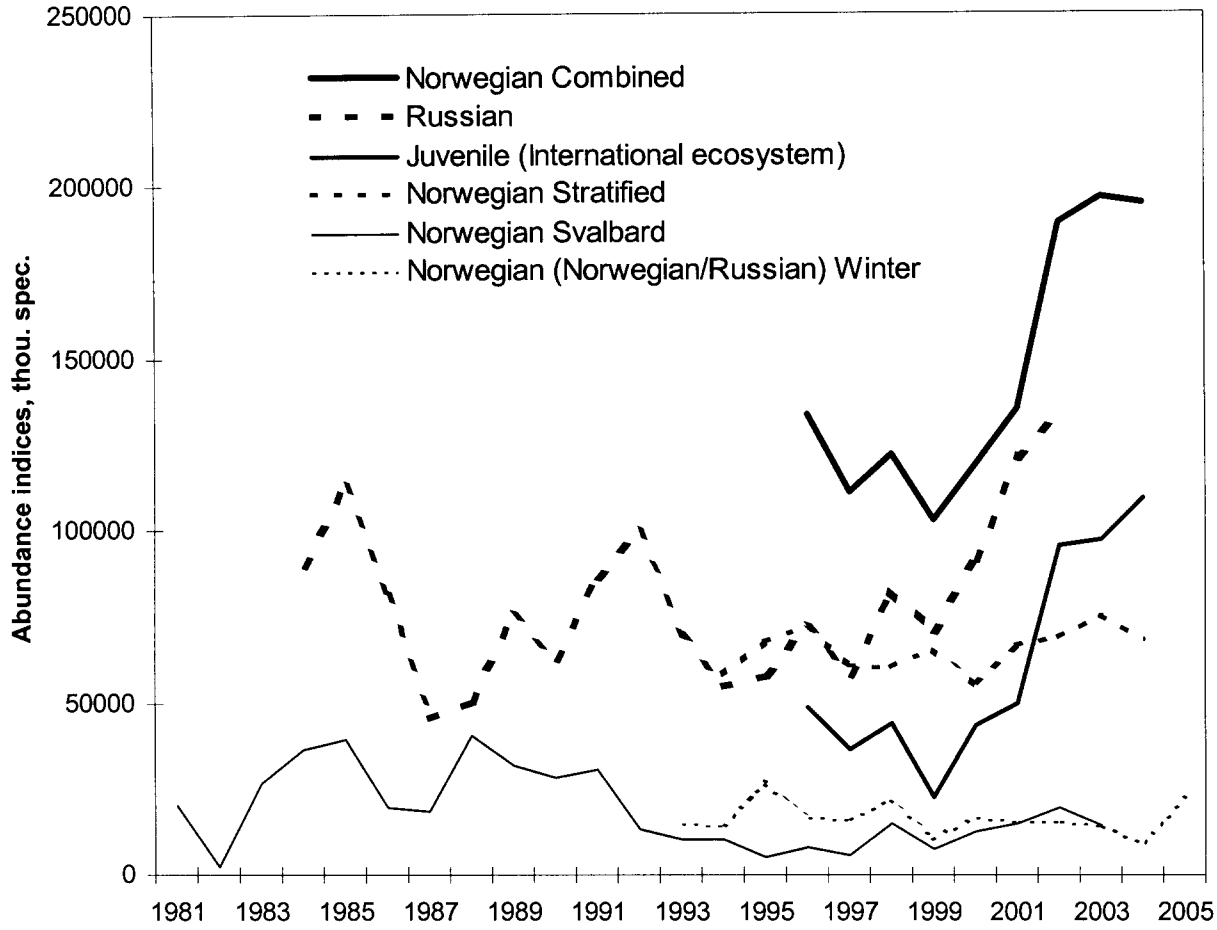


Fig. 11. Abundance indices of Greenland halibut based on results of different surveys

Table 1. Biological materials on Greenland halibut collected by PINRO in 2002-2004

2002

Kind of data	Area			
	I	IIa	IIb	Total
Length (with sex determination)	19864	19485	94830	134179
Age samples	406	371	1644	2421
Stomach contents	539	300	1096	1935
Maturation	5055	2948	16250	24253
Tagging	181	566	142	889

2003

Kind of data	Area			
	I	IIa	IIb	Total
Length (with sex determination)	6765	75269	63799	145833
Age samples	276	628	712	1616
Stomach contents	396	316	570	1282
Maturation	1236	4791	10283	16310
Tagging	78	41	579	698

2004

Kind of data	Area			
	I	IIa	IIb	Total
Length (with sex determination)	7445	23258	93201	123904
Age samples	785	592	2550	3927
Stomach contents	782	435	2177	3394
Maturation	1093	2324	13194	16611
Tagging	-	20	915	935 (415*)

2002-2004

Kind of data	Area			
	I	IIa	IIb	Total
Length (with sex determination)	34074	118012	251830	403916
Age samples	1467	1591	4906	7964
Stomach contents	1717	1051	3843	6611
Maturation	7384	10063	39727	57174
Tagging	259	627	1636	2522 (415*)

* With collecting scale for age reading

Table 2. Biological materials on Greenland halibut collected by IMR in 2002-2005

Year	Period	Samples from trawl			Tagging	
		Length *	Individ	Stomachs	Conventional tags	Data storage tags
2002	November				2383	227
2003	August	44061	3261		3366	40
2003	November	27320	1022	47	2274	
2004	March	27498	1697	1469	1597	
2004	August	46046	3092	1852	1090	
2004	November	34671	1311	1063	1034	
2005	March	27232	1077	1077	1609	
2005	August	70945	3748	295		97
Total		277773	15208	5803	13353	364

* with sex determination

Table 3. Abundance indices of young Greenland halibut based on the data of trawl surveys northeast of Spitsbergen and in the Franz Josef Land area, thousands specimens

A. Norwegian data (source – AFWG report 2005)

Year	Total	REEZ	% REEZ
1998	64279	20357	32
1999	38140	15651	41
2000*			
2001	92475	42955	46
2002	193641	98211	51
2003*			
2004	166989	57593	34

B. Russian data

Year	Total	REEZ	% REEZ
1999	19316	7105	37
2000*			
2001	45470	25396	56
2002*			
2003*			
2004	129761	66957	52

C. Joint Russian-Norwegian data
(source - IMR/PINRO Joint Report Series)

Year	Total	REEZ	% REEZ
2001	55072	21097	38
2002	108905	29975	28
2003*			
2004	138695	76273	55

* limited area coverage due to hard ice condition

Table 4. Swept area estimates from three surveys covering the total distribution area of the Northeast Arctic Greenland halibut stock.

Biomass

	August 2004 Alfredo & Campelen						August 2005 Alfredo						August 2005 Alfredo & Campelen					
Length	NEZ	SVAL	REZ	INTER	GREY	TOTAL	NEZ	SVAL	REZ	INTER	GREY	TOTAL	NEZ	SVAL	REZ	INTER	GREY	TOTAL
< 10	0	11	0	0	0	12	0	0	0	0	0	0	0	8	1	0	0	8
10-15	0	34	72	0	0	106	0	0	0	0	0	0	0	519	764	0	0	1 283
15-20	0	188	384	0	0	571	0	0	0	0	0	0	1	743	557	0	0	1 300
20-25	0	939	1 880	0	0	2 819	0	199	168	0	0	367	0	403	429	0	0	832
25-30	8	1 436	2 266	0	5	3 715	1	733	1 202	0	0	1 937	9	1 274	2 154	0	0	3 437
30-35	151	1 623	1 141	0	0	2 915	143	2 921	2 518	0	0	5 583	200	5 124	3 885	0	0	9 209
35-40	1 633	4 403	390	281	204	6 910	1 606	7 087	1 270	0	95	10 057	1 457	10 045	1 908	0	104	13 514
40-45	4 140	5 897	408	408	611	11 464	4 260	10 304	529	327	653	16 072	3 934	15 290	1 338	679	856	22 097
45-50	13 643	7 904	726	0	710	22 983	10 402	13 076	476	0	735	24 689	9 630	15 647	1 206	1 013	1 199	28 694
50-55	34 036	6 297	229	0	917	41 479	24 901	8 327	652	67	585	34 532	24 375	10 820	0	1 450	899	37 545
55-60	30 058	3 784	1 566	0	275	35 683	25 242	4 996	244	0	488	30 969	23 970	5 725	0	0	2 142	31 836
60-65	17 939	3 148	465	0	213	21 766	19 343	4 274	87	0	529	24 233	18 966	4 240	0	1 355	389	24 950
65-70	11 231	2 404	0	0	212	13 846	14 580	3 025	98	0	0	17 703	15 028	3 158	0	0	950	19 135
70-75	5 781	919	0	0	20	6 720	8 191	1 199	71	0	0	9 461	8 191	1 334	0	0	0	9 525
75-80	2 675	324	0	0	34	3 033	3 863	480	0	0	0	4 343	3 863	480	0	0	0	4 343
80-85	1 252	169	0	0	0	1 421	2 277	235	0	0	0	2 512	2 277	235	0	0	0	2 512
85-90	249	34	0	0	0	284	796	93	0	0	0	889	796	93	0	0	0	889
> 90						0						0						0
Total (tons)	122 796	39 513	9 527	688	3 202	175 726	115 606	56 948	7 315	394	3 085	183 347	112 695	75 136	12 242	4 497	6 538	211 108
Percentage	69.9	22.5	5.4	0.4	1.8	100.0	63.1	31.1	4.0	0.2	1.7	100.0	53.4	35.6	5.8	2.1	3.1	100.0

Abundance

Length	NEZ	SVAL	REZ	INTER	GREY	TOTAL	NEZ	SVAL	REZ	INTER	GREY	TOTAL	NEZ	SVAL	REZ	INTER	GREY	TOTAL
< 10	0	10161.7	432.8	0	0	10 595	0	0	0	0	0	0	0	6862.5	540.3	0	0	7 403
10-15	0	4 790	10 054	0	0	14 844	0	0	0	0	0	0	0	72 861	107 359	0	0	180 219
15-20	0	7 880	16 134	0	0	24 014	0	0	0	0	0	0	31	31 213	23 389	0	0	54 633
20-25	0	16 012	32 067	0	0	48 079	0	3 397	2 867	0	0	6 264	0	6 874	7 310	0	0	14 184
25-30	70	11 923	18 813	0	40	30 847	9	6 087	9 984	0	0	16 081	77	10 577	17 884	0	0	28 539
30-35	689	7 402	5 202	0	0	13 294	654	13 320	11 484	0	0	25 458	910	23 364	17 718	0	0	41 993
35-40	4 456	12 015	1 063	766	557	18 859	4 383	19 340	3 466	0	258	27 448	3 976	27 414	5 208	0	283	36 880
40-45	7 211	10 271	711	710	1 064	19 968	7 420	17 948	921	569	1 137	27 995	6 852	26 632	2 331	1 183	1 490	38 488
45-50	15 945	9 237	849	0	829	26 860	12 157	15 282	556	0	859	28 855	11 254	18 286	1 410	1 183	1 402	33 535
50-55	27 779	5 139	187	0	749	33 853	20 323	6 796	532	55	478	28 184	19 894	8 831	0	1 183	734	30 642
55-60	17 700	2 228	922	0	162	21 013	14 865	2 942	143	0	287	18 237	14 115	3 371	0	0	1 261	18 748
60-65	7 833	1 375	203	0	93	9 504	8 446	1 866	38	0	231	10 581	8 281	1 851	0	592	170	10 894
65-70	3 721	796	0	0	70	4 587	4 830	1 002	32	0	0	5 865	4 979	1 046	0	0	315	6 339
70-75	1 482	236	0	0	5	1 723	2 100	307	18	0	0	2 426	2 100	342	0	0	0	2 442
75-80	540	65	0	0	7	612	780	97	0	0	0	876	780	97	0	0	0	876
80-85	202	27	0	0	0	229	367	38	0	0	0	405	367	38	0	0	0	405
85-90	33	4	0	0	0	37	104	12	0	0	0	116	104	12	0	0	0	116
> 90	0	0	0	0	0	0	30	9	0	0	0	39	30	9	0	0	0	39
Total	87 660	99 564	86 639	1 476	3 577	278 916	76 468	88 443	30 043	624	3 250	198 828	73 750	239 683	183 148	4 142	5 654	506 377
Percentage	31.4	35.7	31.1	0.5	1.3	100.0	38.5	44.5	15.1	0.3	1.6	100.0	14.6	47.3	36.2	0.8	1.1	100.0